
MARROW ED8

Psychiatry

Comprehensive Question Bank

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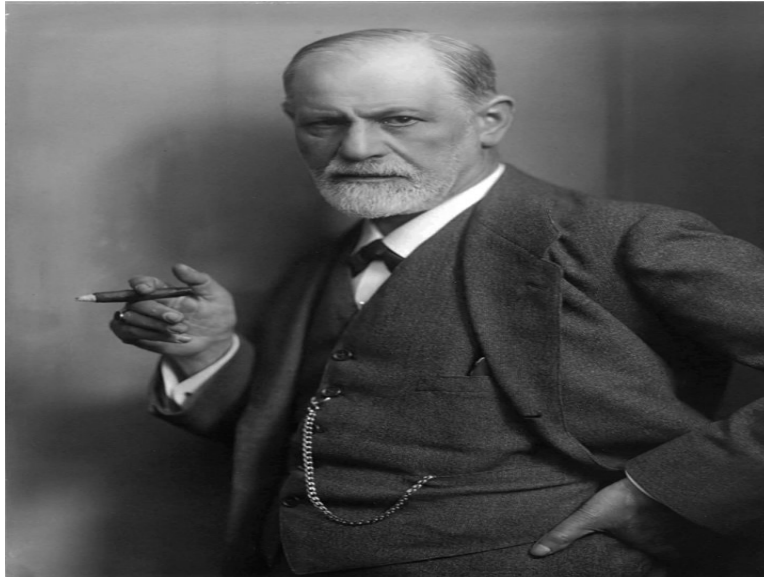
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Theories of Personality & Defense Mechanisms

Question 1:

Which of the following is not a contribution by Sigmund Freud?



- a) Free association
- b) Introducing cocaine in psychiatry
- c) Psychodynamic theory
- d) Psychosocial theory

Question 2:

Which of the following principles is matched correctly with the part of the mind it works on?

- a) Id- principle of reality, in the conscious domain
- b) Ego- principle of pleasure, in the unconscious domain
- c) Super Ego- principle of idealism, both in the conscious and unconscious domain
- d) Id- defence mechanisms, in the unconscious domain

Question 3:

According to Sigmund Freud, we have a barrier in our mind called repression. This function is done by which of the following part of the mind?

- a) The conscious part
- b) The preconscious part
- c) The unconscious part
- d) The subconscious part

Question 4:

Which of the following is false according to the topographical theory?

- a) Primary process thinking is illogical and primitive
- b) An unconscious thought can never reach conscious awareness
- c) The drives and desires that one is born with are part of the unconscious mind
- d) The contents of the preconscious mind can be brought into awareness by focussing

Question 5:

What is defined as the emotional release and discharge after consciously reliving a painful experience that has been repressed?

- a) Catharsis
- b) Abreaction
- c) Venting out
- d) Guided relaxation

Question 6:

“The dream is the (disguised) fulfillment of a (suppressed, repressed) wish.”- Sigmund Freud. Which of the following mechanisms is not included in the 'Interpretations of dreams' written by Sigmund Freud?

- a) Condensation
- b) Displacement
- c) Repression
- d) Symbolism

Question 7:

Dependent personality traits are related to which phase of psychosexual development ?

- a) Oral
- b) Anal
- c) Phallic
- d) Genital

Question 8:

There is a complex named after a legendary Greek hero who unknowingly killed his father and married his own mother. In which stage of psychosexual development does this complex develop in children?

- a) Oral
- b) Genital
- c) Anal
- d) Phallic

Question 9:

According to psychoanalytic theory, alcoholic people have become fixative in which stage of psychosexual development?

- a) Oral
- b) Anal
- c) Phallic
- d) Genital

Question 10:

According to Erikson, the major conflict in the first year of life is between which of the following?

- a) Trust vs mistrust
- b) Initiative vs guilt
- c) Autonomy vs shame

d) Intimacy vs isolation

Question 11:

"Guard your thoughts for they shape your future". Teachers, peers, and adults outside the home become important in shaping attitudes towards oneself in which of the following Erikson's stages?

- a) Trust vs mistrust
- b) Initiative vs guilt
- c) Industry vs inferiority
- d) Integrity vs despair

Question 12:

A 4-year-old child is brought to the casualty following a skating injury. The parents encouraged him to ask questions. He talked for most of the conversation and excitedly explained he wanted to try this so his parents let him. He even painted one wall in their house and asked if the doctor wants to see it. By this behavior of parents, what they are encouraging in the child?

- a) Autonomy
- b) Identity
- c) Generativity
- d) Initiative

Question 13:

According to the stages of cognitive development, which of the following is correctly matched?

- a) Starts seeing things from other's perspective - Stage of formal operation
- b) Conservation and reversibility - Pre-operational stage
- c) Symbolisation - Sensorimotor stage
- d) Intuitive and egocentric - Concrete operations stage

Question 14:

Which of the following is not seen during the operational period of cognitive development?

- a) Reversibility
- b) Transitivity
- c) Conservation
- d) Animism

Question 15:

Which of the following defence mechanisms is matched correctly?

- a) Anticipation - Mature
- b) Intellectualisation - Mature
- c) Regression - Neurotic
- d) Derailment - Immature

Question 16:

A 32-year-old man is brought to the ED with severe hand injuries. His wife says he started throwing things in his house when she informed him that she wants a divorce, and punched a mirror in a fit of rage. Which of the following best describes the defence mechanism used by this patient?

- a) Retroflexion
- b) Reaction formation
- c) Introjection
- d) Passive-aggressive

Question 17:

A student applied to four national universities for her MBA course but was disheartened when she got rejected from all four universities. While talking to her friend on the phone, she said she never wanted to go anyway because they were too far from home. What defense mechanism is being used by her?

- a) Rationalisation
- b) Passive-aggressive
- c) Inhibition

d) Denial

Question 18:

An egoistic doctor who enjoyed bossing people around was disliked in the hospital. A ward boy who was ordered to bring him tea intentionally makes sure that the tea is cold. This is an example of which of the following defense mechanisms?

- a) Acting out
- b) Passive-aggressive behaviour
- c) Repression
- d) Reaction formation

Question 19:

A police inspector is investigating a murder case. The victim was brutally beaten and raped. The body had noose marks on the neck which seemed to be the cause of death. However, during the investigation, the inspector never showed any emotion. What defense mechanism is described here?

- a) Distortion
- b) Inhibition
- c) Isolation
- d) Blocking

Question 20:

A couple visits the psychiatrist's office with the husband complaining that his wife is cheating on him, but he did not have any evidence. In a private conversation with his wife, she revealed that the husband had a reputation of having multiple affairs with his colleagues in the past. In this scenario, which defense mechanism is the husband using?

- a) Distortion
- b) Projection
- c) Repression
- d) Displacement

Question 21:

A 24-year-old woman is brought to the emergency department after a violent attack. The patient has injuries over her forearm and elbow. On examination, she has injuries over her breasts and inner thighs. Pelvic examination reveals lacerations in the vaginal mucosa. On enquiring about the injuries, the patient is unable to remember the violent incident. Which of the following defense mechanism best explains this phenomenon?

- a) Repression
- b) Suppression
- c) Denial
- d) Blocking

Question 22:

A patient is diagnosed with a phobic disorder. Which of the following defense mechanisms is likely to be present in this patient?

- a) Displacement
- b) Dissociation
- c) Distortion
- d) Conversion

Question 23:

In the OPD, you inform a patient that he has bladder cancer. However, he replies saying, "No, I cannot have cancer. I don't smoke or drink". What is the type of defense mechanism exhibited by the patient?

- a) Rationalization
- b) Acting out
- c) Denial
- d) Reaction formation

Question 24:

A 17-year-old girl was kidnapped and held captive for 2 months until she was rescued. However, it was observed that the girl developed positive feelings towards her kidnapper, and

sympathized with his character, and the situations that made him kidnap her. Which of the following defense mechanisms has the girl most likely developed?

- a) Retroflexion
- b) Introjection
- c) Intellectualisation
- d) Rationalisation

Question 25:

Which of the following is incorrectly matched?

- a) Reaction formation - Defence mechanism for obsessive-compulsive disorder
- b) Anal stage - Fixation stage for obsessive-compulsive disorder
- c) Projection - Defence mechanism for delusions and hallucinations
- d) Genital stage - fixation stage for hysteria

Question 26:

An employee in a company is friends with everyone in his office. He goes to different parties every weekend and says he loves talking to new people. This trait is described under which dimension of personality?

- a) Agreeableness
- b) Conscientiousness
- c) Extraversion
- d) Emotional stability

Answer Key

Question No.	Correct Option
1	d
2	c
3	b
4	b

5	b
6	c
7	a
8	d
9	a
10	a
11	c
12	d
13	c
14	d
15	a
16	a
17	a
18	b
19	c
20	b
21	a
22	a
23	c
24	b
25	d
26	c

Detailed Explanations

Solution to Question 1:

Sigmund Freud is credited with all the above-mentioned achievements except psychosocial theory (proposed by Erik Erikson).

Contributions of Sigmund Freud to the field of psychiatry:

- Free association
- Interpretation of dreams
- Psychoanalysis
- Psycho-sexual development
- Psychodynamic theory
- Topographic theory of the mind - unconscious, preconscious, conscious

- Structural theory of mind - id, ego, super-ego
- Cocaine in psychiatry

Option A: Concept of free association is a technique in psychoanalysis where the patient is asked to freely share thoughts, random words, and anything else that comes to mind.

Option B: Cocaine was introduced in psychiatry as a remedy for morphine and alcohol abuse.

Option C: Psychodynamic theory of development explains personality in terms of the interaction between the conscious and unconscious forces of id, ego, and super-ego.

Solution to Question 2:

The superego is based on the principle of idealism, both in the conscious and unconscious domain. It acts to perfect and civilize our behaviour. The voice of conscience comes from the superego. It is mostly unconscious but also has a conscious component.

Sigmund Freud's structural theory of mind divides mental apparatus into the following:

- Id (new-born) is a reservoir for basic survival instincts, aggression, and survival drives. It is based on the pleasure principle (immediate gratification). It is entirely unconscious.
- Ego (reality principle) is the executive part of the mind that maintains the balance between id and superego. It is based on exposure to reality and utilizes influences from the external world to modify the id. It is conscious except for unconscious defense mechanisms.
- Superego (idealism principle) establishes and maintains a moral conscience in an individual by constantly comparing a person's thoughts and feelings to expected standards of behavior.

E.g., While studying, our id wants us to watch a movie instead and our superego wants us to study very hard without taking many breaks. Our ego thus balances between the two and we decide that we will study for few hours and then take a break to watch a movie.

Solution to Question 3:

According to Sigmund Freud, the preconscious part of our mind has a barrier called repression. This barrier separates the contents of the unconscious and the conscious mind.

Sigmund Freud's topographic theory of mind divides the mind into 3 levels:

- Unconscious- contains instinctual drives, repressed memories, and thought processes. It is characterized by illogical and primitive thoughts called primary process thinking. It focuses on immediate wish fulfillment and instinctual discharge.
- Preconscious- composed of mental events, processes, and contents that can be brought into conscious awareness by the act of focusing attention. It contains a barrier called repression. Eg: Although most persons are not consciously aware of the appearance of their first-grade teacher, they ordinarily can bring this image to mind by deliberately focusing attention on the memory.
- Conscious- part of the mind which is accessible to us. Everything we know about ourselves is in the conscious part of our mind. Perceptions coming from the outside world or from within the

body or mind are brought into awareness in this part.

Note: The unconscious is the part of the mind that contains repressed thoughts and memories whereas the barrier that censors these (repression) exists in the preconscious part of the mind.

Solution to Question 4:

According to Sigmund Freud's topographical theory, an unconscious memory or thought can reach consciousness by overcoming the barrier of repression.

This barrier can be overcome in two ways:

- During sleep- the repression force is lax, and thus many unconscious desires and thoughts reach our consciousness through dreams. So, he believed that the interpretation of dreams can reveal the contents of the unconscious mind.
- Free association- when a person is relaxed enough to say whatever comes to their minds without censoring thoughts, a few unconscious thoughts may come out by a slip of the tongue.

Note: In psychotherapy, there is a process called abreaction by which repressed material, particularly a painful experience or conflict, is brought back to consciousness by hypnosis or free association. In this process, the person not only recalls but also relives the repressed material causing an emotional release.

Solution to Question 5:

Abreaction is a psychoanalytical term for reliving an experience to release it emotionally. It is a specific type of catharsis done by becoming conscious of repressed traumatic events.

Catharsis is a general term for the process of releasing strong or repressed emotions. It can be done through various mediums, like expressing emotions through art. When the unconscious repressed memories are consciously recalled and relived, this technique specifically is called abreaction.

Solution to Question 6:

Repression is not the mechanism through which dreams manifest. It is the barrier due to which the thoughts and events stored in our unconscious mind do not come out to our conscious mind and awareness.

According to the 'Interpretation of dreams' written by Sigmund Freud, dreams represent unconscious wishes or thoughts which are not accepted by the conscious mind. They manifest through the following mechanisms:

Symbolism: Representation of highly charged ideas or objects through innocent images that are in some way connected.

Displacement: Transfer of mental energy from one object to a substitute or symbolic representation of the object.

Condensation: Mechanism by which multiple unconscious wishes combine into a single image or when one unconscious wish gets distributed into multiple images.

Projection: Attributing one's own unacknowledged feelings to others.

Secondary elaboration: Process by which the ego organizes illogical, bizarre and absurd images into a more coherent form in dreams.

Solution to Question 7:

The development of dependent personality traits is due to fixation in the oral stage of development, according to the psychosexual stages of development proposed by Sigmund Freud.

He proposed five stages of development and stated that when the development of a child gets arrested at one stage, called fixation, it results in psychiatric disorders.

The phases are:

Phase of sexual development	Disorders resulting from fixation in this phase
Oral phase(birth- 1.5 years) Learning how to eat, mouth is the site of pleasure.	Alcohol dependence or drug dependence Schizophrenia Severe mood disorders Dependent personality disorder
Anal phase(1.5-3 years) Toilet training, the site of pleasure is the anal region.	OCD
Phallic/Oedipal phase(3-5 years) Site of pleasure is the genital region.	Oedipus/Electra complex, which is the primary cause of hysteria. Also, castration anxiety in boys and penis envy in girls.
Latency phase(5-12 years)	Neurotic disorder
Genital phase sexual orientation (>12 years)	Neurotic disorder

Solution to Question 8:

The above complex develops in the phallic stage of psychosexual development, and the complex mentioned is the Oedipus complex (named after the legendary Greek hero called Oedipus).

The phallic phase has 2 complexes:

- Oedipus complex in a male child
- Electra complex in a female child.

The Oedipus complex consists of a desire for sexual involvement with the mother and a sense of rivalry with the father. The male child is also scared that if the father finds out, he will castrate him, this is called castration anxiety.

The opposite is true for the Electra complex which is the desire for sexual involvement with the father and a sense of rivalry with the mother. The girl child becomes aware of the fact that she does not have a penis, this is called penis envy and she holds her mother responsible for it. The stage gets resolved when the female child starts identifying with the mother.

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Genital phase sexual orientation (>12 years)	Neurotic disorder

Solution to Question 9:

According to classic psychoanalytical theory, at least some alcoholic people may have become fixated at the oral stage of development.

They use alcohol to relieve their frustrations by taking the substance by mouth.

Solution to Question 10:

Trust vs mistrust is the major psychosocial conflict seen in the first year of life. In this stage, the child must learn to trust others during the first year of life (the sense of trust vs mistrust) or they will have trouble forming close relationships as adults.

Psychosocial development: According to the psychosocial stages of development by Erik Erikson, there are critical time periods, each of which poses a particular psychosocial conflict to the individual. The resolution of this conflict results in either psychosocial growth or regression.

There are 8 stages of psychosocial development.

Erikson's stages and goals:

Stage and age	Goal
Stage One Infancy Birth-18 months	Trust vs Mistrust
Stage Two Toddler 18 months-3 years	Autonomy vs Shame and Doubt
Stage Three Pre-school 3-5 years	Initiative vs Guilt
Stage Four School going 5-13 years	Industry vs Inferiority
Stage Five Adolescence 13-21 years	Identity vs Role Confusion
Stage Six Young adulthood 21-40 years	Intimacy vs Isolation
Stage Seven Middle adulthood 40-60 years	Generativity vs Stagnation
Stage Eight Late adulthood >60 years	Ego Integrity vs Despair

Solution to Question 11:

Teachers, peers, and adults outside the home become important in shaping attitudes towards oneself in the stage of industry vs inferiority according to Erik Erikson's psychosocial stages of development.

In this stage, children mature and their level of self-awareness increases. They understand logical reasoning, scientific facts, and other matters that are typically taught in school. Children also become more competitive, they want to do things that other children of the same age can do. When they make the effort to perform a task and succeed, they develop self-confidence. However, if they fail, they tend to feel that they are inferior to others.

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Stage and age	Goal
Stage Six Young adulthood 21-40 years	Intimacy vs Isolation
Stage Seven Middle adulthood 40-60 years	Generativity vs Stagnation
Stage Eight Late adulthood >65 years	Ego Integrity vs Despair

Solution to Question 12:

The parents are encouraging the development of the initiative in their child which happens in the stage of initiative vs guilt, as proposed by Erik Erikson.

In this stage, children begin to explore and do things on their own. They are able to learn new concepts introduced in school and are expected to practice these lessons in real life. They know that they can accomplish these tasks, but if they fail to do so and end up asking for assistance from others, they may feel a sense of guilt. Inadequate resolution of this conflict may lead to a conversion disorder or phobia.

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Solution to Question 13:

Symbolization develops in the sensorimotor stage, according to the stages of cognitive development by Jean Piaget.

The theory of cognitive development describes four major stages from birth to adolescence that lead to the capacity for adult thought. The stages are:

- Sensorimotor stage (birth–2 years):
 - Starts with an out-of-sight, out-of-mind type of thinking
 - Ends with object permanence (knowing an object exists even though it cannot be seen)
 - Symbolisation- developing mental symbols and words for the objects
- Pre-operational stage (2-7 years):
 - Thinking without reasoning- intuitive thinking
 - Only concerned about their own needs and perspective- egocentric thinking
 - Other thinking processes are seen- animism, primitive thinking, centration, magical or fantasy thinking
- Concrete operational stage (7-11 years):
 - Start to see things from other's perspectives
 - Thinking is concrete and literal
 - Develop conservation- understanding that despite changes in shape, the object remains the same. For eg: when water is transferred from a cup to glass, they understand that it is water only and that the volume is the same
 - Develop the concept of reversibility- knowing that one thing can turn into another and turn back. Eg., water and ice
 - Other processes- classification, transitivity
- Formal operational stage (>11 years):
 - Develop abstract thinking, wherein they can generalize or conceptualize
 - Can make a hypothesis and use deductive reasoning
 - Hypothetico-deductive thinking- the highest organization of cognition, enables persons to make a hypothesis or proposition and to test it against reality

Solution to Question 14:

Animism is seen in the pre-operational stage (2-7 years of age) where the child believes that inanimate objects are capable of actions and have lifelike qualities. Eg: A child believing that the sidewalk was mad and made them fall down, or that the stars twinkle in the sky because they are happy.

Reversibility, transitivity, and conservation are seen in the concrete operational period.

Option B: Reversibility: Knowing that one thing can turn into another and turn back. E.g., water and ice.

Option C: Transitivity: The ability to recognize relationships among various things in a serial order. E.g., when told to put away his books according to height, the child identifies and starts with placing the tallest one on one end of the bookshelf and the shortest one ends up at the other end.

Option D: Conservation: Understanding that despite changes in shape, the object remains the same. E.g., when water is transferred from a bottle to glass, they understand that it is water only and that the volume is the same.

Solution to Question 15:

Anticipation is a mature defence mechanism.

Defense mechanisms are the way and means with which the ego wards off anxiety and controls instinctive urges and unpleasant emotions. They are unconscious (except suppression which is voluntary), discrete, dynamic, irreversible, and may be adaptive or maladaptive.

Solution to Question 16:

The given scenario is suggestive of a retroflexion defence mechanism.

Retroflexion is characterised by self destruction due to rage. It is a neurotic defence mechanism. As given in the above scenerio, it may lead to feelings of suicide, severe depression, and deliberate self harm.

Solution to Question 17:

The given scenario point towards rationalization. The student is rationalizing her rejection by saying she wouldn't have gone even if she got accepted because of the distance from home.

Solution to Question 18:

The given example is characteristic of passive-aggressive behavior. The ward boy who does not like the doctor is expressing his discontent covertly by bringing him cold tea, to avoid a conflict. It is an immature defense mechanism.

Solution to Question 19:

The defense mechanism described is isolation. It is the separation of an idea from the affect that accompanies it.

It is usually developed in an attempt to avoid painful thoughts or feelings by emotionally detaching oneself from the feeling.

Solution to Question 20:

In the given clinical scenario, the husband is using projection as a defense mechanism. Projection is when you attribute your own wishes, thoughts, or feelings onto someone else.

Solution to Question 21:

This patient's history and examination are suggestive of rape, and the patient is repressing the memory of the incident as a means of coping with the anxiety.

Repression is a type of psychological defense mechanism that involves keeping certain thoughts, feelings, or urges out of conscious awareness. The goal of this form of defense is to keep unacceptable desires or thoughts out of the conscious mind in order to prevent or minimize feelings of anxiety.

Solution to Question 22:

Displacement is the defense mechanism in phobias. It is the shifting of emotions about one object/individual onto another object/individual.

Solution to Question 23:

Denial is the defense mechanism seen in this patient. Denial is a refusal to accept external reality because it is too threatening.

Solution to Question 24:

The defense mechanism that the girl has developed is known as introjection.

Introjection refers to unconscious internalisation of the qualities or characters of an object or a person, with the goal of ensuring closeness to, and the constant presence of, the object/person.

The classic example of this is Stockholm syndrome, where victims who were kidnapped or held captive, may develop positive feelings towards the kidnapper, understand their character, emotions, and start sympathizing with them. They internalize the character of the aggressor as one's own character. As they do so, they may even develop fear towards the police who come to rescue them and even try to escape from the police, and co-operate with the kidnapper's actions.

Solution to Question 25:

Hysteria develops due to fixation in the phallic stage of development, not the genital stage.

Option A: In OCD, reaction formation to an intrusive thought leads to obsession. The correction mechanism is undoing which is the defense mechanism for compulsion. E.g., Contamination of the hand by the pathogen is the obsession, the patient reacts to it by the physical act of washing (undoing).

Option B: The fixation of development during the anal stage leads to OCD.

Option C: Projection is the defense mechanism responsible for delusions and hallucinations.

Solution to Question 26:

The traits of being talkative, sociable, and outgoing are described under extraversion. It is one of the five personality traits of the big five personality theory. It indicates how outgoing and social a person is.

Contemporary personality psychologists believe that there are five basic dimensions of personality, often referred to as the big five personality traits, as described below:

- Openness - being open to new ideas, curious, creative, and original.
- Conscientiousness - being organized, systematic, ambitious, punctual, and dependable.
- Extraversion - being outgoing, talkative, and sociable.
- Agreeableness - being tolerant, sensitive, kind, and trusting.
- Neuroticism - being anxious, irritable, temperamental, and moody.

Symptoms and Clinical Manifestations in Psychiatry

Question 1:

A patient is mute and immobile but conscious. He is unresponsive to the environment. How would you describe his state?

- a) Akinetic mutism
- b) Stupor
- c) Sopor
- d) Twilight state

Question 2:

Which of the following is not an example of disorder of perception?

- a) Depersonalization
- b) Hallucination
- c) Pseudohallucination
- d) Delusion

Question 3:

A girl wakes the entire hostel dormitory screaming about a snake in the bathroom. The matron rushes in and sees her pointing at a rope. Which of the following best describes this?

- a) Illusion
- b) Hallucination
- c) Delusion
- d) Pseudohallucination

Question 4:

Which of the following statements is false about pseudohallucination?

- a) Originates from the inner subjective space
- b) Cannot be recognised as unreal

- c) Cannot be produced at will
- d) May be vivid and clear

Question 5:

A 38-year-old woman complained of an ongoing vibrating sensation in her genitalia caused by her mother opening and shutting doors. Which of the following terms best describes her symptoms?

- a) Functional hallucination
- b) Reflex hallucination
- c) Panoramic hallucination
- d) Pseudohallucination

Question 6:

A 24-year-old woman with a known cerebral vascular anomaly and seizures presented to your OPD. She gives a two-week history of objects around her appearing to be larger than they actually were, and that she noticed deformations in objects. What is the most likely diagnosis?

- a) Klein Levin syndrome
- b) Kanner syndrome
- c) Alice in Wonderland syndrome
- d) Pickwickian syndrome

Question 7:

You are interviewing a patient online. On asking the patient how she has been, she replies "I'm doing gooder, gerkschier". Her attender also informs that she uses such made-up words often. What disorder of thought is she exhibiting?

- a) Content of thought
- b) Form of thought
- c) Stream of thought
- d) Possession of thought

Question 8:

A 27-year-old man who recently read about the Pegasus controversy feels that he is being tracked by government officials. He thinks that someone is recording his movements, and is plotting to kill him. Which of the following statements is true about his condition?

- a) It is a true, firm, unshakeable belief
- b) It is also known as Capgras syndrome
- c) It is the most common type of delusion
- d) It is only seen in schizophrenia

Question 9:

A 51-year-old man began to suspect that his wife was cheating on him. He started to follow her and often woke her up in the middle of the night to make accusations, even though she was not having an affair. He even tried to physically harm her because of his suspicions. What is his most likely diagnosis?

- a) De Clerembault syndrome
- b) Othello syndrome
- c) Ekbom syndrome
- d) Fregoli syndrome

Question 10:

A woman who is on treatment for schizophrenia says that she loves her child and wants to hug him, but also thinks that he is the devil personified and wants to harm him. She is torn between the two, and can't decide what to express. What is this known as?

- a) Abulia
- b) Ambivalence
- c) Anhedonia
- d) Alexithymia

Question 11:

A 70-year-old man presents to the trauma ward with an abrasion. He explains that he fell from the first floor of his home. The attender contradicts this, saying he fell from his

two-wheeler while parking it. You enquire further, to which the patient claims he fell from a bicycle because he was not able to balance the attendant's weight. What does this show?

- a) Hallucination
- b) Confabulation
- c) Delusion
- d) Perseveration

Question 12:

A prison inmate who was in long-term solitary confinement is being subjected to a neuropsychiatric evaluation. He is asked what the colour of the sky is, and he answers that it is green. What is this symptom called?

- a) Neologism
- b) Verbigeration
- c) Vorbeireden
- d) Circumstantiality

Question 13:

A 10-year-old girl is asked the meaning of "Strike when the iron is hot", and she replies, "It means that you should strike when the iron rod is hot to melt it as it is the most malleable then". What aspect of her thinking is demonstrated?

- a) Abstract thinking
- b) Content of thought
- c) Form of thought
- d) Concrete thinking

Question 14:

While on rounds in the psychiatry ward, you observe a patient standing still near his bed. On trying to move his hand you feel a slight resistance, and the patient remained in the final position for the next half hour. What feature is observed here?

- a) Negativism
- b) Posturing

- c) Waxy flexibility
- d) Echopraxia

Answer Key

Question No.	Correct Option
1	b
2	d
3	a
4	b
5	b
6	c
7	b
8	c
9	b
10	b
11	b
12	c
13	d
14	c

Detailed Explanations

Solution to Question 1:

A patient is said to be in a stupor when he is conscious but mute, immobile, and unresponsive to the environment.

Option A: Akinetic mutism: The person is mute and immobile but responsive to the environment.

Option D: Twilight state: A state of disturbed consciousness with hallucinations, during which actions may be performed unconsciously.

Note: The oneiroid state is a dream-like state in which patients may be deeply confused and not fully oriented to time and place. The term oneiroid schizophrenia has been used for patients who are engaged in their hallucinatory experiences to the point of exclusion of involvement in the real world.

	Stupor	Sopor	Coma
Consciousness	Conscious, but mute and immobile	Drowsy, abnormally deep sleep, difficult to arouse	Unconscious, cannot be awakened
Response to the environment	No/Decreased	Responds to harsh sound, bright light	No
Response to painful stimulus	Yes	Yes	No

Solution to Question 2:

Delusion is a disturbance of thought content.

Disorders of perception:

- Illusion - incorrect perception or misinterpretation of a sensory stimulus.
- Hallucination - perception in the absence of any stimulus.
- Depersonalization - feeling of being a detached observer of oneself.
- Derealization - feeling that one's environment has changed in some strange way that is difficult to describe.

Pseudohallucination is neither a symptom nor a feature of any perception disorder. Hence, delusion is the best answer among the given options.

True hallucination	Pseudohallucination
Arises from external objective space (voices heard in one's ears arising from the outside world)	Arises from inner subjective space (voices from within one's own mind)
Cannot be recognized as unreal	Can be recognized as unreal

Solution to Question 3:

In the above scenario, a rope being mistaken for a snake is an illusion. Illusions are perceptions that occur when a sensory stimulus is present but is incorrectly perceived and misinterpreted.

Delusion	Hallucination	Illusion
A fixed false belief that is firmly held despite obvious contradictory evidence and that is not consistent with the person's social, educational, and cultural background.	Perception in the absence of any external sensory stimulus	Incorrect perception or misinterpretation of a sensory stimulus.

Delusion	Hallucination	Illusion
Eg: A belief that the person is a snake god.	Eg: There is nothing in front of you but you can see a snake.	Eg: There is a rope in front of you but you see it as a snake.

Solution to Question 4:

Pseudohallucinations can be recognized as unreal.

A pseudohallucination is an example of false perception heard within one's own mind (inner subjective space) rather than perceived as coming from the outside world (outer objective space).

They lack the substantiality of perceptions, are seen in full consciousness, and can be recognized as unreal even though they are clear and vivid. Like true hallucinations these are involuntary and cannot be produced at will.

The presence of pseudohallucinations does not necessarily indicate psychopathology, unlike true hallucinations which are indicative of mental illness.

True hallucination	Pseudohallucination
Arises from external objective space (voices heard in one's ears arising from the outside world)	Arises from inner subjective space (voices from within one's own mind)
Cannot be recognized as unreal	Can be recognized as unreal

Solution to Question 5:

The patient is experiencing reflex hallucinations. In this scenario, a sensory stimulus in one modality (auditory) is resulting in a sensory experience in a different modality (vibratory).

Option A: Functional hallucinations are triggered by a stimulus in the same modality, and co-occur with it. E.g., a patient may report that he hears voices criticizing him (auditory hallucination) every time he hears the sound of a rotating fan (auditory stimulus), which stops when the fan is not running.

Option C: Panoramic hallucination is a compound hallucination in which the entire sensory input is replaced by hallucinatory perceptions, thus giving rise to a totally different perceptual reality.

Option D: Pseudohallucination is a false perception heard within one's own mind (inner subjective space) rather than perceived as coming from the outside world (outer objective space), and is recognized as unreal.

Other special types of hallucinations:

- Hypnagogic hallucination- occurs prior to falling asleep (Hypnagogic: Going to sleep).

- Hypnopompic hallucination- occurs prior to waking up.
- Extracampine hallucination- experienced outside the limits of one's sensory field. E.g., a patient in Delhi hearing voices from Chennai.

Solution to Question 6:

Perceptual distortion of shape, size, color and reciprocal position of objects is known as Alice in Wonderland syndrome (AIWS). It is seen in schizophrenia and migraine. AIWS may be secondary to seizures associated with an arteriovenous malformation.



- Option A: Kleine-Levin syndrome is characterized by hypersomnia, hyperphagia, and hypersexuality.
- Option B: Kanner syndrome is characterized by the failure to develop an attachment with a parental figure and a preoccupation with inanimate objects.
- Option D: Pickwickian syndrome is sleep apnea associated with hypersomnia, in elderly and obese persons.

Solution to Question 7:

In the above scenario, the patient is exhibiting neologism. Neologism is a disorder of the form of thought. This refers to making new words (gooder, gerkschier) that do not exist and using them meaninglessly. It is usually seen in schizophrenia.

Solution to Question 8:

In the clinical scenario, thoughts of being followed and harmed by people represent delusion of persecution. It is the most common type of delusion.

A delusion is a false, firm, fixed (unshakable) belief that is not in keeping with the patient's socio-cultural and educational background.

They are of two types based on their origin:

- Primary - Arise de-novo and cannot be explained based on previous experiences, characteristic of schizophrenia.
- Secondary - Delusions that are secondary to other morbid psychological conditions like depressive moods and hallucinations.

Solution to Question 9:

Othello syndrome/morbid jealousy/delusion of infidelity is when the person believes that his/her partner is unfaithful and is cheating on him/her.

This can present as a primary delusional disorder, or it can be a symptom of other disorders like schizophrenia, alcohol-related psychosis, mood disorders, etc.

Solution to Question 10:

Ambivalence is the inability to decide for or against, due to the co-existence of two opposing impulses for the same thing, at the same time, in the same person.

Ambivalence is an important feature of schizophrenia. It is also seen with OCD and other borderline conditions.

Option A: Abulia is an inability to make a decision generally. Unlike ambivalence, there are no opposing impulses present.

Option C: Anhedonia is a loss of pleasure in previously pleasurable activities.

Option D: Alexithymia is an inability to recognize and describe feelings.

Solution to Question 11:

The given clinical scenario is suggestive of confabulation. This is a defect in memory that manifests as an unintentional filling of gaps in one's memory with words and content that are not true.

It is mainly seen in alcoholism (Korsakoff psychosis), syphilis, senile dementia, and schizophrenia.

Option A: Hallucination is a false perception without an external stimulus.

Option C: Delusion is a fixed false belief that is firmly held despite obvious contradictory evidence and that is not consistent with the person's social, educational, and cultural background.

Option D: Perseveration is the repetition of out-of-context words, phrases, or ideas beyond the point of relevance.

Solution to Question 12:

When the person gives a wrong answer to a question, but it is very similar to the actual answer, it is called *vorbeireden*, which means to give 'approximate answers'.

Here, the person answered 'green' for the colour of the sky. The content of the reply shows that they have understood the nature of the question, but responded wrongly or approximately by talking about an associated topic.

Vorbeireden is a feature of Ganser syndrome (hysterical pseudodementia), commonly found in prison inmates.

Option A: Neologism refers to making new words that do not exist and using them meaninglessly, as seen in schizophrenia. e.g., "The world is not 'gooder' for people like me".

Option B: Verbigeration is the meaningless and stereotyped repetition of words or phrases, seen in schizophrenia. e.g., "I want to go home go home go home".

Option D: Circumstantiality is the inclusion of irrelevant details and talking in a roundabout manner, but the patient's thought ultimately reaches the answer.

Solution to Question 13:

When the person was asked the meaning of the proverb, they could only interpret it in the literal sense, and not think what the proverb actually means metaphorically. This is called concrete thinking.

A person capable of abstract thinking would have answered the metaphorical meaning of the proverb given in the question (strike when the iron is hot), which is to take action when the opportunities are favourable.

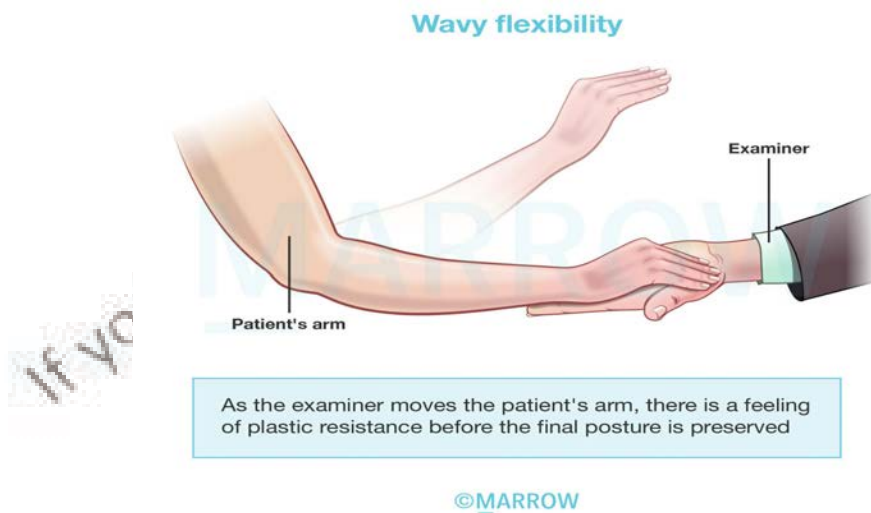
Abstract thinking is tested by asking the patient the meaning of a proverb or the similarities between objects like a table and a chair, or between a dog and a lion. Their responses are then judged based on whether they could think about the situation in different aspects, figuratively and metaphorically.

Concrete thinking	Abstract thinking
Develops first in childhood	Develops later in childhood gradually and emerges in adolescence
Understand the literal meaning of a sentence/proverb	Understand the deeper meaning of a sentence/ proverb
Focused on facts	Focused on concepts

Concrete thinking	Abstract thinking
Cannot compare and contrast different objects/situations	Can compare and contrast and derive conclusions
Think about a specific event/object individually.	Can derive generalizations from a specific event/object.
Think about a situation in one particular way	Think about various aspects of a situation simultaneously
Can think only about objects they have seen or situations they have experienced	Can think about objects/situations that were never experienced by them or that do not exist in reality.

Solution to Question 14:

The method as shown demonstrates waxy flexibility, which is a feature of catatonia. In this, parts of the body can be placed in positions that will be maintained for long periods of time, even if very uncomfortable. The limbs are flexible like wax and a slight resistance is felt while moving them.



Features of Catatonia:

- Mutism- complete absence of speech.
- Rigidity- maintenance of a rigid posture against efforts.
- Negativism- an apparently motiveless resistance to all commands.
- Posturing- voluntary assumption of an inappropriate and often bizarre posture for long periods of time, against gravity.
- Waxy flexibility- the patient's limbs can be manipulated to move in any position (flexible like wax), which is then retained by the patient for long periods of time, even if uncomfortable.
- Stupor- akinesia (no movement) with mutism with relative preservation of conscious awareness.

- Echolalia- repetition of phrases or words heard.
- Echopraxia- repetition of actions observed.
- Ambitendency- tendency to act in opposing ways or directions because of conflicting impulses. e.g. on asking to take out the tongue, the tongue is slightly protruded but taken back again.
- Gegenhalten- when subjects involuntarily resist passive movements. The resistance is directly proportional to the force applied. Also called oppositional paratonia.
- Mannerism- repetition of normal movements but inappropriately. They are purposeful. E.g., repeatedly saluting the people around.
- Stereotypy- repetitive, odd, purposeless movements. E.g., making strange movements of fingers repeatedly.
- Automatic obedience- commands are followed automatically, irrespective of their nature.

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Assessment in Psychiatry

Question 1:

A worried mother reports that whenever she asks her child to put away a toy, he lays facedown on the floor, and starts kicking, screaming, & banging his head. Which of the following best describe the child's behavior?

- a) Psychotic traits
- b) Neurotic traits
- c) Schizoid traits
- d) Sociopathic traits

Question 2:

Which of the following statements is wrong about the mental status examination?

- a) It has objective observations of the clinician
- b) It has subjective description given by the patient
- c) It should be interpreted in the context of patient's cultural background
- d) It is scored out of 30

Question 3:

A psychiatrist is conducting the Folstein test as a part of the psychiatric evaluation of a patient. What is the maximum score out of which the patient is scored?

- a) 15
- b) 25
- c) 20
- d) 30

Question 4:

A patient is brought to the OPD in a state of euphoria. He was smiling and talking softly when he came in, then he was quiet for a while. He then seemed to be excited and suddenly started

to laugh for no reason. How should the psychiatrist record his mood and affect?

- a) Elevated mood and excited affect
- b) Euphoric mood and energetic affect
- c) Euphoric mood and restless affect
- d) Elevated mood and labile affect

Question 5:

A man is speaking about his mother's death and is laughing. You would record his affect as

- a) Incongruent affect
- b) Labile affect
- c) Flat affect
- d) Inappropriate affect

Question 6:

A 24-year-old woman with epilepsy gets repeated thoughts to cut off her fingers with a knife. These thoughts are detailed and distressing but do not urge her to do the action or cause any anxiety. The thoughts last for 5-10 minutes, after which she gets a seizure; then the thoughts disappear and she feels better. What is this phenomenon called?

- a) Obsession
- b) Thought crowding
- c) Forced thinking
- d) Thought insertion

Question 7:

As part of a psychiatric evaluation, you ask the patient about what he would do if he suddenly sees a house on fire. What is being assessed here?

- a) Social judgment
- b) Test judgment
- c) Response judgment
- d) Pyromaniac tendency

Question 8:

Which of the following can you assess by a digit span test?

- a) Learning capacity
- b) Immediate recall
- c) Orientation
- d) Remote memory

Question 9:

A patient is asked to keep subtracting 7 from 100. This test is used to assess which of the following?

- a) Recent memory
- b) Learning capacity
- c) Concentration
- d) Abstract thinking

Question 10:

A patient says that he feels that there is something wrong with him mentally and it is because of the summer season. How much would he score on the insight scale?

- a) 2
- b) 3
- c) 4
- d) 5

Question 11:

A man who mistook his wife for a hat is brought to the psychiatric OPD. The psychiatrist after interviewing him suspects a brain lesion. To localize the lesion and to determine its effects, which of the following tests can he use as a neuropsychological assessment tool?

- a) Wechsler adult intelligence scale
- b) Stanford Binet test

- c) Halstead Reitan battery
- d) Thematic apperception test

Question 12:

A pediatrician wants to assess a 2-month-old child for global developmental delay. The child was born prematurely and had developed hypoxic-ischemic encephalopathy. Which of the following tests cannot be employed in the assessment of this child?

- a) Gesell development schedule
- b) Bayley scale
- c) Mullen scale
- d) Stanford Binet scale

Question 13:

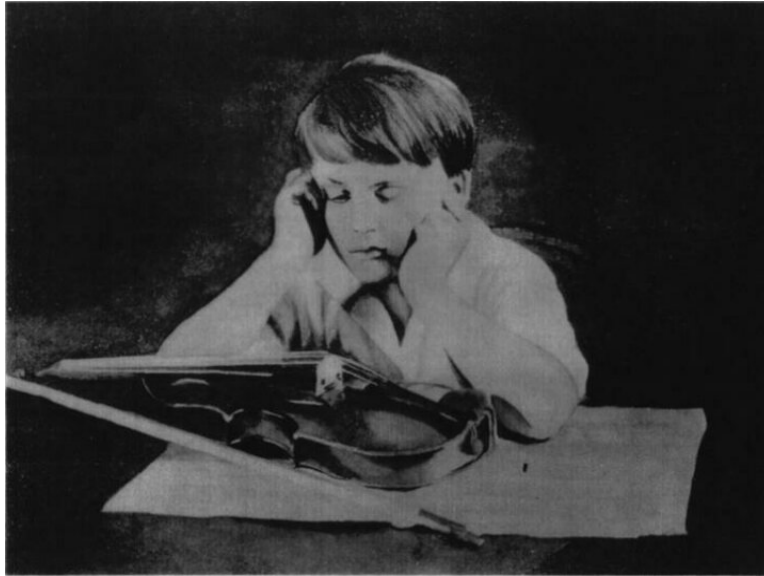
A psychologist gives the following card to a patient and asks him to describe what he sees. Which of the following is being assessed here?



- a) Conscious desires
- b) Unconscious intentions
- c) Dreams
- d) Depressive tendencies

Question 14:

A patient is given a set of 20 pictures similar to the one shown below and asked to give his interpretation of the same. Which of the following is being assessed by this test?



- a) Neuropsychological assessment
- b) Personality assessment
- c) Intelligence assessment
- d) Assessment of social cognition

Answer Key

Question No.	Correct Option
1	b
2	d
3	d
4	d
5	a
6	c
7	b
8	b
9	c
10	b

11	c
12	d
13	b
14	b

Detailed Explanations

Solution to Question 1:

Temper tantrums and headbanging are neurotic traits in childhood. The occurrence of neurotic traits must be noted while obtaining childhood history during a psychiatric assessment.

Neurotic traits:

- Headbanging, temper tantrums, body rocking
- Thumb sucking, nail-biting, tics
- Enuresis (involuntary micturition), encopresis (involuntary defecation)
- Night terrors, somnambulism
- Morbid fears or phobias

Psychotic traits:

- Flattened affect
- Delusions
- Hallucinations

Schizoid traits:

- Eccentric
- Self-isolation

Sociopathic traits:

- Inability to conform to social norms
- Unremorsefulness

Solution to Question 2:

Mental Status Examination (MSE) is a structured way of observing and describing a patient's psychological functioning at a given point in time. It does not involve the scoring of a patient.

The main components of MSE are:

- Appearance and behavior

- Mood and affect
- Speech
- Thought process and content
- Perceptual disturbances
- Sensorium and cognition
- Insight
- Judgment

When conducting the MSE or interpreting MSE findings, it is important to consider the cultural background of both the clinician conducting the MSE and the interviewee because behavioral patterns vary significantly across cultures (e.g., nodding your head as a sign of approval in some countries might signify disagreement in others)

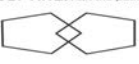
Mini-Mental State Examination (MMSE), also known as Folstein's test, is done out of a score out of 30 and is used to measure cognitive impairment.

Note: Mental Status Examination (MSE) and Mini-Mental State Examination (MMSE) are two different assessment tests.

Solution to Question 3:

The Mini-Mental State Examination (MMSE), also known as the Folstein test, is scored out of 30. It consists of a questionnaire from 11 categories. It is used extensively in clinical and research settings to test cognitive functioning.

A patient with a score less than 24 is considered to have impaired cognition.

MINI MENTAL STATE EXAMINATION (MMSE)		Name: _____		
		DOB: _____		
		Hospital Number: _____		
One point for each answer		DATE:		
ORIENTATION	Year Season Month Date Time	..... 5	..... 5	..... 5
	Country Town District Hospital Ward/Floor	..... 5	..... 5	..... 5
REGISTRATION	Examiner names three objects (e.g. apple, table, penny) and asks the patient to repeat (1 point for each correct. THEN the patient learns the 3 names repeating until correct).	..... 3	..... 3	..... 3
ATTENTION AND CALCULATION	Subtract 7 from 100, then repeat from result. Continue five times: 100, 93, 86, 79, 72, 65. (Alternative: spell "WORLD" backwards: DLROW).	..... 5	..... 5	..... 5
RECALL	Ask for the names of the three objects learned earlier.	..... 3	..... 3	..... 3
LANGUAGE	Name two objects (e.g. pen, watch).	..... 2	..... 2	..... 2
	Repeat "No ifs, ands, or buts".	..... 1	..... 1	..... 1
	Give a three-stage command. Score 1 for each stage. (e.g. "Place index finger of right hand on your nose and then on your left ear").	..... 3	..... 3	..... 3
	Ask the patient to read and obey a written command on a piece of paper. The written instruction is: "Close your eyes".	..... 1	..... 1	..... 1
	Ask the patient to write a sentence. Score 1 if it is sensible and has a subject and a verb.	..... 1	..... 1	..... 1
COPYING:	Ask the patient to copy a pair of intersecting pentagons.	..... 1	..... 1	..... 1
				
MMSE scoring	24-30: no cognitive impairment 18-23: mild cognitive impairment 0-17: severe cognitive impairment	TOTAL: 30 30 30		

Solution to Question 4:

In this scenario, the patient's mood is elevated because he seems to be euphoric and excited. His affect is labile because there is excessive variation in emotions without any apparent reason (from smiling one moment, to being quiet, then laughing).

Mood is a pervasive and sustained emotional state experienced subjectively by the patient. It is not always readily observable. It can be characterized as follows:

- Dysphoric- includes sustained emotional states such as sadness, anxiety, or irritability.
- Elevated- an exaggerated feeling of well-being, euphoria, or elation.
- Expansive- lack of restraint in expressing feelings, frequently with an over-valuation of one's significance or importance.
- Irritable- easily annoyed or angered.
- Euthymic- mood in the normal range.

Affect is the cross-section of mood at a given point in time. It fluctuates with time and context. It can be observed by the clinician. It can be characterized as follows:

- Quality (or tone) of a patient's affect includes being happy, irritable, angry, agitated, tearful, sobbing, and flat.
- Quantity of affect is a measure of its intensity. e.g., mildly depressed or severely depressed.
- Range can be restricted, normal, or labile.
- Appropriateness is described in relation to the social situation.
- Congruency is described in relation to the thought content of the person.

Solution to Question 5:

The patient has an incongruent affect. Congruency is described in relation to the thought content of the person. In this situation, the man is speaking about his mother's death and is expected to be sad, but he is laughing. His laughter is not congruent with the content of his speech and thoughts.

Option B: Labile affect denotes excessive variations in emotion without any apparent reason. For example, a person starts laughing and then crying for no reason. This is seen in mania.

Option C: Affective flattening/flat affect is used to describe a severely restricted range of affect (absence of changes in emotion irrespective of the situation). It is seen in schizophrenia.

Option D: Inappropriate affect denotes emotional responses that do not match with the social situation one is in. Appropriateness is described in relation to the social situation. For example, if a man is laughing at a funeral, he has an inappropriate affect.

Solution to Question 6:

In the above scenario, the patient has forced thinking. The thoughts formed are not in control of the patient and are distressing.

Forced thinking is one of the recognized pre-ictal events (auras) occurring in focal epilepsy or more specifically, in frontal lobe epilepsy. It usually resolves after the episode of seizure.

Pre-ictal events (auras) in complex partial epilepsy include:

- Automatism (classical) - e.g., lip-smacking, rubbing, chewing.
- Cognitive sensations - e.g., déjà vu, jamais vu, forced thinking, dreamy states.
- Autonomic sensations - e.g., fullness in the stomach, blushing, changes in respiration.
- Affective states - e.g., fear, panic, depression, elation.

Option A: Obsessions are recurrent and persistent ideas, thoughts, urges, or images that are experienced as intrusive and unwanted and cause anxiety or distress to the patient. It is seen in obsessive-compulsive disorder.

Option B: Thought crowding is characterized by too many thoughts occurring at the same time in the field of consciousness. It is perceived as unpleasant and induces the feeling that ideas are difficult to catch. It is seen in mood disorders such as hypomania and bipolar disorder.

Option D: Thought insertion is a disorder of thought possession in which the patient feels that thoughts are being inserted into his mind by some external agent. It is seen in schizophrenia.

Solution to Question 7:

In the given scenario, test judgment is being assessed. Judgment is the ability to assess a situation, make good decisions, and act on them.

Test judgment is assessed by asking the patient what he would do in hypothetical situations, such as a house on fire, or a man lying on the road, or a sealed, stamped, addressed envelope lying on a street.

Social judgment is the ability to perceive social situations and act accordingly. The following are observed during the hospital stay and during the interview session:

- Does the patient understand the likely outcome of personal behavior?
- Subtle manifestations of behavior that are harmful to the patient.
- Behavior that is not culturally acceptable.

There is no category called response judgment.

Solution to Question 8:

The digit span test is used for testing attention and immediate recall.

Solution to Question 9:

The serial subtraction test is used to assess concentration.

Solution to Question 10:

The patient would score 3, as he is aware of being sick but has attributed it to external factors.

Insight is rated on a 5 point scale:

- Complete denial of illness.
- Slight awareness of being sick and needing help but denying it at the same time.
- Awareness of being sick, but is attributed to physical or external factors.
- Intellectual insight - awareness of being ill, and that the symptoms are due to own particular irrational feelings and thoughts.
- Emotional insight - the highest level of insight. Intellectual insight with making significant changes in future behavior.

Loss of insight is seen in schizophrenia, mania, delusional disorders, etc.

Solution to Question 11:

Halstead Reitan test is a neuropsychological test and is used to detect and localize brain lesions and determine their effects.

This approach typically includes a large variety of tests that measure most cognitive domains, as well as sensory and motor skills.

Solution to Question 12:

Stanford Binet intelligence scale can be used only from the age of 2 years. It cannot be used in the given scenario as the child is 2-months old.

The following tests can be used to assess cognition/development/intelligence in a 1-year-old child:

- Gesell schedule- 1 month to 36 months
- Bayley scale- 1 month to 42 months
- Mullen scale- 0 months to 68 months

Solution to Question 13:

The picture given is of Rorschach's inkblot test, which is a projective personality test that focuses on the unconscious aspects of personality.

Projective tests are based on the principle that when presented with an ambiguous stimulus, such as an inkblot or an image, the patient's responses will reflect fundamental aspects of his or her

personality. The ambiguous stimulus is a screen on which the individual projects his or her own needs, thoughts, or conflicts.

Commonly used projective tests are:

- Thematic apperception test
- Rorschach's inkblot test
- Sentence completion test
- Draw a person test

In Rorschach's inkblot test, 10 bilaterally symmetrical inkblots are shown to the participants. The test is administered in two phases:

- Free association phase- participant's response to the cards is recorded
- Inquiry phase- participants explain why they formed the impression.

Solution to Question 14:

The picture given is employed for personality assessment in the thematic apperception test (TAT). It is a projective test intended to evaluate a person's personality through their responses to ambiguous pictures.

The TAT consists of a series of 20 pictures that depict individuals of both sexes and of different age groups involved in different activities. The stories that the patient makes up concerning the pictures reflect the patient's own needs, thoughts, feelings, and view of the future.

Specific Treatment Modalities

Question 1:

In which of the following conditions is the treatment modality shown below not indicated?



- a) Increased intracranial tension
- b) Intractable seizure disorder
- c) Pregnancy
- d) Neuroleptic malignant syndrome

Question 2:

A patient with severe resistant depression is planned for electroconvulsive therapy. You ask the nurse to load atropine, a muscle relaxant, and an anesthetic drug as a part of pre-procedure preparation. Which of the following anesthetic agents should he load?

- a) Ketamine
- b) Methohexital
- c) Propofol
- d) Thiopental

Question 3:

A patient who is a known case of bipolar disorder with psychotic features is currently on the following medications. However, he continues to have pressured speech, flight of ideas, hallucinations, and suicidal ideations. He is planned for electroconvulsive therapy. Which of the following drugs would you stop before the procedure?

- a) 2 only
- b) 3 and 5
- c) 1, 2 and 4
- d) 1, 3, 4 and 5

Question 4:

You are observing electroconvulsive therapy being administered to a psychiatric patient. Which of the following statements is true regarding the procedure?

- a) An effective seizure should last for at least 2 minutes
- b) ECT treatments are usually administered twice or thrice weekly, non consecutively
- c) Maximum number of times ECT can be given in a patient is 6
- d) All of the above

Question 5:

Which of the following side effects of electroconvulsive therapy persists even after the treatment course ends?

- a) Decreased anterograde memory
- b) Errors in visual-spatial function
- c) Diminished processing speed
- d) Decreased retrograde memory

Question 6:

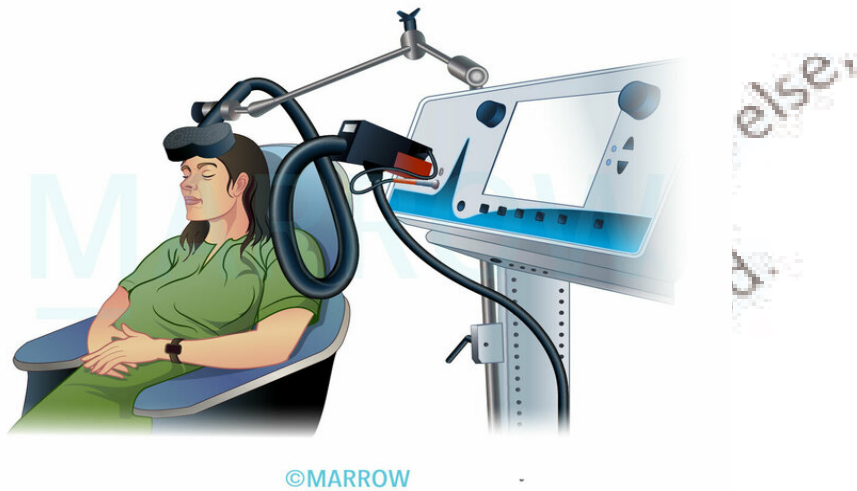
Which of the following is an advantage of transcranial magnetic stimulation over electroconvulsive therapy?

- a) It is more effective than electroconvulsive therapy
- b) Shorter treatment course
- c) It induces seizure of shorter duration

d) It allows for focal stimulation of cerebral cortex

Question 7:

Which of the following statements is true regarding the repetitive brain stimulation technique shown below?



- a) It can be used as a monotherapy for schizophrenia
- b) It can be used as a monotherapy in resistant depression
- c) Its effects are the same as that of an MRI
- d) It can be used as a first line treatment for depression

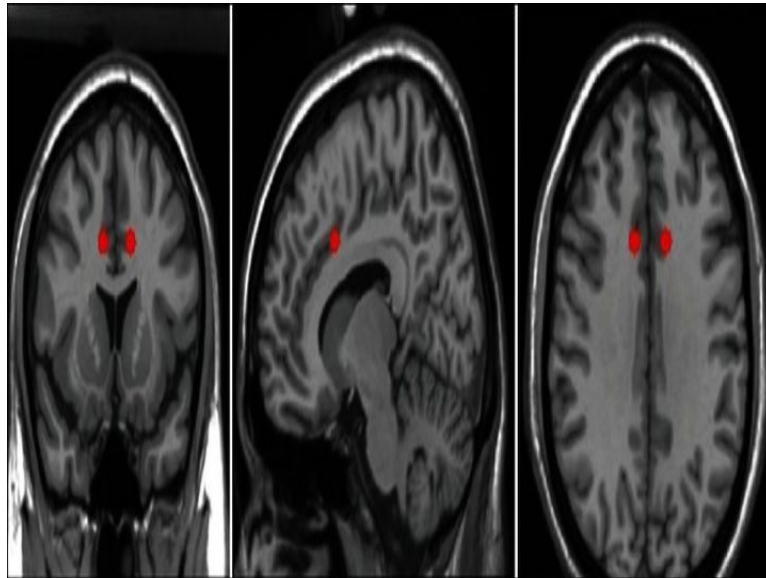
Question 8:

Which of the following is true about deep brain stimulation?

- a) Three tiny neurostimulators are placed under the skin of the clavicle
- b) Done under computed tomography guidance
- c) Reduces symptoms associated with movement disorders
- d) Swimming skills remain intact after the procedure

Question 9:

A patient with a severe, treatment-resistant neuropsychiatric condition is referred to the neurosurgery OPD. The surgeon proposes a burr-hole procedure where the given sites are destroyed via thermocoagulation. Which of the following conditions is the patient likely to be suffering from?



- a) Obsessive-compulsive disorder
- b) Mania
- c) Alzheimer's dementia
- d) Antisocial personality disorder

Question 10:

Which of the following characteristics of a patient is favourable for using psychoanalysis as a therapy?

- a) High frustration tolerance
- b) Concrete thinking
- c) Extreme dishonesty
- d) Ongoing major upheaval in life

Question 11:

During Ross's marriage to Emily, when the wedding officiant asked him to repeat "I Ross, take thee, Emily, as my lawfully wedded wife", Ross says Rachel's name instead. Ross and Rachel have dated on multiple occasions in the past. This unconscious act of revealing his

feelings can be best described by which of the following terms?

- a) Parapraxis
- b) Transference
- c) Repression
- d) Displacement

Question 12:

A patient was referred to a psychiatrist for his neurosis. He was a witness to a road traffic accident wherein a pedestrian was overrun. He refuses to go out on the road fearing that every time he would step out he would witness an accident. What kind of maladaptive assumption does this patient display?

- a) Selective abstraction
- b) Catastrophising
- c) Temporal causality
- d) Dichotomous thinking

Question 13:

During a session of cognitive-behavioral therapy, the patient reported feeling distressed about the fact that his friend did not answer his call when he had called him the previous day. When asked what thought went through his mind at that time, he replied "I do not fit anywhere in this world." What is the next step the therapist should follow in the session?

- a) Elicit the automatic thought
- b) Test the validity of the maladaptive assumption the patient is making
- c) Identify the maladaptive assumption the patient is making
- d) Test the validity of the automatic thought

Question 14:

Which of the following patients with personality disorders is most likely to benefit from dialectical behavior therapy?

- a) A 18-year-old with traits of criminality, impulsivity, hostility, manipulation, and disregard for others

- b)** A 20-year-old with labile emotions, dramatic speech, who is sexually provocative with attention seeking behaviours
- c)** A 22-year-old with traits of unstable mood, impulsivity, suicidality, fear of abandonment, and unstable self-image
- d)** A 24-year-old who is preoccupied with order, perfectionism, and is excessively devoted to work

Question 15:

In which of the following instances can a psychologist use systematic desensitization as a treatment option?

- a)** A 18-year-old with BMI 22, recurrent episodes of binge eating and purging for past 3 months
- b)** A 24-year-old with an irrational fear of contamination who washes her hands every 5 minutes
- c)** A 22-year-old with feelings of worthlessness, psychomotor retardation, insomnia, fatigue, and anhedonia for 2 weeks
- d)** A 20-year-old with disorganized behavior, delusions of persecution and auditory hallucinations for 4 months

Question 16:

Which of the following statements is false?

- a)** Systematic desensitisation is based on the principle of counter conditioning and reciprocal inhibition
- b)** When flooding, the patient is exposed to the fear according to a hierarchy
- c)** In therapeutic graded exposure, relaxation training is not involved
- d)** Eye movement desensitisation is used in post traumatic stress disorder and phobias

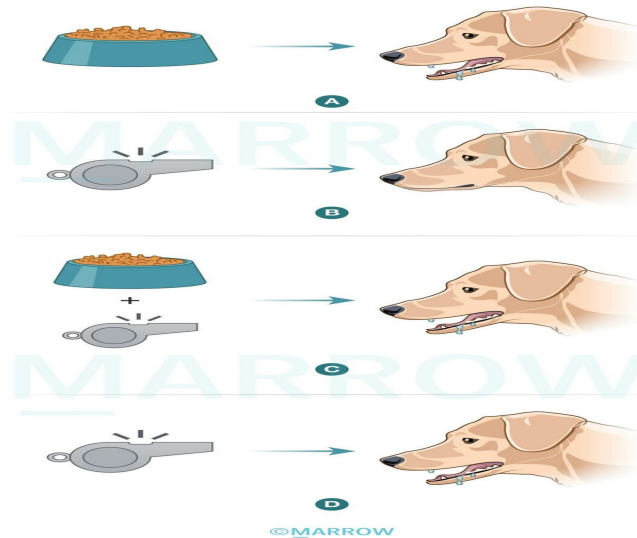
Question 17:

A patient suffering from a phobia of contamination is asked by his therapist to follow behind him, touch every object he touches, and observe and learn from his behavior. During this process, the therapist talks calmly to the patient. The patient is told to repeat this twice daily. Name the technique applied by the therapist.

- a)** Participant modeling
- b)** Aversion therapy
- c)** Flooding
- d)** Positive reinforcement

Question 18:

Which of the following statements is false regarding the scientist who performed the famous experiment illustrated below?



- a) He developed the concept of learning by association
- b) He developed the theory of classical conditioning
- c) He studied the physiology of digestion
- d) He gave the model for operant conditioning

Question 19:

A child was not allowed to play because he did not finish his homework. The mother used which of the following techniques to discipline her child?

- a) Positive punishment
- b) Negative punishment
- c) Positive reinforcement
- d) Negative reinforcement

Question 20:

A young man who started using cannabis has become increasingly dependant on it psychologically. He was diagnosed with cannabis use disorder and motivational enhancement therapy was started to help him. Which of the following is not a stage of this therapy?

- a) Preparation
- b) Contemplation
- c) Conditioning
- d) Maintenance

Question 21:

A chronic smoker who was recently diagnosed with COPD finally decided to quit smoking. He often thinks about stopping it but is reluctant due to the fear that he might become too irritable and restless without it. Which of the following options best describes the stage he is in?

- a) Pre contemplation
- b) Contemplation
- c) Preparation
- d) Consolidation

Question 22:

A chronic alcoholic who is motivated to quit drinking is prescribed disulfiram by his physician. Which of the following was employed by the physician to modify the patient's behavior?

- a) Positive reinforcement
- b) Systematic desensitization
- c) Aversion therapy
- d) Flooding

Answer Key

Question No.	Correct Option
1	a

2	b
3	c
4	b
5	d
6	d
7	b
8	c
9	a
10	a
11	a
12	c
13	d
14	c
15	b
16	b
17	a
18	d
19	b
20	c
21	b
22	c

Detailed Explanations

Solution to Question 1:

Increased intracranial tension is a relative contraindication for electroconvulsive therapy (ECT). ECT was introduced as a treatment modality for schizophrenia by Ugo Cerletti. ECT is useful in the treatment of:

- Severe depression with suicidal risk (most common indication)
- Treatment-resistant depression
- Catatonia
- Obsessive-compulsive disorder
- Delirium
- Episodic psychoses, atypical psychoses
- Medical conditions such as:

- Neuroleptic malignant syndrome
- Hypopituitarism
- Intractable seizure disorders
- The on-off phenomenon of Parkinson's disease.

ECT may also be the treatment of choice for depressed suicidal pregnant women who require treatment and cannot take medication.

Solution to Question 2:

Methohexital is the most commonly used anesthetic agent for electroconvulsive therapy, because of its shorter duration of action and lower association with post-ictal arrhythmias. Methohexital is the only anesthetic agent with no intrinsic antiepileptic property.

Solution to Question 3:

Lithium, diazepam, and bupropion should be withheld before a session of ECT.

Lithium combined with ECT has been shown to cause prolonged seizures (lasting more than 180 secs) and increased postictal delirium. Doses are withheld for 24 hours prior to treatment, allowing for washout.

Medications to be withheld before ECT:

- Lithium - causes prolonged seizures and increased postictal delirium
- Benzodiazepines - anticonvulsant activity
- Clozapine - associated with late-appearing seizures
- Bupropion - associated with late-appearing seizures

Medications that should not be used during ECT:

- Lidocaine - markedly increases seizure threshold
- Theophylline - increases the duration of seizures
- Reserpine - further compromises RS and CVS

Note: Tardive seizure is a rare complication of ECT. These are seizures that occur after the completion of treatment once the patient has regained consciousness. The use of β -lactam antibiotics and ciprofloxacin has been associated with tardive seizures.

Solution to Question 4:

ECT consists of sessions that are scheduled 2-3 times weekly on nonconsecutive days. Twice-weekly treatments are associated with less memory impairment than thrice-weekly

treatments.

For a seizure to be effective in the course of ECT, it should last at least 25 seconds.

Treatment should continue until the patient achieves what is considered the maximal therapeutic response. The point of maximal improvement is usually thought to occur when a patient fails to continue to improve after two consecutive treatments. Further treatment does not yield any therapeutic benefit but increases the severity and duration of the adverse effects.

If a patient does not improve after 6 to 10 sessions, bilateral placement and high-density treatment (three times the seizure threshold) should be attempted before ECT is abandoned.

Solution to Question 5:

A decrease in retrograde memory is a side effect of ECT that could persist even after the treatment course ends. Retrograde memory disturbances take 1-6 months to recover.

Other cognitive side effects of ECT include:

- Disorientation
- Diminished processing speed
- Decreased anterograde memory
- Errors in visual-spatial function and word-finding

These effects are seen immediately after a treatment session and diminish fairly quickly after the treatment course ends.

Solution to Question 6:

Transcranial magnetic stimulation (TMS) is a brain stimulation method that allows for focal stimulation of the cerebral cortex.

TMS works by inducing eddy currents in the brain cortex due to the application of rapidly changing magnetic fields. These currents bring about neuronal stimulation.

Advantages of TMS over ECT:

- TMS allows for focal stimulation of brain areas
- It does not induce seizures, but unintended seizure is a known risk of this procedure.

Studies have shown TMS to be less effective than ECT.

Solution to Question 7:

Repetitive transcranial magnetic stimulation (rTMS) is approved for monotherapy in resistant depression. It uses the property of magnetic fields to induce electrical activity in the brain.

It is different from MRI, as an MRI just observes but rTMS produces changes in the activity of the brain.

rTMS can be used in addition to antipsychotics to treat resistant schizophrenia. However, it is not used as monotherapy.

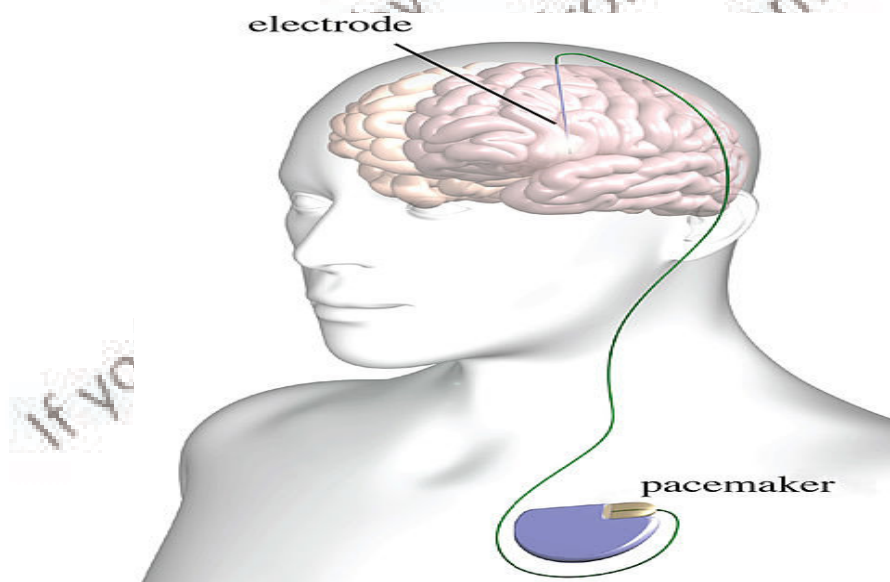
Solution to Question 8:

Deep brain stimulation (DBS) reduces symptoms associated with movement disorders such as Parkinson's disease. It provides a dramatic response with respect to off time and dyskinesias.

However, it does not improve features that fail to respond to levodopa and does not prevent the development or progression of non-dopaminergic features such as freezing, falling, dementia, etc.

It is an invasive procedure performed using MRI-guided stereotactic techniques in which electrodes are implanted in the brain and are connected via a subcutaneous wire to a maximum of two neurostimulators which are placed under the skin of the clavicle.

Impaired swimming skills surfaced as an unexpected risk of the procedure; several Parkinson's disease patients lost their ability to swim after receiving deep brain stimulation.



Solution to Question 9:

The given image is that of anterior cingulotomy (ACING), which is a neurosurgical treatment for obsessive-compulsive disorder. Anterior cingulotomy involves creating bilateral lesions in the anterior cingulate cortex under stereotactic guidance.

Subcaudate tractotomy (capsulotomy) can also be used in the management of treatment-unresponsive OCD.

Prefrontal lobotomy was introduced by Egas Moniz as a method of psychosurgery for treatment-resistant mental disorders, particularly major depressive disorder and OCD.

Other indications for psychosurgery include:

- Chronic and incapacitating schizophrenia with severe depression not responding to all modes of treatment.
- Chronic and incapacitating anxiety disorder not responding to all modes of treatment.

Solution to Question 10:

High frustration tolerance is favorable for psychoanalysis. Psychoanalysis involves bringing repressed memories and feelings to the surface and resolving unconscious conflicts through understanding.

Patient characteristics favorable for psychoanalysis:

- Significant suffering and a genuine wish to understand themselves.
- Ability to withstand frustration and anxiety that might emerge during analysis.
- A reasonable, mature superego that allows them to be honest with the analyst.
- Average intelligence.
- Psychologically minded, that is, being able to think abstractly and symbolically about the unconscious meanings of their behavior.

Patient characteristics unfavorable for psychoanalysis:

- The absence of suffering and low motivation to understand.
- Inability to tolerate frustration and anxiety with poor impulse control.
- Extreme dishonesty or antisocial personality disorder.
- Low intelligence - inability to understand the process.
- Concrete thinking or the absence of psychological mindedness.
- Serious physical illness, an ongoing major upheaval in life like job loss or divorce.

Solution to Question 11:

When a person reveals his feelings unconsciously by a slip of tongue, it is known as parapraxis. Freud ascribed parapraxis to unconscious motives.

Option B: Transference - A situation where the feelings, desires, and expectations of one person are redirected and applied to another person. Most commonly, transference occurs in a therapeutic setting, where a person in therapy unconsciously develop feelings towards the therapist.

Option C: Repression - is a key concept of psychoanalysis, where it is understood as a defense mechanism. It ensures that what is unacceptable to the conscious mind - and would, if recalled arouse anxiety - is prevented from entering into it.

Option D: Displacement - Feelings that are connected with one person are displaced onto another person. E.g., a man who has had a bad day at the office, comes home and yells at his wife and children, is displacing his anger from the workplace onto his family.

Catharsis: The expression of ideas, thoughts, and suppressed emotions by the patient which provides a sense of relief. It is also known as ventilation. In catharsis, the patient reveals information voluntarily and consciously whereas, in parapraxis, patient details are revealed unconsciously, by slip of tongue.

Solution to Question 12:

The patient believes 'if it has been true in the past, it's always going to be true' which is demonstrative of maladaptive assumption of temporal causality.

Behavioral therapy techniques are used to test and change maladaptive and inaccurate cognitions. The overall purpose of such techniques is to help the patients understand the inaccuracy of their cognitive assumptions and learn new strategies and ways of dealing with issues.

Cognitive Error	Assumption
Overgeneralizing	If it's true in one case, it applies to any case that is even slightly similar.
Selective abstraction	The only events that matter are failures, deprivation, etc. Should measure self by errors, weaknesses, etc.
Excessive responsibility (assuming personal causality)	I am responsible for all bad things, failures, etc.
Assuming temporal causality (predicting without sufficient evidence)	If it has been true in the past, it's always going to be true.
Self-references	I am the center of everyone's attention especially my bad performances. I am the cause of misfortunes.
Catastrophizing	Always think of the worst. It's most likely to happen to you.
Dichotomous thinking	Everything is either one extreme or another (black or white, good or bad).

Solution to Question 13:

The therapist first elicited the automatic thought the patient made, which is "I do not fit anywhere in this world". The next step would be to test the validity of this automatic thought.

Cognitive Behavioural Therapy (CBT) is based on the psychological significance of the cognitive triad:

- An individual's beliefs about themselves
- Their personal world (including the people in their lives)
- Their future.

Problematic and biased interpretations related to this cognitive triad may lead to excessive emotional distress.

CBT is applied to identify these faulty ideas and beliefs, make the patient aware of the underlying assumptions that drive them, and modifying their responses to them.

The three components of cognitive therapy are:

- Didactic aspects: Explaining to patients the cognitive triad, schemas, and faulty logic. The therapist must explain all the aspects of treatment.
- Cognitive techniques: These involve four steps-
- Eliciting automatic thoughts - Asking the patient about the thought that causes the emotional reaction in them.
- Testing validity of the automatic thoughts
- Identifying the general maladaptive assumptions (a belief that is false and rationally unsupported)
- Testing the validity of maladaptive assumptions
- Behavioral techniques like relaxation techniques and desensitization to the stimulus etc.

CBT is used in the treatment of anxiety and panic disorders, depression, phobia, OCD, personality disorders, and somatoform disorders.

Solution to Question 14:

Dialectical behavior therapy is a type of psychotherapy used commonly in the management of borderline personality disorder.

A 22-year-old with traits of unstable mood, impulsivity, suicidality, fear of abandonment, and unstable self-image fits the description of borderline personality disorder as per DSM-5 criteria.

In DBT, the goal is to improve interpersonal skills and decrease self-destructive behavior using techniques involving advice, metaphor, storytelling, and confrontation, among others.

Option A: This describes a patient with antisocial personality disorder.

Option B: This describes a patient with histrionic personality disorder.

Option D: This describes a patient with obsessive-compulsive personality disorder.

Solution to Question 15:

Systematic desensitization is one of the behavioral therapy techniques for Obsessive-compulsive disorder (A 24-year-old with an irrational fear of contamination and washes hands every 5 minutes). It is also used in the treatment of phobias.

Systemic desensitization is based on the behavioral principle of counter-conditioning. Here, the person overcomes anxiety elicited by a situation or an object by approaching the feared situation gradually and in a relaxed state.

Systematic desensitization consists of three steps:

- Relaxation training - patients attain a state of complete relaxation and are then exposed to the stimulus that elicits the anxiety response. The negative reaction of anxiety is inhibited by the relaxed state, a process called reciprocal inhibition.
- Hierarchy construction - Patients and therapists prepare a graded list (or hierarchy) of fear-provoking scenes in the order of increasing anxiety.
- Desensitization of the stimulus - Patients proceed systematically through the list from the least to the most anxiety-provoking scene while in a deeply relaxed state.

Option A: Describes a patient with bulimia nervosa.

Option C: Describes a patient with major depressive episode.

Option D: Describes a patient with schizophreniform disorder.

Solution to Question 16:

In flooding, the patient is exposed to their fear, but without any hierarchy i.e, there is no gradual exposure as in systematic desensitization. Patients learn to remain in the feared situation until they feel calm.

Systematic desensitization - employs counter conditioning and reciprocal inhibition. It is used in the treatment of OCD and phobias.

Therapeutic graded exposure - similar to systematic desensitization, but there is no relaxation training. The treatment is carried out in a real-life context.

Eye movement desensitization and reprocessing (EMDR) - inducing saccades (quick, simultaneous movement of both eyes between two or more phases of fixation) when a person is imagining an anxiety-producing event. The saccades can yield a positive thought which decreases anxiety. It is used in PTSD and phobias.

Solution to Question 17:

The patient is made to learn a new behaviour when exposed to his fear, by observation and imitation of the therapist. This therapy is called participant modeling.

Aversion therapy - This is to suppress an unwanted behavior or a habit by pairing it with a negative or unpleasant stimulus. For example, an alcohol-dependent patient is made to vomit (by

adding an emetic to the alcohol) every time a drink is ingested is effective in treating alcohol dependence.

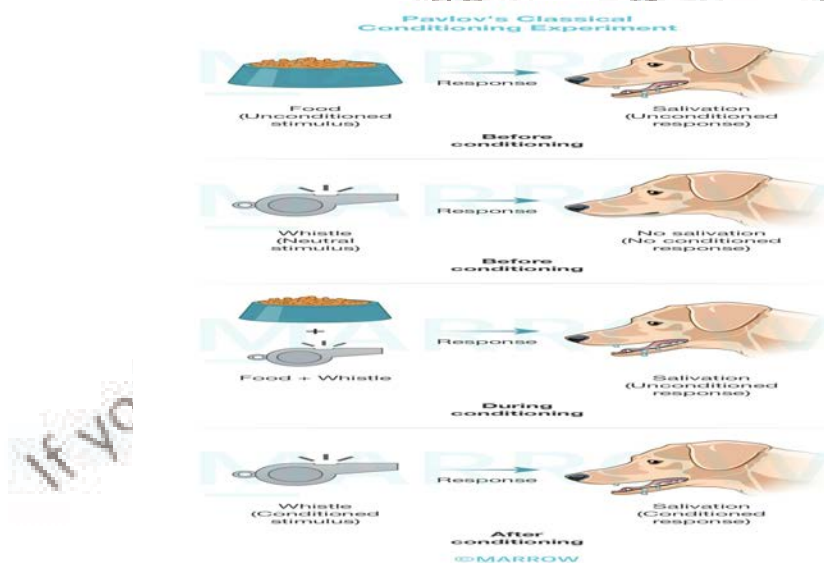
Flooding - It involves repeated and prolonged exposure to fear cues of high intensity without relaxation. Patients learn to remain in the feared situation until they feel calm.

Positive reinforcement - When a behavioral response is followed by a rewarding event.

Solution to Question 18:

The experiment shown in the image is that of classical conditioning by Ivan Pavlov. The theory of operant conditioning was given by Skinner (not Pavlov). It is a method of learning that occurs through rewards and punishments for behavior.

Classical conditioning is the theory of learning in which a natural response (salivation) is elicited by a conditioned or learned stimulus (bell), that was previously presented with an unconditioned stimulus (food). It is also called learning by association or respondent conditioning. He's also known for his work on the physiology of digestion.



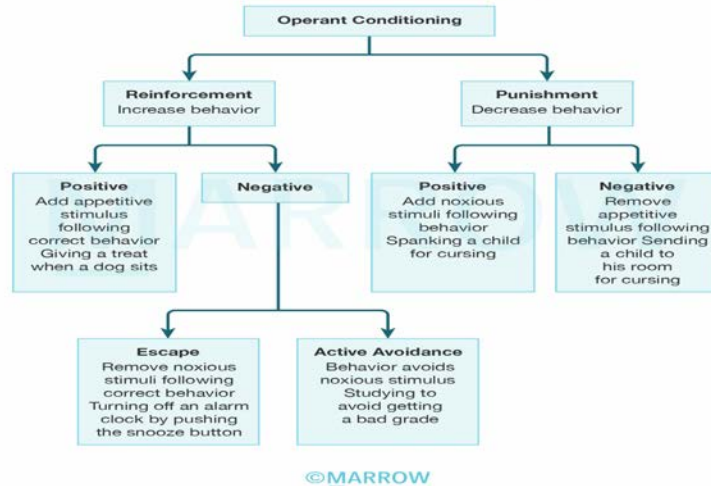
Solution to Question 19:

Negative punishment is withholding the reward (permission to go and play) whenever the undesired behavior is manifested (not completing the homework).

Operant conditioning is a learning process in which a particular behavior is modified by either resulting in a reward or punishment. It deals with voluntary responses because the respondent is free to choose a behavior depending on the desired consequence.

The image below shows Skinner's operant conditioning quadrant.

Skinner's operant conditioning quadrant



Types of Operant conditioning:

Note: The question is about bad behavior i.e. not doing the homework. The focus is on decreasing bad behavior, hence the answer would be punishment (positive or negative). Reinforcement (either positive or negative) applies only to good behavior.

Type	Behavior	Stimulus	Example
Positive reinforcement	Good behavior increased	When stimulus added.	When a child studies, he is given chocolate. So, now he studies every day to get the chocolate.
Negative reinforcement	Good behavior increased	So that stimulus is avoided.	A child studies to avoid getting scolded by his mother.
Positive punishment	Bad behavior decreased	When stimulus added.	A child was given an imposition because he did not do his homework. He does his homework sincerely now.
Negative punishment	Bad behavior decreased	So that stimulus is removed.	A child fails to do his homework, so he is not allowed to play. Next day onwards, he does his homework every day.

Solution to Question 20:

Conditioning is not a stage of motivational enhancement therapy.

The stages of motivational enhancement therapy:

- Pre-contemplation - People are often unaware that their behavior (eg. alcohol abuse) is problematic or produces negative consequences.

- Contemplation - People recognize their problem and begin to think about changing their behavior. They weigh the pros and cons of change. People may still feel ambivalent toward changing their behavior.
- Preparation (Determination) - People have made a decision to change their habits and are ready to take action. People start to take small steps toward behavior change.
- Action - People have recently changed their behavior and intend to keep moving forward with that behavior change
- Maintenance - People have sustained their behavior change for a while and intend to maintain the behavior change going forward. People work to prevent relapse to earlier stages.

Termination - In this stage, people have no desire to return to their unhealthy behaviors and are sure they will not relapse. Since this is rarely reached, people tend to stay in the maintenance stage.

Solution to Question 21:

In the given scenerio, the patient is in the stage of contemplation.

The patient is aware that he has a problem, and he is thinking about changing his behaviour. He is weighing the pros and cons of behaviour modification. This is characteristic of the stage of contemplation.

Addiction recovery usually involves the following five stages

- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance

Solution to Question 22:

In the given scenerio aversion therapy is used.

Aversion: When a noxious stimulus/punishment is given after a specific behavior, the behavior is eventually inhibited. It is used in the treatment of alcohol abuse, paraphilias, opioid addicts.

Disulfiram is an irreversible inhibitor of both cytosolic and mitochondrial forms of aldehyde dehydrogenase. Ethanol consumption during disulfiram therapy can lead to increased concentrations of acetaldehyde. Increased acetaldehyde levels can cause flushing, pulsating headache, throbbing pain in head and neck, and other aversive reactions.

Disulfiram can only be given to highly motivated individuals. It should not be administered until the person has abstained from alcohol for at least 12 hours. The disulfiram-alcohol reaction may occur as long as 1 or 2 weeks after the last dose of disulfiram.

Disulfiram like reaction with alcohol ingestion is also seen with the following drugs:

- Metronidazole
- Sulfonylureas like chlorpropamide
- Cephalosporins like cefoperazone, cefamandole.

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If you purchased this from someone else,
you may have been scammed.

Neuropsychiatric Aspects of Systemic Disorders

Question 1:

A cortically blind man who firmly believed his vision was normal despite evidence to the contrary was referred to the psychiatry OPD. On further evaluation, the patient also appeared to employ confabulation quite frequently. Which of the following conditions is this patient most likely suffering from?

- a) Korsakoff syndrome
- b) Wernicke's encephalopathy
- c) Anton syndrome
- d) Psychogenic amnesia

Question 2:

Which of the following is not a feature of Korsakoff syndrome?

- a) Impaired long term memory
- b) Anterograde amnesia
- c) Confabulation
- d) Retrograde amnesia

Question 3:

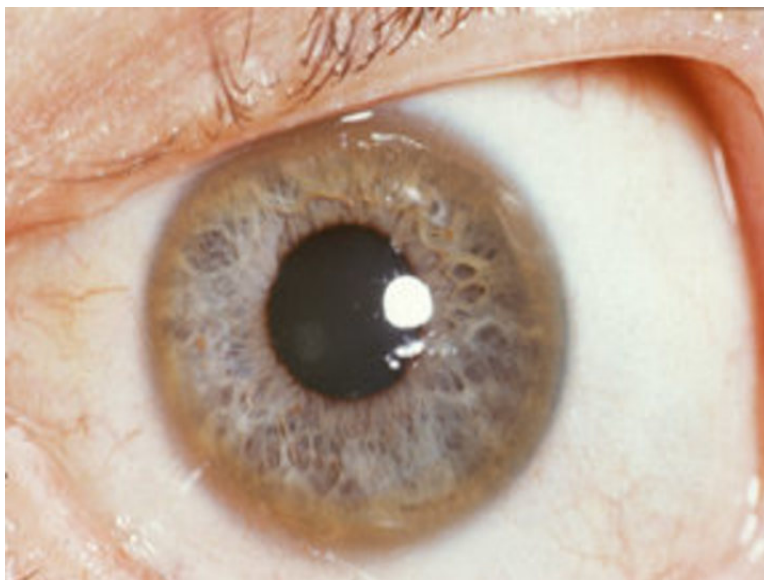
A 45-year-old man was brought to the casualty after being found lying on the street, muttering to himself, and cursing at bystanders. His MMSE score was 20. Physical examination findings are shown below. After admission, it is known that he has severe diarrhea and vomiting. Which of the following is the likely diagnosis?



- a) Myxedema madness
- b) Vitamin B3 deficiency
- c) Acute intermittent porphyria
- d) Thiamine deficiency

Question 4:

A 20-year-old woman with no family history of psychiatric illness was referred to psychiatry OPD from neurology for management of acute psychiatric disturbances. She had the following finding on slit-lamp examination and her 24-hour urinary copper was found to be elevated. Which of the following is a true statement regarding neuropsychiatric manifestations of this disease?



- a) Unsteadiness of gait and incoordination are the most common manifestation
- b) Wing beating tremors are a characteristic feature
- c) The degree of depression correlates with the degree of neurological impairment
- d) The most common form of progression is the choreatic form

Question 5:

A patient presents with mental confusion, visual and auditory hallucinations, perceived changes of body shape, swelling of the tongue and a fear of impending death after he was treated for primary chancre of syphilis with an intramuscular injection. What is the likely diagnosis?

- a) Adjustment reaction
- b) Undiagnosed psychosis
- c) Jarisch-Herxheimer reaction
- d) Hoigne syndrome

Question 6:

Which of the following is false regarding AIDS dementia complex?

- a) Microglial nodules with multinucleated giant cells are seen on brain biopsy
- b) It is considered as an AIDS-defining illness
- c) Losing track of conversations in mid sentence is a late feature
- d) It is the most severe form of HIV associated neurocognitive disorders

Question 7:

A chronic alcoholic who hadn't consumed alcohol for the past 3 days was brought to the emergency department. He had features of disorientation, poor attention span, and agitation. On examination, he had fever, tachycardia, and diaphoresis. Identify the condition.

- a) Korsakoff psychosis
- b) Wernicke's encephalopathy
- c) Delirium tremens
- d) Alcohol-induced dementia

Question 8:

A 7-year-old-child abruptly developed symptoms suggestive of obsessive-compulsive disorder and Tourette syndrome. PANDAS, a pediatric neuropsychiatric disorder, is suspected. Which of the following organism is associated with this condition?

- a) Staphylococcus aureus
- b) Streptococcus pneumoniae
- c) Streptococcus pyogenes
- d) Staphylococcus epidermidis

Question 9:

A patient was brought to the emergency room. He appears psychotic and is extremely agitated, screaming and thrashing things around. He is crying and has a running nose. He complains of severe unbearable pain around his right eye and temple for the last two hours, which is not responsive to NSAIDs. The last time he had such a headache was a year back. Which of the following conditions could he be suffering from?

- a) Somatic delusion
- b) Cluster headache
- c) Migraine
- d) Paroxysmal hemicrania

Question 10:

A 34-year-old woman with a suspected psychiatric disorder was started on medication, but there was no improvement. She was eventually referred to a higher center, where a detailed workup revealed Addison's disease. Treatment with glucocorticoids resulted in rapid resolution of both her psychiatric and physical symptoms. What must have been that initial condition suspected in this patient?

- a) Depression
- b) Generalised Anxiety disorder
- c) Bipolar disorder
- d) Panic disorder

Question 11:

A 45-year-old woman, brought in by her husband, presented with complaints of short-term memory loss and weight gain for the last 4 months, despite a loss of appetite. She thought that her husband wished to harm her and also felt agitated by all the small animals she kept seeing in her room. You order tests related to thyroid disorders. Which of the following findings would you expect to see in the report?

- a) Increased tri-iodothyronine (T₃) levels
- b) Increased titre of antibodies to thyroid stimulating hormone receptors
- c) Increased anti-thyroid peroxidase titre
- d) Decreased thyroid stimulating hormone levels

Question 12:

A woman complains that her 5-year old child has become very indifferent towards her. He attempts to squeeze his genitals and is always stuffing his mouth with food and objects like knives and toys. Which of these syndromes could her child be suffering from?

- a) Medial hypothalamic disease
- b) Kleine Levin syndrome
- c) Kluver Bucy syndrome
- d) Charcot Willbrand disease

Question 13:

A 40-year-old woman has a history of urinating in public without having any remorse for it. She also has difficulty in getting motivated and has mild memory deficits. Which of the following lobes may be affected?

- a) Parietal
- b) Occipital
- c) Frontal
- d) Temporal

Question 14:

A 48-year-old male presents to the ER with confusion and shaking of the entire body. He has a history of excessive alcohol consumption. What is the cause of delirium tremens in an alcoholic?

- a) Acute infection
- b) Fatty liver
- c) Gradual withdrawal of alcohol
- d) Small doses of regular consumption of alcohol

Answer Key

Question No.	Correct Option
1	c
2	a
3	b
4	b
5	d
6	c
7	c
8	c
9	b
10	a
11	c
12	c
13	c
14	a

Detailed Explanations

Solution to Question 1:

Anton syndrome is characterized by cortical blindness with confabulation.

Confabulation refers to the unconscious filling of gaps in memory with inaccurate, fabricated, and often implausible information.

Anton syndrome occurs due to occipital lobe damage. Here, the patient denies loss of vision (known as visual anosognosia) and defends it by confabulation even when there is obvious evidence of visual loss and cortical blindness.

Other causes of confabulation:

- Wernicke's Korsakoff syndrome
- Traumatic brain injury

Korsakoff syndrome is characterized by predominant anterograde amnesia and some retrograde amnesia. Confabulation is present in order to cover the memory deficit.

Wernicke's encephalopathy is characterized by confusion, ophthalmoplegia, and ataxia.

Psychogenic amnesia does not present with confabulation.

Solution to Question 2:

Long-term memory is normal in Korsakoff syndrome. In Korsakoff syndrome, immediate recall is impaired but long-term memory is preserved.

Korsakoff syndrome is a type of diencephalic amnesia, caused by chronic thiamine deficiency and alcohol abuse.

Clinically, subjects with Korsakoff syndrome present with the following:

- Severe anterograde amnesia - striking inability to form new memories
- Impaired mental syndrome (especially recent memory)
- Present with confabulation, as an attempt to cover the memory deficit
- Retrograde amnesia is less severe, but present.
- Implicit learning (e.g., learning procedures) are preserved
- Overall intact intelligence

Solution to Question 3:

The symptoms of dementia (MMSE score of 20), diarrhea, and dermatitis in sun-exposed areas like the forehead, neck (Casal's necklace), and hands are seen in vitamin B3 (niacin) deficiency also known as pellagra.

The neuropsychiatric symptoms of pellagra include apathy, irritability, insomnia, depression, and delirium.

Option A: Myxedema madness is a rare presentation of hypothyroidism characterized by depression, hypomania, and schizophrenia. Diarrhoea and vomiting are usually not seen.

Option C: Acute intermittent porphyria is characterized by periodic abdominal pain, peripheral neuropathy, psychotic features, tachycardia. There is no photosensitivity in acute intermittent porphyria.

Option D: Thiamine deficiency can cause Wernicke's encephalopathy which manifests as an acute neuropsychiatric syndrome characterized by nystagmus, ophthalmoplegia, mental status changes, and unsteadiness of stance and gait, or can cause Korsakoff syndrome which manifests as a chronic amnesic syndrome characterized by severe anterograde amnesia and confabulation.

Solution to Question 4:

The given clinical scenario with elevated urinary copper and Kayser-Fleischer ring is seen in Wilson's disease. The tremor associated with Wilson's disease is called a wing beating tremor in which the arms beat in a wide violent arc.

This tremor is a high amplitude tremor that is prominent with arms abducted, elbows flexed and palms facing downward. It is characteristically absent at rest and develops after a short period of the arm extension. It is shown below:



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In the majority of the cases, neuropsychiatric manifestations follow hepatic manifestations. It is due to the deposition of free copper in the basal ganglia (bilateral degeneration) and cortex. The features include:

- Dysarthria (most common): Irregular word spacing, hypophonic or spastic speech.
- Dystonia: Vacuous smile i.e mask-like face with an open mouth.
- Parkinsonism: Bradykinesia, postural instability, rigidity.
- Subcortical dementia: Slow mental processing, memory loss.
- Psychiatric symptoms: Loss of emotional control, depression, hyperactivity.
- Decreased scholastic performance: Deterioration in handwriting, clumsiness.
- Autonomic symptoms: Excessive sweating and salivation, sexual dysfunction.

Solution to Question 5:

The development of acute psychotic symptoms after intramuscular administration of penicillin G points to a diagnosis of Hoigne syndrome. It may also be seen after benzathine administration also.

Hoigne syndrome:

- Acute psychotic symptoms are seen such as mental confusion, visual and auditory hallucinations, and perceived changes of body shape.
- The patient may also present with swelling of the tongue and a fear of impending death.
- These are usually embolic toxic reactions, possibly due to vascular occlusion by large crystals of the penicillin salts.
- It is due to a pseudoanaphylactic or pseudoallergic reaction, not penicillin allergy.

A Jarisch–Herxheimer reaction is a transient clinical phenomenon that occurs in patients infected with spirochetes like syphilis, leptospirosis, Lyme disease, and relapsing fever, who are treated with antibiotics. The reaction occurs within 24 hours of antibiotic therapy. It generally manifests as fever, chills, rigors, nausea and vomiting, headache, tachycardia, hypotension, hyperventilation, flushing, myalgia, and exacerbation of skin lesions. It is an acute, self-limiting condition.

Solution to Question 6:

Cognitive impairment is the earliest presenting symptom in the AIDS dementia complex (HIV encephalopathy), which is the most severe form of HIV-associated neurocognitive disorders.

Patients most often lose track of actions and conversations in mid-sentence, have difficulty attending to more complex tasks at work or at home. They need to make detailed lists of the day's activities and processing unrelated or complex thoughts becomes slower.

Solution to Question 7:

The given clinical scenario of disorientation with features of autonomic hyperactivity (tachycardia, diaphoresis, fever) in a patient who stopped alcohol 3 days back is suggestive of delirium tremens.

Delirium tremens is the most severe alcohol withdrawal syndrome. It occurs usually within 3-4 days of alcohol withdrawal.

Characteristic features are:

- Clouding of consciousness with disorientation to time and place
- Poor attention and distractibility
- Visual hallucination and illusions which are often vivid and frightening
- Autonomic disturbances like tachycardia, fever, hypertension, sweating, and pupillary dilatation
- Psychomotor agitation and ataxia

Benzodiazepines such as chlordiazepoxide and lorazepam are used in the treatment and prevention of delirium tremens.

Option A: Korsakoffs psychosis is characterized by impaired mental abilities (especially recent memory) and anterograde amnesia in an alert and responsive patient. The patient may have symptoms of confabulation.

Option B: Wernicke's encephalopathy is characterized by ataxia (affecting primarily the gait), vestibular dysfunction, confusion, and ocular motility abnormalities.

Option D: Alcohol-induced dementia is characterized by the development of multiple cognitive deficits (e.g., memory problems, language impairment, and an inability to perform complex motor tasks) that are judged to be a direct consequence of alcohol use. This persists beyond the usual duration of alcohol intoxication or acute withdrawal.

Solution to Question 8:

PANDAS is associated with Streptococcus pyogenes infection.

PANDAS stands for Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections.

The symptoms occur usually abruptly and can include the following:

- Obsessive-compulsive disorder (OCD)
- Tic disorder
- Gilles de la Tourette syndrome (coprolalia and tics)

In addition to these symptoms, children may become moody or irritable, experience anxiety attacks, or show concerns about separating from parents or loved ones. It has been hypothesized that in response to group A β -hemolytic streptococcal infection, autoimmune antibodies are produced, which cross-react with brain tissue (molecular mimicry), leading to neuropsychiatric manifestations.

Note: Non-infectious manifestations of streptococcal infection include:

- Rheumatic Heart Disease
- Glomerulonephritis
- PANDAS
- Guttate Psoriasis

Solution to Question 9:

The above clinical scenario of severe unilateral headache associated with autonomic changes (rhinorrhea, lacrimation) is suggestive of cluster headache, which is a type of trigeminal autonomic cephalalgias (a group of primary headache disorders). The pain can be so intense that the patient may appear to be psychotic because of the screaming and thrashing associated with the pain.

Characteristic features of cluster headache:

- Unilateral, deep retro-orbital excruciating pain.
- Frequent intense attacks (often several per day) over a 1 to 2 month period, separated by headache-free intervals for as long as 1 or 2 years.
- Associated ipsilateral cranial autonomic symptoms (conjunctival injection, aural fullness, rhinorrhea, or nasal congestion) or cranial sympathetic activation(ptosis).
- Patients tend to move about during attacks, rocking, or rubbing their heads for relief; some may even become aggressive during attacks. This is in sharp contrast to patients with migraines, who prefer to remain motionless during attacks.

Note: Trigeminal autonomic cephalalgias (TAC) are a group of primary headache disorders that are characterized by strictly unilateral trigeminal distribution pain associated with ipsilateral cranial autonomic symptoms, and include:

- Cluster headache
- SUNCT (short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing) / SUNA (short-lasting unilateral neuralgiform headache attacks with cranial autonomic symptoms)
- Paroxysmal hemicrania (PH)
- Hemicrania continua

Solution to Question 10:

Addison's disease presents most similarly to depression. Apathy, social withdrawal, impaired sleep, decreased concentration, and prominent fatigue is frequently seen which is usually mistaken for depression.

Following infection, trauma or surgery, a patient with previously unrecognized Addison's disease may suffer from an Addisonian crisis with a presentation of either shock or hypoglycemia. This is a medical emergency requiring urgent medical referral.

Endocrinopathy	Differential psychiatric diagnosis
Addison's disease	Depression
Hyperthyroidism	Mood disorder, panic disorder, generalized anxiety disorder
Hypothyroidism	Depression, hypomania, delusions, schizophrenia (myxedema madness).
Hypoparathyroidism	Delirium is the most common.

Endocrinopathy	Differential psychiatric diagnosis
Hyperparathyroidism	Depression, anxiety, paranoid delusions. Tetrad of "bones, stones, moans and psychic groans".
Hypoglycemia	Anxiety, depersonalization, derealisation, aggressive behavior, amnesia.

Solution to Question 11:

The patient complains of neuropsychiatric symptoms, memory disturbances, along with weight gain despite a loss of appetite. Thus, she has symptoms of hypothyroidism. Increased anti-thyroid peroxidase titer is found in Hashimoto encephalopathy, which is consistent with her symptoms.

On the other hand, antibodies to TSH receptors (Grave's disease), decreased TSH, and elevated T₃ levels are found in hyperthyroid conditions.

Hashimoto encephalopathy (HE), also described as steroid-responsive encephalopathy associated with autoimmune thyroiditis (SREAT), is an uncommon autoimmune encephalopathy of unknown etiology. It is associated with high titers of serum antithyroid (usually anti-thyroid peroxidase ± anti-thyroglobulin) antibodies.

HE is more common in women, with a mean age of onset between 45 and 50 years.

The clinical picture is one of encephalopathy with progressive cognitive decline which may be relapsing and remitting. Neuropsychiatric features include agitation and restlessness, apathy, social isolation. Visual hallucinations and delusions are commonly seen.

Anti-thyroid peroxidase levels are very high (>1,000 IU/L) when associated with neuropsychiatric symptoms of Hashimoto's thyroiditis.

Solution to Question 12:

The given clinical scenario of a 5-year boy who mouths non-food items (hyperorality/hyperphagia), constantly squeezes genitals (hypersexuality), indifferent to parents is suggestive of Kluver-Bucy syndrome.

Kluver Bucy syndrome is characterized by hyperorality, hyperphagia, hypersexuality, hypermetamorphosis (constantly shifting attention). It is due to damage to the temporal lobe and amygdala, which leads to an inability to access memory and emotional connections.

Option A: In medial hypothalamic disease, there is an increase in eating behavior, marked by a lack of satiety and resultant obesity.

Option B: Kleine–Levin syndrome, also known as sleeping beauty syndrome, is a rare sleep disorder characterized by persistent episodic hypersomnia, hyperphagia, and hypersexuality with

cognitive or mood changes.

Option D: Charcot Willbrand disease leads to loss of visual imagery with occipitotemporal damage.

Solution to Question 13:

The frontal lobe is affected in this patient. The woman has difficulty in getting motivated, memory deficits, and urinary incontinence.

Frontal lobe injury is commonly due to trauma, infarcts, tumors, lobotomy, multiple sclerosis, or Pick's disease. The following features may be seen in a patient with frontal lobe injury:

- Impaired executive functions such as motivation, attention, and sequencing of actions
- Aphasia, apraxia, constructional apraxia, neglect, and memory deficits
- Urinary incontinence and fecal incontinence is commonly seen
- Changes in personality
- Apathetic indifference and impulsive behavior.

Note: Frontal lobe pathology may become apparent only under unstructured, stressful, real-life situations and are difficult to detect using Intelligence scales, as IQ mostly requires parietal lobe activation.

Solution to Question 14:

Among the given options, acute infection can be a cause of delirium tremens in an alcoholic patient.

Physical illness e.g., hepatitis or pancreatitis predisposes to the syndrome; a person in good physical health rarely has delirium tremens during alcohol withdrawal.

The syndrome usually develops on the third day of admission. A patient admitted for an unrelated condition may unexpectedly have an episode of delirium, which is the first sign of a previously undiagnosed alcohol-related disorder.

Episodes of delirium tremens usually begin at the age of 30-40 years, after 5 to 15 years of heavy drinking, and are typical after a binge. Gradual withdrawal of alcohol does not cause delirium tremens. However, sudden withdrawal can cause it.

Treatment of alcohol withdrawal:

- For patients showing withdrawal symptoms, chlordiazepoxide 25-50 mg every 2-4 hours can be administered orally.
- For patients with delirium tremens, 50-100 mg of chlordiazepoxide should be administered every 4 hours.
- If oral administration of drugs is not possible, intravenous lorazepam can be tried.

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Schizophrenia

Question 1:

A middle-aged man presents to the psychiatry OPD with a history of speaking to himself, hearing two people talk about him, reduced affect, and impaired judgment which is present for more than 6 months. What is the likely diagnosis?

- a) Schizophreniform disorder
- b) Schizoaffective disorder
- c) Schizophrenia
- d) Schizoid personality disorder

Question 2:

A patient with auditory hallucinations and persecutory delusions is diagnosed with schizophrenia. Which of the following is false regarding the neurotransmitters involved in its pathogenesis?

- a) NMDA receptor hypoactivity in the prefrontal cortex
- b) Decreased levels of nicotinic and muscarinic receptors in the hippocampus
- c) Increased GABA receptor binding in the cingulate cortex
- d) Dopaminergic hypoactivity in the subcortical regions

Question 3:

A middle-aged woman presented with talkativeness, poor sleep, and wandering away from home for the past year. She often became aggressive and violent when restrained. On questioning, she cried uncontrollably and told that if she stays home it would result in her premature death. She admitted to hearing voices that warned her to not interact with her family members. Which of the following is not a risk factor associated with this condition?

- a) Amphetamine use
- b) High socio-economic status
- c) Advanced paternal age
- d) Industrialization

Question 4:

An adolescent boy with schizophrenia had witnessed his parents fighting with each other for the past several years. He is overly close with his mother and she convinced him to take her side in the divorce. He always blamed his father for all their family problems. Which of the following best describes the abnormal family dynamics?

- a) Expressed emotions
- b) Marital skew
- c) Marital schism
- d) Double bind

Question 5:

Which of the following is not a part of the 4 A's of Bleuler ?

- a) Ambivalence
- b) Avolition
- c) Affective disturbances
- d) Autism

Question 6:

A patient with schizophrenia presents with the following symptoms. Which of them is not a Schneiderian first-rank symptom?

- a) Ambivalence
- b) Somatic passivity
- c) Hallucination
- d) Thought insertion

Question 7:

A psychiatric resident is assessing the negative symptoms in a case of chronic schizophrenia. Which of the following is not tested?

- a) Avolition
- b) Alogia

- c) Anhedonia
- d) Anomia

Question 8:

A 39-year-old man has a three-week history of speaking to himself and complains of hearing two people talking about him. On examination, he has reduced affect and impaired judgment. What is the likely diagnosis?

- a) Schizophrenia
- b) Schizophreniform disorder
- c) Brief psychotic episode
- d) Schizoaffective disorder

Question 9:

A young man presented with a 2-week history of auditory hallucinations and delusions of grandiosity. His history is significant for severe depression with psychotic symptoms. However, he has been euthymic for the past month. According to DSM-5, what would be the likely diagnosis?

- a) Schizoaffective disorder
- b) Schizophrenia
- c) Mood disorder with psychotic symptoms
- d) Schizophreniform disorder

Question 10:

A 22-year-old man is brought with complaints of self-mutilating behaviour in which he bit off the distal end of his right ring finger and left thumb. For the past 6 months, he had decreased sleep, auditory hallucinations, social withdrawal, and disorganised behaviour. Investigations revealed neutrophilia and lymphocytosis. Serum uric acid level is 6 mg/dL. HGPRTase activity is normal. What is your diagnosis?

- a) Van-Gogh syndrome
- b) Lesch-Nyhan syndrome
- c) Pfromp schizophrenia
- d) Kelley-Seegmiller syndrome

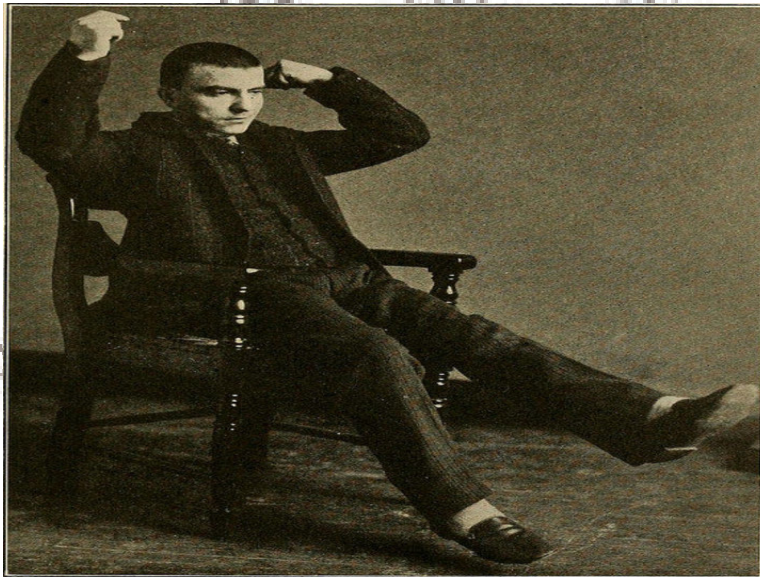
Question 11:

Which of the following features would you not expect to see in a schizophrenic patient with catatonia?

- a) Cataplexy
- b) Muteness
- c) Waxy Flexibility
- d) Echopraxia

Question 12:

A patient voluntarily gets himself in the posture as shown and is not changing it. What is it called?



- a) Cataplexy
- b) Posturing
- c) Negativism
- d) Waxy flexibility

Question 13:

A schizophrenic patient was started on an antipsychotic drug that decreased his hallucinations significantly. This effect is due to its action on which dopaminergic pathway?

- a) Mesocortical
- b) Tuberoinfundibular
- c) Nigrostriatal
- d) Mesolimbic

Question 14:

A psychotic patient developed voluntary purposeless movements and was once observed to be standing still for hours with waxy flexibility and negativism. What is the appropriate medical management?

- a) Haloperidol
- b) Lorazepam
- c) Clonidine
- d) Propranolol

Question 15:

A man diagnosed with schizophrenia was on chlorpromazine and olanzapine for the past 6 months. However, he is still symptomatic. What is the next line of management?

- a) Haloperidol depot
- b) Aripiprazole
- c) Risperidone depot
- d) Clozapine

Question 16:

A patient diagnosed with schizophrenia was started on risperidone. After taking the medication last night, the patient rushes to OPD today with complaints of upwards rolling of his eyes. What is the management of the condition?

- a) Lorazepam
- b) Promethazine
- c) Olanzapine

d) Stop antipsychotic

Question 17:

What is the major cause of death in schizophrenia?

- a) Infection
- b) Suicide
- c) Drug reactions
- d) Homicide

Question 18:

Which of the following patients with schizophrenia has the best prognosis?

- a) A 30-year-old with stupor, negativism, rigidity, excitement, or posturing
- b) A 20-year-old with disorganised thinking, flat affect with inappropriate emotions
- c) A 35-year-old with hallucinations, delusions of persecution and grandeur
- d) A 25-year-old with insidious onset of negative symptoms without any hallucinations

Question 19:

Which of the following is not a good prognostic factor in schizophrenia?

- a) Positive symptoms
- b) Late age of onset
- c) Insidious onset of symptoms
- d) Associated with depression

Question 20:

A 19-year-old woman with schizoaffective disorder and was prescribed a drug. Soon after initiation of therapy, she developed galactorrhea and dysmenorrhea, and her prolactin level was 171.6ng/mL. Which drug was most likely prescribed?

- a) Ziprasidone
- b) Olanzapine

- c) Risperidone
- d) Clozapine

Question 21:

A 50-year-old man with type 2 diabetes was brought to the OPD by his wife after he began talking about aliens who were trying to steal his soul. He often stops talking mid-sentence and frequently scans the room for aliens. His wife reported he started expressing these ideas a few months ago, but they have become more severe and he had become isolated from his peers. Which of the following drugs should not be used in this patient?

- a) Olanzapine
- b) Risperidone
- c) Quetiapine
- d) Aripiprazole

Question 22:

A woman in her mid-twenties is on olanzapine and is very concerned about gaining weight. Which of the following is false?

- a) In the first 3 months, her weight needs to be monitored weekly
- b) Aripiprazole can be used as an alternative treatment if significant weight gain occurs
- c) Behavioural and lifestyle modifications are not useful in reducing antipsychotic induced weight gain
- d) Metformin can be used to moderate antipsychotic induced weight gain

Question 23:

A schizophrenic patient was started on an antipsychotic drug that decreased his hallucinations significantly. Three days after starting the medication, he developed torticollis and orofacio-lingual movements. What is your diagnosis?

- a) Akathisia
- b) Acute muscular dystonia
- c) Tardive dyskinesia
- d) Rabbit syndrome

Question 24:

A patient on fluphenazine feels increasingly restless, agitated, and dysphoric and has a severe urge to move for the past 1 week. Which of the following can not be used in his management?

- a) Ropinirole
- b) Propranolol
- c) Diphenhydramine
- d) Benztropine

Question 25:

A schizophrenic patient is rushed to the casualty after attempting suicide. Which of the following drugs would benefit her the most?

- a) Quetiapine
- b) Olanzapine
- c) Risperidone
- d) Clozapine

Question 26:

A young man was brought to the OPD by his best friend. He was apparently normal half a year back after which he has become increasingly isolated, lost his job, and shouts loudly sometimes trying to get rid of the voices in his head. He was started on olanzapine after a diagnosis of schizophrenia was made. What is the minimum duration he should continue the drug for?

- a) 8 months
- b) 2 years
- c) 18 months
- d) 6 months

Answer Key

Question No.	Correct Option
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1	c
2	d
3	b
4	c
5	b
6	a
7	d
8	c
9	a
10	a
11	a
12	b
13	d
14	b
15	d
16	b
17	b
18	a
19	c
20	c
21	a
22	c
23	b
24	a
25	d
26	b

Detailed Explanations

Solution to Question 1:

The patient has auditory hallucination, reduced affect, lack of insight, impaired judgment for more than 6 months, which makes the diagnosis of schizophrenia more likely.

Schizophrenia was previously known as dementia praecox, a term first coined by Emil Kraepelin. He classified psychiatric illness into two categories – dementia praecox and manic depressive disorder.

Diagnostic criteria for schizophrenia (DSM-5):

1. The DSM-5 criteria to diagnose schizophrenia require a total duration of 6 months.
 2. Within this 6-month period, there must be at least 1 month of active-phase symptoms (overt psychotic symptoms) where 2 or more of the following have to be present (at least one must be among the a, b, or c):
 - Delusion
 - Hallucination
 - Disorganized speech (or formal thought disorder)
 - Disorganized behavior
 - Affective flattening or other negative symptoms
 3. The rest of the 6-month period may include
 - Continuing psychotic symptoms
 - Prodromal symptoms preceding clear-cut psychosis
 - Residual symptoms after the resolution of the psychotic symptoms
 4. Residual symptoms are defined as attenuated forms of psychotic symptoms, such as:
 - Odd beliefs
 - Magical thinking
 - Ideas of reference
 - Odd perceptual experiences
 - Peculiar or concrete thinking
 - Vague speech
 - Odd behavior
 - Negative symptoms may also be included
 5. Exclusion of mood disorder & substance abuse
- Note: DSM-5 does not require that delusions must be bizarre.

Solution to Question 2:

Dopaminergic hyperactivity in the subcortical regions is seen in schizophrenia.

All of the following neurotransmitters have been implicated in the pathogenesis of schizophrenia:

- Dopamine - dopaminergic hyperactivity in the subcortical region and hypoactivity in prefrontal cortical regions is seen. It is linked to positive symptoms and cognitive deficits respectively.
- Serotonin excess is linked to both positive and negative symptoms.
- Norepinephrine - selective neuronal degeneration within the norepinephrine reward neural system is thought to be responsible for anhedonia, a feature of schizophrenia.

- GABA has a regulatory effect on dopamine activity. In some patients, there is a loss of inhibitory GABAergic neurons, which could indirectly lead to the hyperactivity of dopaminergic neurons. Increased GABA_A receptor binding has been reported in the prefrontal and cingulate cortices and the hippocampus.
- Acetylcholine and nicotine- decreased levels of nicotinic and muscarinic receptors in the hippocampus is seen.
- NMDA- N-methyl-D-aspartate receptor hypoactivity is seen in the prefrontal cortex.

Solution to Question 3:

The given clinical scenario is suggestive of schizophrenia. High socioeconomic status is not associated with an increased risk of developing this disorder.

Factors that increase the risk of schizophrenia are:

- Genetic factor- first-degree relatives and twins are at a higher risk.
- Low socioeconomic status, immigration
- Industrialization
- High expressed emotions
- Drugs- amphetamines, cocaine, cannabis, ketamine
- Metabolic disorders – Huntington's disease, Wilson's disease, hemochromatosis
- Asthenic body type
- Advanced paternal age
- Winter born babies

Schizophrenia is equally prevalent in both sexes.

Solution to Question 4:

This scenario describes an abnormal family dynamic, where one parent is overly close to the child of the opposite gender. This is known as marital schism.

Marital schism, marital skew, expressed emotions, and double-bind refer to abnormalities of family dynamics. They act as psychosocial stressors, hampering the adaptive capacity of the individual, thus contributing to the development of schizophrenia.

Marital schism- one parent is overly close to the child of the opposite gender.

Marital skew- a disharmonious situation where one parent dominates over the other.

Expressed emotions- parents or other caregivers may behave with overt criticism, hostility, or over-involvement towards a person with schizophrenia, which further worsens the illness.

Double bind- a hypothetical family in which children receive conflicting parental messages about their behavior, attitudes, and feelings.

Solution to Question 5:

Avolition is not a part of the 4 A's of Bleuler .

The term schizophrenia was introduced by Eugen Bleuler. He described the primary symptoms of schizophrenia, known as the 4 A's of Bleuler.

This includes:

- Autism- social withdrawal with excessive irrational fantasy thinking.
- Ambivalence- marked inability to take a decision.
- Association disturbances- loosening of association refers to changing the topic without identifiable links between the subjects.
- Affect problems- flattening of affect or inappropriate affect.

Solution to Question 6:

Ambivalence is not a Schneiderian first-rank symptom of schizophrenia. It is one of the 4A's of schizophrenia as described by Bleuler.

The first rank symptoms of schizophrenia described by Kurt Schneider include :

1. Hallucination:

- First-person hallucination (audible thoughts) - auditory hallucinations of the person's own voice being spoken aloud.
- Second-person hallucination (voices directly addressing the patient) - auditory hallucinations of 1 or more voices talking directly to the person. They can be persecutory, complimentary, or issue commands (command hallucination)
- Third-person hallucination (voices speaking about the patient) - auditory hallucinations of 1 or more voices speaking about the person. The voice may deliver a running commentary or the voices maybe be arguing/discussing the person.

2. Thought phenomenon:

- Thought withdrawal- thoughts being actively removed from a person's mind.
- Thought insertion- thoughts inserted into a person's mind by some external agent.
- Thought broadcasting- the sense that a person's thoughts are experienced by others - the thoughts are made audible or may be experienced by others through telepathy.

3. Made phenomenon:

- Made affect- feelings are imposed on that person by an external agent.
- Made impulses or drives - an impulse for action is imposed on a person by some external agent.
- Made volitional acts - a person's actions are controlled by an external agent; the person is a passive participant in the action.

4. Delusional perception- the person attaches an abnormal significance/meaning to a normal perception, which leads to delusional interpretation. The most common delusion in schizophrenia is the delusion of persecution. These persecutory fears of the patient can range from transient doubts to profound convictions that people are plotting to have them tortured or killed.
5. Somatic passivity- tactile or visceral hallucinations that are thought to be imposed on a person's body by some external agent.

These symptoms are not specific to schizophrenia and may also be present in other psychiatric disorders.

Solution to Question 7:

Anomia is not tested because it is not a feature of schizophrenia. It is a type of aphasia where there is difficulty in naming of objects. It is common in head trauma, metabolic encephalopathy, and Alzheimer's disease.

Symptoms of schizophrenia can be classified as positive or negative.

Anything abnormal added to a patient's life is a positive symptom and anything normal lost from a patient's life is a negative symptom.

Solution to Question 8:

The given clinical scenario is suggestive of brief psychotic episode (DSM-5), as the symptoms are present for less than 30 days.

The diagnosis of brief psychotic disorder in DSM-5 is based on the presence of one or more of the following psychotic symptoms for a period of at least 1 day but less than 1 month:

- Delusions
- Hallucinations
- Thought disorder as evidenced by disorganized speech
- Disorganized or catatonic behavior.

DSM-5 specifies that one of the first three symptoms must be present for the diagnosis to be made.

According to ICD-11, this is classified as acute and transient psychotic disorder, and the duration of the episode does not last for more than 3 months.

Solution to Question 9:

The given clinical scenario points toward the diagnosis of schizoaffective disorder.

DSM-5 criteria for schizoaffective disorder:

- An uninterrupted period of illness where there is a mood episode (depression or mania) concurrent with psychosis (delusions, hallucinations, disorganized speech, etc.)
- Delusions or hallucinations (psychotic symptoms) for at least two weeks in the absence of a major depressive or manic episode during the lifetime course of the illness.
- Mood symptoms present for the majority of total illnesses.
- Not due to intake of substances or another medical condition.

Differential diagnosis:

- Major depressive or bipolar disorder with psychotic features: Psychotic symptoms occur exclusively during mood episodes.
- Schizophrenia: Mood symptoms are absent or present for only brief periods during the course of the illness dominated by psychotic symptoms.

Note: According to DSM-5 guidelines, for a definitive diagnosis of schizoaffective disorder, there have to be two psychotic episodes. One of the psychotic episodes has to be concurrent with a severe affective (depression or manic) episode. The other psychotic episode should be for two or more weeks in the absence of affective symptoms. And affective symptoms should dominate the major part during the lifetime course of the illness.

Solution to Question 10:

The given clinical scenario of self-mutilation in a patient with schizophrenia is known as Van Gogh syndrome.

Van Gogh was a Dutch painter who suffered from schizophrenia. He cut off his ear during one of his psychotic episodes.

Pfropf syndrome is schizophrenia associated with mental retardation. 'Pfropf' is the German word for 'graft'. Pfropf schizophrenia literally means schizophrenia grafted on preexisting mental retardation.

Lesch-Nyhan syndrome is characterized by neurological abnormalities, self-mutilative behavior, and the overproduction of uric acid. It occurs due to a complete deficiency of HGPRTase enzyme (hypoxanthine-guanine phosphoribosyltransferase).

Kelley-Seegmiller syndrome occurs due to a partial deficiency of HGPRTase, and is associated with hyperuricemia but no central nervous system manifestations.

Solution to Question 11:

Cataplexy is not a feature of catatonia. It is seen in narcolepsy. It involves the sudden loss of muscle tone, with full or partial consciousness.

Psychomotor disturbance is an essential feature of catatonia. Some of the peculiar features of catatonia are given below:

- Stupor: Absence of psychomotor activity and not actively relating to the environment.

- Catalepsy: Passive induction of a posture held against gravity.
- Waxy flexibility: Slight, even resistance to positioning by examiner.
- Negativism: Opposition or no response to instructions or external stimuli.
- Posturing: Spontaneous and active maintenance of a posture against gravity.
- Mannerism: Odd, circumstantial caricature of normal actions.
- Stereotypy: Repetitive, abnormally frequent, non-goal-directed movements
- Automatic obedience- commands are followed automatically, irrespective of their nature.
- Grimacing
- Ambitendency- due to ambivalence, opposing actions are carried out.
- Echopraxia: Mimicking another's movement.
- Echolalia: Mimicking another's speech.
- Mutism: Very little or no verbal response to instructions or external stimuli.
- Verbigeration- incomprehensible speech.

Catatonia is a feature of, but not exclusive to, schizophrenia. It is more common in psychotic mood disorders and in patients with brain injury and encephalopathies.

Solution to Question 12:

The finding shown in the above image is called posturing. It is the spontaneous and active maintenance of a posture against gravity.

Catalepsy is a passive induction of posture held against gravity.

Option A: Cataplexy is a sudden, brief loss of voluntary muscle tone triggered by strong emotions such as laughter. The condition is most commonly associated with narcolepsy.

Option C: Negativism is verbal or nonverbal opposition or resistance to outside suggestions and advice. Here, the patient resists any effort to be moved or does the opposite of what is asked.

Option D: Waxy flexibility is a condition in which a person maintains the body position into which they are placed (passive movement). Slight resistance is felt while moving the limbs.

Solution to Question 13:

Antipsychotic drugs act on the mesolimbic pathway to reduce positive symptoms of schizophrenia such as hallucinations and delusions.

Classification of antipsychotic drugs:

Property	First generation(Typical)	Second generation(Atypical)
D2receptor	Preferentially blocked	Selectively blocked

Property	First generation(Typical)	Second generation(Atypical)
5HT _{2A} antagonism	Low	High
Pathways involved	Mesocortical, mesolimbic, nigrostriatal, tuberoinfundibular, CTZ	Mostly mesolimbic and mesocortical
Drugs	Haloperidol, Fluphenazine, Chlorpromazine, Thioridazine (least D ₂ blocking activity among typical agents, markedly anticholinergic)	Risperidone, Sertindole, Quetiapine, Clozapine, Aripiprazole (partial D ₂ agonist)

Solution to Question 14:

The clinical features are suggestive of a catatonic disorder. Benzodiazepines such as lorazepam are effective in the treatment of catatonia.

Catatonia is a syndrome characterized by striking behavioral abnormalities such as motoric immobility or excitement, negativism, or echolalia (mimicry of speech), or echopraxia (mimicry of movement).

The clinical picture may include three or more of the following features:

- Stupor: Absence of psychomotor activity and not actively relating to the environment.
- Catalepsy: Passive induction of a posture held against gravity.
- Waxy flexibility: Slight, even resistance to positioning by examiner.
- Negativism: Opposition or no response to instructions or external stimuli.
- Posturing: Spontaneous and active maintenance of a posture against gravity.
- Mannerism: Odd, circumstantial caricature of normal actions.
- Stereotypy: Repetitive, abnormally frequent, non-goal-directed movements
- Automatic obedience: Commands are followed automatically, irrespective of their nature.
- Grimacing
- Ambitendency: Due to ambivalence, opposing actions are carried out.
- Echopraxia: Mimicking another's movement.
- Echolalia: Mimicking another's speech.
- Mutism: Very little or no verbal response to instructions or external stimuli.
- Verbigeration: Incomprehensible speech.

Catatonic disorder may occur due to:

- Advanced mood or psychotic illnesses
- Neurological disorders (e.g., nonconvulsive status epilepticus, and head trauma)

- Infections (e.g., encephalitis)
- Metabolic disturbances (e.g., hepatic encephalopathy, hyponatremia, and hypercalcemia)
- Drugs induced- like corticosteroids, immunosuppressants, and antipsychotics (i.e., neuroleptic) agents.

Management: The primary treatment includes:

- Identifying and treating underlying medical or pharmacological causes. Any offending substances should be removed.
- Benzodiazepines, especially, lorazepam, are effective in improving the symptoms.
- Electroconvulsive therapy is the definitive treatment in cases of life-threatening catatonia (if the patient is unable to eat) or if the patient has developed malignant catatonia.

Solution to Question 15:

Clozapine is the drug of choice in treatment-resistant schizophrenia and schizophrenia with persistent suicidality.

Treatment-resistant schizophrenia is the lack of response to two different antipsychotics given at adequate dosages for an adequate duration of 4-6 weeks.

If patients demonstrate even a mild amount of improvement during this period, it may be reasonable to wait before changing a medication, since patients may improve at a steady rate for 3 to 6 months.

Here, the patient's medication history indicates a poor response to 2 antipsychotic trials, hence clozapine is indicated.

Solution to Question 16:

The given clinical scenario is suggestive of oculogyric crisis and promethazine is used for the management.

Oculogyric crisis refers to the spasm of the extraocular muscles, usually causing upward and outward deviation of the eyes. It is a severe form of acute dystonia, an extrapyramidal side effect of antipsychotics like risperidone. It can be treated by drugs with antimuscarinic activities like promethazine.

Dystonia is acute in onset and occurs within 1-5 days of starting treatment. It is more common in the younger population. The proposed mechanism of action is D2 blockade in the nigrostriatal pathway. There is typical involvement of head and neck muscles and presents in a variety of forms, such as torticollis, trismus, mouth opening dystonia, grimacing, dysarthria, oculogyric crisis, blepharospasm, and swallowing difficulties.

Risperidone is an atypical antipsychotic with D2 blocking but strong 5HT₂ antagonistic activity. Its main side effects include weight gain, hyperglycemia, hyperprolactinemia, dyslipidemia, fatigue, etc. At low doses, extrapyramidal side effects are less, but can be significant

in higher doses. Extrapyramidal side effects include;

- Parkinsonism: Features are bradykinesia, rigidity, variable tremor, masked facies, and shuffling gait.
- Acute dystonia: Which causes spasms of muscles of the tongue, face, eyes, neck, back, etc.
- Neuroleptic malignant syndrome: Extreme rigidity, fever, unstable blood pressure, myoglobinemia, etc.
- Rabbit syndrome: Perioral tremors occur as a delayed variant of parkinsonism.

Other options:

Option A: Lorazepam is a benzodiazepine. Its adverse effects include sedation, light-headedness, confusional state, weight gain, etc.

Option C: Olanzapine is also an atypical antipsychotic. Its adverse effects are dry mouth, constipation, weight gain, impaired glucose tolerance etc.

Solution to Question 17:

A major cause of death in schizophrenia is suicide.

The leading causes of premature death among patients with schizophrenia at present are:

- Suicide
- Cardiovascular disease
- Accidents
- Common physical diseases.

In the past, the excess mortality among individuals with schizophrenia was mainly due to communicable diseases such as tuberculosis.

Solution to Question 18:

Patient with stupor, negativism, rigidity, excitement, or posturing suggests catatonic schizophrenia. It has the best prognosis among all types of schizophrenia.

Simple schizophrenia has the worst prognosis.

Types of schizophrenia:

Hebephrenic schizophrenia (disorganized)

- Early-onset
- Disorganized behavior and thoughts, contact with reality is poor
- Social behavior and their emotional responses are inappropriate
- Bad prognosis
- Term coined by Hecker

Paranoid schizophrenia:

- Most common type.
- Usual onset in 3rd decade
- Characterized by delusions of persecution, grandeur, and control, etc
- Can be associated with hallucination

Catatonic schizophrenia:

- Marked disturbance in motor function
- May involve stupor, negativism, rigidity, excitement, or posturing
- The alteration between extremes of excitement and stupor
- Best prognosis
- Term coined by Kahlbaum

Simple schizophrenia:

- The primary symptom is withdrawal from social and work-related situations
- Characterized by a gradual, insidious loss of drive and ambition
- Do not experience persistent hallucinations or delusions
- Poor prognosis (simple & hebephrenic)

These subtypes were dropped in DSM V. In ICD-11, they are classified under the 'schizophrenia, episode unspecified' category, but may be removed.

Solution to Question 19:

Insidious onset of symptoms is a poor prognostic factor of schizophrenia.

Prognostic factors of Schizophrenia:

T.J.Crow classified schizophrenia into two separate types :

Good Prognostic factors	Poor prognostic factors
Acute onset	Insidious onset
Late-onset	Early-onset
Presence of a stressor	Absence of a stressor
Short duration < 6 months	Duration >2 years
Presence of depression	No depression
Positive symptoms	Negative symptoms
Family history of mood disorder	Family history of schizophrenia
Married, female sex	Single, male sex
Catatonic schizophrenia	Hebephrenic schizophrenia

Good Prognostic factors	Poor prognostic factors
Type 1 schizophrenia	Type 2 schizophrenia
	No remissions in 3 years
	History of perinatal trauma
	History of assaultiveness

Type 1	Type 2
Positive symptoms present	Negative symptoms present
More responsive to treatment	Less responsive to treatment
No demonstrable neuropathology	Demonstrable neuropathology (CT/MRI)
Good prognosis	Poor prognosis

Solution to Question 20:

Risperidone causes the maximum rise in prolactin levels and has the highest potential to cause hyperprolactinemia among the atypical antipsychotics.

Risperidone is an antagonist of 5-HT_{2A} and D₂ receptors. The combined use of risperidone and selective serotonin reuptake inhibitors (SSRI) can also result in a significant elevation of prolactin with galactorrhea and breast enlargement.

Solution to Question 21:

This clinical scenario is suggestive of schizophrenia and given the patient's history of type 2 diabetes, olanzapine should not be prescribed as it has the highest potential to cause weight gain and metabolic syndrome.

Clozapine also has a high incidence of metabolic syndrome and weight gain.

Solution to Question 22:

Behavioral and lifestyle modifications are very useful in reducing antipsychotic induced weight gain.

Weight gain is monitored as follows (include waist size and BMI if possible):

- Weekly measurement of weight for the first 3 months
- Then 3 monthly for the first year
- Yearly measurement thereafter

Solution to Question 23:

The patient has developed acute muscular dystonia (spasm of muscles of tongue, face, neck, and back) which is an extrapyramidal side effect of haloperidol. This occurs within 1-5 days of drug intake.

Solution to Question 24:

The patient has developed akathisia, which is a side effect of antipsychotic medications. It is treated with propranolol, diphenhydramine (Benadryl), and benztropine. Ropinirole is not used for treatment.

Ropinirole is used in the treatment of restless leg syndrome, which resembles akathisia without a history of antipsychotic medication intake.

Solution to Question 25:

Clozapine is the only drug amongst the atypical antipsychotics that has been approved to be used for a schizophrenic patient with an increased risk of suicide.

Solution to Question 26:

After the initial diagnosis of schizophrenia, antipsychotics should be continued for at least 2 years. If there is a history of relapse, treatment should be continued for at least for 5 years. If there are multiple relapses, the patient is treated indefinitely.

Other Psychotic Disorders

Question 1:

Which of the following is the most common form of acute transient psychotic disorder?

- a) Acute polymorphic psychotic disorder without symptoms of schizophrenia
- b) Acute polymorphic psychotic disorder with symptoms of schizophrenia
- c) Acute schizophrenia – like psychotic disorder
- d) Acute transient psychotic disorder, unspecified

Question 2:

A man who is distressed decides to consult a psychiatrist because he keeps having thoughts that his wife is having an affair for the past month. He believed that his wife was being unfaithful; he reported that images of fruit displayed on his wife's social network page signaled that she was having an affair. As a result, he began placing fruit around their house in order to demonstrate his discovery. He reported no use of illicit drugs and had no other complaints. He was able to do his job. What is the most likely diagnosis?

- a) Paranoid personality disorder
- b) Acute transient psychosis
- c) Delusional disorder
- d) Schizophrenia

Question 3:

Which of the following is not a risk factor for delusional disorder?

- a) Recent immigration
- b) Social isolation
- c) Family history
- d) Young age

Question 4:

Mr. and Mrs. A believed that a 'demon' told Mr. A that they would be killed imminently, so the couple bought a gun to protect themselves. While eating at a restaurant, they perceived two male diners to be laughing at them. They believed that the demon was urging them to kill the diners, and they shot the two men dead. While defending the couple in court, their lawyer mentioned a psychiatric disorder. What is the probable diagnosis?

- a) Psychosis
- b) Fregoli delusion
- c) Folie à deux
- d) Schizophrenia

Question 5:

Which of the following is not a type of somatic delusion?

- a) Delusional parasitosis
- b) Othello syndrome
- c) Bromosis
- d) Dysmorphic delusion

Question 6:

A 24-year-old woman is obsessed with a famous Bollywood actor. She convinced herself that he is deeply in love with her and stood outside his home for hours believing that he was communicating his desire for her by waving and moving the curtains. Which of the following is false regarding this disorder?

- a) It is referred as an erotomanic delusion
- b) It is also known as psychose passionelle
- c) Patient says they fell in love with a person of higher status first
- d) Stalking behaviour may be observed

Question 7:

A young patient is admitted to your hospital with acute psychosis. He wakes up and asks for his wife even though she is present in the same room. Upon seeing her, he starts beating her, accusing her of being a nurse, masquerading as his wife. He also says that the nurse was trying to give him the wrong medication in an attempt to harm him. What is your diagnosis?

- a) Capgras syndrome
- b) Fregoli syndrome
- c) Delusion of subjective doubles
- d) Othello syndrome

Question 8:

A 32-year-old man is brought to the psychiatric OPD with complaints that he misidentifies strangers as a single persecutor wearing different disguises. What is this syndrome called?

- a) Cotard syndrome
- b) Capgras syndrome
- c) Fregoli syndrome
- d) Magnan syndrome

Question 9:

A 14-year-old boy was brought to the ER by his mother after he began talking about his younger brother trying to kill him. According to him, he had killed his twin brother in utero, and now he was seeking revenge. The mother revealed that her pregnancy was a singleton. On examination, the boy was dirty, dressed inappropriately and multiple injection tracks could be seen on his arm and forearm. The first-year resident suspects substance-induced psychosis. Which of the following is not in favor of the provisional diagnosis?

- a) The patient has no insight
- b) There is no history of recurrent primary psychotic disorder
- c) The disturbance causes clinically significant distress
- d) Symptoms persist long after intoxicated/withdrawal state

Question 10:

A homeless man who is an alcoholic was brought to the casualty by the police as they had witnessed him gouging out sections of his skin. On examination, the following findings are noted. The police said that he was a drug dealer and often resorted to experimenting with various illicit substances. What is the most likely diagnosis?



- a) Cannabis-induced psychosis
- b) Amphetamine-induced psychosis
- c) Alcohol-induced psychosis
- d) Cocaine-induced psychosis

Answer Key

Question No.	Correct Option
1	a
2	c
3	d
4	c
5	b
6	c
7	a
8	c
9	d
10	d

Detailed Explanations

Solution to Question 1:

The most common form of acute transient psychotic disorders is polymorphic psychotic disorder without symptoms of schizophrenia (one third to a half of all cases).

This is followed by polymorphic psychotic disorder with symptoms of schizophrenia.

Polymorphic psychotic disorder commonly presents with marked hallucinations, delusions, and perceptual disturbances that change in type and intensity from day to day or even from hour to hour.

Solution to Question 2:

The above clinical scenario of delusions of infidelity for a month not attributable to substance abuse and no impairment of function is in favor of a diagnosis of a delusional disorder.

DSM-5 criteria for diagnosis of delusional disorder:

- The presence of one (or more) delusions with a duration of 1 month or longer
- Criteria for schizophrenia have never been met
- Functioning is not markedly impaired, and behavior is not obviously bizarre or odd
- If manic or major depressive episodes have occurred, these have been brief relative to the duration of the delusional periods
- Not attributable to substance abuse, another medical condition, or another mental disorder.

Schizophrenia	Delusional disorder
Delusions and hallucinations Inappropriate affect Socio-occupational dysfunction Symptoms > 6 months	Delusions present but no hallucinations Appropriate affect Normal social and occupational life Symptoms > 1 month

Solution to Question 3:

Advanced age is a risk factor for delusional disorders, not young age.

Risk factors for delusional disorders:

- Advanced age
- Sensory impairment or isolation
- Personality features (e.g. unusual interpersonal sensitivity)
- Family history
- Social isolation
- Recent immigration

Solution to Question 4:

The given clinical scenario is suggestive of folie à deux. It is also known as shared delusional disorder, shared psychotic disorder, or induced psychotic disorder.

In this syndrome, two individuals with a close and generally long-term relationship share the same delusional belief. Persecutory delusional beliefs are most commonly seen in this disorder.

Occasionally, more than two individuals are involved (e.g., folie á trois, quatre, cinq; also folie á famille), but such cases are especially rare.

Solution to Question 5:

Othello Syndrome is not a type of somatic delusion.

It is a type of delusional jealousy, marked by suspecting a faithful partner of infidelity.

Somatic delusion is diagnosed when the central themes of the delusional beliefs are of a hypochondriacal or somatic nature, where the person believes there is something medically, physically or biologically wrong with them.

It includes the following:

- Concerns about infestation in delusional parasitosis
- Preoccupation with body features in dysmorphic delusions
- Delusional concerns about body odour, referred to as bromosis

Solution to Question 6:

The given clinical scenario is suggestive of De Clerambault syndrome. In this, the patients will generally describe that a person of higher status had fallen in love with them (patient) and made advances first.

It is also referred to as an erotomanic type of delusional disorder or psychose passionelle.

Stalking may be observed and they most often persecute their targets by unwanted communications.

Solution to Question 7:

In the given scenario the patient thinks that the nurse (persecutor/stranger) has taken the guise of the wife (family person). This is characteristic of Capgras syndrome.

Delusional misidentification syndromes include:

- Capgras syndrome - The delusion in Capgras syndrome is the belief that a familiar person has been replaced by an imposter.
- Fregoli's syndrome - Fregoli syndrome is a disorder in which a person holds a delusional belief that different people/strangers are in fact a single person who changes his or her appearance or is in disguise.
- Syndrome of intermetamorphosis - A rare delusion that familiar persons can change themselves into other persons at will.
- Doppelganger syndrome - A person feels he has his own imposter (duplicate) – delusion of subjective doubles.
- Othello syndrome - It is a rare psychiatric condition marked by morbid, pathological, or delusional jealousy.

Solution to Question 8:

The man in the question is mistaking strangers as a familiar person/persecutor. He is under the delusion that the familiar person/stranger can assume the appearance of (or disguise themselves as) multiple strangers. This is known as Fregoli syndrome.

Option A: Cotard syndrome (delire de negation/nihilistic delusion disorder) - the patient complains that they have lost all their possessions, status, their entire being, and even their internal organs.

Option B: Capgras syndrome (illusion des sosies) - believes that his or her family members or other familiar people have been replaced by identical-looking imposters.

Option D: Magnan syndrome - occurs in patients with cocaine addiction where they experience cocaine bugs/tactile hallucinations.

Solution to Question 9:

Substance-induced psychotic disorders develop during or soon after substance intoxication or withdrawal and they do not persist long after.

DSM-5 and ICD-11 diagnostic criteria for substance-induced psychosis:

A. Presence of one or both of the following symptoms:

- Delusions.
- Hallucinations.

B. There is evidence from the history, physical examination, or laboratory findings of both (1) and (2):

- The symptoms in Criterion A developed during or soon after substance intoxication/withdrawal/after exposure to a medication.
- The involved substance/medication is capable of producing the symptoms in Criterion A.

C. The disturbance is not better explained by a primary psychiatric disorder that is not substance/medication-induced. Such evidence of an independent psychotic disorder could include the following:

- The symptoms preceded the onset of the substance/medication use.
- The symptoms persist for a substantial period of time (e.g., about 1 month) after the cessation of acute withdrawal or severe intoxication.
- There is other evidence of an independent non-substance/medication-induced psychotic disorder (e.g., a history of recurrent non-substance/medication-related episodes).

D. The disturbance does not occur exclusively during the course of a delirium.

E. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Solution to Question 10:

The image showing multiple gouged-out sections of skin in accessible areas, and the history of multiple drug usage, is suggestive of formication (the tactile hallucination of bugs crawling under the skin) which is commonly associated with cocaine-induced psychosis.

Option A: Cannabis-induced psychotic disorder usually involves persecutory delusions, anxiety, emotional lability, and depersonalization experiences.

Option B: Amphetamine-induced psychotic disorder often resembles schizophrenia.

Option C: Alcohol-induced psychotic disorder often presents with auditory hallucinations after prolonged and heavy use of alcohol.

Delirium

Question 1:

A 72-year old woman is admitted with complaints of fever with dysuria for 5 days. On examination, she is drowsy and appears withdrawn and apathetic. She claims to see bugs crawling on her hand. What is the diagnosis?

- a) Dementia
- b) Schizophrenia
- c) Formication
- d) Delirium

Question 2:

Which of the following features is more in favour of delirium?

- a) Occurs gradually over a period of time
- b) Fluctuating course
- c) Preserved consciousness
- d) Commonly associated with auditory hallucinations

Question 3:

Which neurotransmitter abnormality is identified most consistently in patients with delirium?

- a) Decreased dopamine
- b) Decreased acetylcholine
- c) Increased GABA
- d) Increased glutamate

Question 4:

A patient admitted to the ICU for severe pneumonia 5 days ago suddenly developed difficulty in recognizing his relatives or the doctor and has started muttering that he is trapped in jail.

On evaluation, he is in an altered sensorium. What is the most likely diagnosis?

- a) Acute dementia
- b) Brief psychotic disorder
- c) ICU psychosis
- d) Acute paranoia

Question 5:

You are evaluating an elderly man who is suspected to have hypoactive delirium. Which of the following etiologies is most commonly associated with his condition?

- a) Anticholinergic drug overdose
- b) Heavy metal poisoning
- c) Hepatic encephalopathy
- d) Alcohol withdrawal

Question 6:

Among patients who develop acute psychiatric symptoms in the hospital, which of the following screening tools is useful for identifying cases of delirium?

- a) CAGE questionnaire
- b) CHAT checklist
- c) CAM algorithm
- d) GAD-7 scale

Question 7:

An elderly man was brought in to get evaluated for suspected depressive disorder. He has been socially withdrawn, confused, and has not been speaking to his family for the past 1 week. The family also complains that he has not been sleeping well at night. Which of the following EEG findings would make you suspect delirium?

- a) Chaotic
- b) 3Hz Spike and wave
- c) Diffuse slow wave
- d) Isoelectric

Question 8:

When pharmacotherapy is necessary for managing delirium, which of the following is preferred as the first-line treatment?

- a) Lorazepam 1 mg PO
- b) Lorazepam 0.5 mg IV
- c) Clozapine 12.5mg PO
- d) Haloperidol 0.5 mg PO

Question 9:

A 75-year old patient with Parkinson's disease, taking levodopa for the past 2 years, presents to you with disorientation, confusion, and altered sensorium. What is your next step in management?

- a) Reduce the dose of levodopa
- b) IV Lorazepam
- c) Oral Quetiapine
- d) Oral Clozapine

Answer Key

Question No.	Correct Option
1	d
2	b
3	b
4	c
5	c
6	c
7	c
8	d
9	a

Detailed Explanations

Solution to Question 1:

The given clinical scenario of an acute decline in the level of awareness and visual hallucinations (seeing bugs crawling on hand) in an elderly female admitted with fever and dysuria suggests a diagnosis of delirium.

Delirium is characterized by:

- Acute decline in the level of awareness
- Global impairment of cognitive functions (particularly attention)

It also involves:

- Perceptual disturbances like illusions and hallucinations
- Abnormal psychomotor activity
- Sleep cycle impairment

Formication is a tactile (not visual) hallucination in which the patient experiences a feeling of insects crawling under the skin.

Solution to Question 2:

Fluctuating course is suggestive of delirium.

Characteristic presentation of delirium:

- Acute onset
- Brief duration - usually days to weeks
- Decline in the level of consciousness.
- Fluctuating course - unpredictable fluctuations in severity and other clinical manifestations
- Sundowning - worsening of symptoms at night
- Rapid improvement - when the underlying cause is treated
- Other characteristics include asterixis, carphologia (picking movements on cover sheets and clothes)
- More commonly associated with visual hallucinations

Solution to Question 3:

The most consistent neurotransmitter abnormality seen in delirium is cholinergic deficiency (decreased acetylcholine).

The major neuroanatomical area associated with the condition is reticular formation.

Neurotransmitter abnormalities in delirium:

- Decreased acetylcholine
- Increased dopamine
- Increased norepinephrine

Solution to Question 4:

The given clinical scenario is suggestive of ICU psychosis (delirium).

The following features are consistent with the diagnosis of delirium:

- Acute onset of symptoms
- Disorientation to place (jail instead of the hospital)
- Disorientation to person (failure to recognize relatives and the doctor)
- Altered sensorium

Brief psychotic disorder (BPD) according to DSM-5 is the sudden onset of psychotic behaviour that lasts less than 1 month followed by complete remission with possible future relapses. This is termed acute and transient psychotic disorder as per ICD-11, and the duration of the episode should not exceed 3 months.

Solution to Question 5:

Hypoactive delirium is commonly associated with hepatic and renal encephalopathies.

The hypoactive clinical subtype of delirium can often be confused with depression due to overlapping symptoms of psychomotor retardation and affect.

In delirium, however, the onset of such symptoms is more acute and is usually associated with some medical illness.

Solution to Question 6:

Confusion assessment method (CAM) is a bedside screening test used in the diagnosis of delirium.

It has two parts:

- Part one - screens for overall cognitive impairment.
- Part two - a diagnostic algorithm that screens for 4 cardinal features to distinguish delirium from other types of cognitive impairment.

It can be assessed in less than 5 minutes.

Diagnosis of delirium requires the presence of features 1 and 2 along with either feature 3 or 4. i.e., features 1 + 2 + (3 or 4)

- Option A: CAGE questionnaire is used for addiction and substance abuse cases
- Option B: CHAT checklist is used in autism (CHECKlist for Autism in Toddlers)
- Option D: GAD-7 scale is used in the assessment of generalized anxiety disorder

CAM Diagnostic Algorithm	
Feature 1	Acute onset and fluctuating course
Feature 2	Inattention
Feature 3	Disorganized thinking
Feature 4	Altered level of consciousness

Solution to Question 7:

The EEG finding in most patients with delirium is diffuse slow-wave or low-voltage activity.

EEG findings in specific causes of delirium:

- Focal impairment - localized cerebral event
- Low voltage but fast-wave activity - drug/alcohol withdrawal

Option A: Chaotic (hypersarrhythmia) – Infantile spasm, West syndrome

Option B: 3Hz spike and wave – Absence seizures

Option D: Isoelectric EEG – Deep coma / cerebral death

Solution to Question 8:

Haloperidol is commonly used for the first-line pharmacological treatment of delirium.

The two major symptoms of delirium that may require pharmacological treatment are psychosis and insomnia.

Options A, B: Benzodiazepines are often used as an adjunct in agitated patients, but should be used judiciously for insomnia as their sedative property can worsen confusion in delirium.

Option C: The use of second-generation antipsychotics may be considered for delirium management, but clinical trial experience with these agents for delirium is limited. Clozapine itself is known to sometimes trigger delirium.

Note: IV regimens of haloperidol are mostly used in the ICU in the critically ill due to their fast onset of action and predictable pharmacokinetics. Oral haloperidol may be used as a maintenance regimen in patients with a functional GI tract. Intramuscular haloperidol is considered only in acutely combative patients without IV access.

Solution to Question 9:

The next step in management should be a reduction in the dose of levodopa.

The patient presents with disorientation, confusion and altered sensorium. This is suggestive of delirium. Anti-parkinsonian agents are frequently implicated in causing delirium because of dopamine increase.

Decreasing the dosage of the antiparkinsonian agent has to be weighed against worsening of motor symptoms.

Clozapine is recommended when:

- The antiparkinsonian agents cannot be further reduced
- Delirium persists even after reducing the dose of antiparkinsonian agents

If a patient is not able to tolerate clozapine, alternative antipsychotic agents should be considered.

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If you purchased this from someone else,
you may have been scammed.

Dementia

Question 1:

Which of the following features differentiate delirium from dementia in Alzheimer's disease?

- a) Acuity of onset and agitation
- b) Acuity of onset and loss of consciousness
- c) Visual hallucinations and impaired memory
- d) Agitation and irritation

Question 2:

Which of the following is a type of cortical dementia?

- a) Parkinson's disease
- b) Huntington's disease
- c) Alzheimer's disease
- d) Wilson's disease

Question 3:

If identified and intervened early, rapid clinical improvement can be expected in a patient with which of the following causes of dementia ?

- a) Vascular dementia
- b) Creutzfeldt-Jakob disease
- c) Normal pressure hydrocephalus
- d) Huntington's disease

Question 4:

In a patient being evaluated for cognitive and memory deficits, which of the following clinical features would favor a diagnosis of subcortical dementia?

- a) Dystonia
- b) Aphasia

- c) Prosopagnosia
- d) Apraxia

Question 5:

Which of the following is not a type of subcortical dementia?

- a) Pick's disease
- b) Parkinson's disease
- c) Huntington's disease
- d) Wilson's disease

Question 6:

A 75-year-old woman has been frequently misplacing her spectacles. Her son criticizes her for not keeping her spectacles in the same place which gets her agitated. She starts shouting and accusing her son and often ends up crying. What is this phenomenon called?

- a) Brief psychotic episode
- b) Altruism
- c) Catharsis
- d) Catastrophic reaction

Question 7:

A 70-year-old woman was evaluated for memory problems. Her husband first noticed the issue about 4 or 5 years back but attributed the symptoms to old age. Gradually her forgetfulness worsened and began to interfere with her daily activities such as housekeeping. A month ago, she got lost while returning from the church which she had been visiting regularly for the past 30 years. No personality changes, rigidity, or gait disturbances were observed. What is the most probable diagnosis?

- a) Alzheimer's disease
- b) Vascular dementia
- c) Dementia with Lewy bodies
- d) Pick's disease

Question 8:

A 60-year-old woman who has been having progressive cognitive impairment for the past few years, recently started having hallucinations and strange delusions. Her MRI showed cortical and subcortical atrophy prominent in the parietal and temporal lobes. Which of the following statements are true regarding her condition?

- a) 1 and 4
- b) 1, 3 and 5
- c) 1, 2 and 4
- d) 2, 3 and 5

Question 9:

The memory disorder correctly matched with the pathology is?

- a) Korsakoff syndrome - hyperactivation of mammillary bodies
- b) Alzheimer's disease - loss of synapses
- c) Alzheimer's disease - early degeneration of frontal lobe
- d) Frontotemporal dementia - mesial temporal lobe atrophy

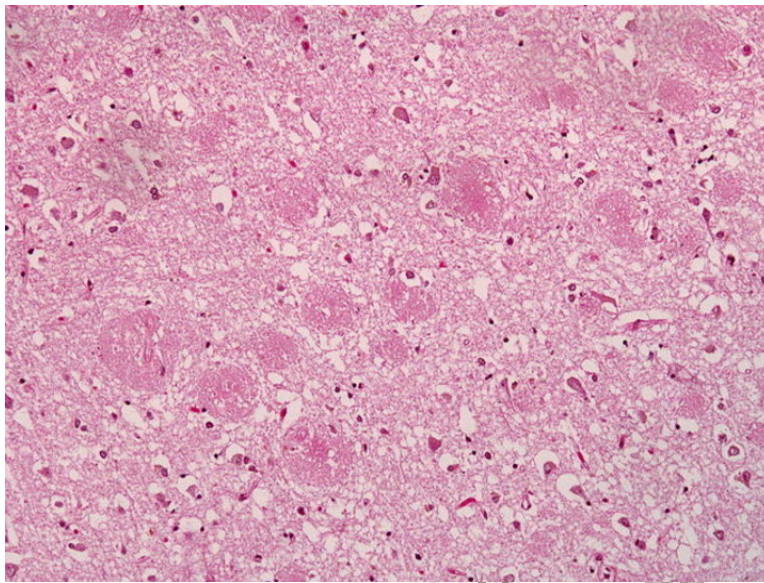
Question 10:

In elderly patients diagnosed with Alzheimer's disease, which of the following mutations is most likely to be seen?

- a) Apolipoprotein E4
- b) Presenilin-1
- c) Presenilin-2
- d) Amyloid Precursor Protein

Question 11:

An elderly man with a long-standing history of memory loss and behavioral changes passed away. On autopsy, atrophy of the brain was noted. A histopathology section of his brain showed the following finding. Which of the following describes the sequence of enzyme action that leads to its development?



- a) α and β secretase
- b) α and γ secretase
- c) β and γ secretase
- d) α , β and γ secretase

Question 12:

Which of the following is not true about Alzheimer's disease?

- a) Intracellular neurofibrillary tangles are seen
- b) Neuritic plaques made of beta amyloid are found
- c) Nucleus of Meynert is not affected
- d) Short term memory is affected

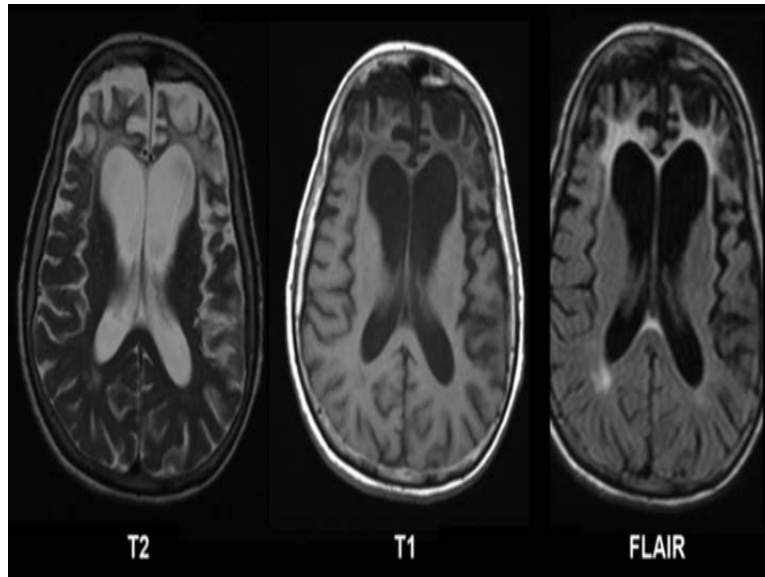
Question 13:

Which of the following statements is not true regarding the management of Alzheimer's disease?

- a) Donepezil is the only drug approved for all stages of the disease.
- b) Monoclonal antibodies can be used in the treatment of Alzheimer's disease.
- c) Memantine is an NMDA antagonist used in moderate to severe disease.
- d) Galantamine, Rivastigmine and Benztropine are all used in the treatment of Alzheimer's disease.

Question 14:

An elderly patient was referred from the medicine OPD with paranoid ideation and suspiciousness. He has also been having inappropriate outbursts of rage for the past 1 year and memory issues for the past 3 months. He is unable to dress by himself or manage his daily activities, such as cooking or cleaning. Imaging was done and the following findings were seen. What is the likely diagnosis?



- a) Alzheimer's disease
- b) Pick's disease
- c) Vascular dementia
- d) Lewy-body dementia

Question 15:

A 62-year-old man was taken to a psychiatrist by his family with complaints of strange behavior. He has been inappropriately making sexual remarks and was caught urinating in public. Recently, he created a ruckus by cracking jokes and laughing out loud at a funeral. On evaluation, there was a deficit in executive functioning and working memory. What is the most common genetic change associated with the given clinical condition?

- a) Hexanucleotide repeat expansion
- b) Trinucleotide repeat expansion
- c) Deletion

d) Point mutation

Question 16:

A 70-year-old veteran army officer presents with difficulty in concentrating, increased forgetfulness, repeated falls due to sluggish movement and also complains of seeing recurrent red animal figures for a few weeks. Which of the following is most likely?

- a) Frontotemporal dementia
- b) Dementia with lewy bodies
- c) Alzheimer's disease
- d) Post Traumatic Stress Disorder

Question 17:

A 60-year-old woman, with a history of hypertension and hyperlipidemia, was referred to the psychiatry OPD for evaluation of memory loss and depression. Which of the following features is least suggestive of vascular dementia in this patient?

- a) Focal neurological deficits
- b) Stepladder deterioration
- c) White matter lesions on MRI
- d) Chronic, gradual course

Answer Key

Question No.	Correct Option
1	b
2	c
3	c
4	a
5	a
6	d
7	a
8	a

9	b
10	a
11	c
12	c
13	d
14	b
15	a
16	b
17	d

Detailed Explanations

Solution to Question 1:

Delirium is characterized by acute onset of symptoms and is often accompanied by diminished or loss of consciousness and cognition. This feature is useful to clinically differentiate between delirium and dementia.

Dementia is a group of diseases marked by chronic, progressive cognitive impairment with clear consciousness.

Solution to Question 2:

Alzheimer's disease is an example of cortical dementia.

Dementia is defined as a disease process marked by progressive cognitive impairment in clear consciousness. Depending on the site of the cerebral lesions, the dementias are classified as cortical or subcortical.

	Cortical dementia	Subcortical dementia
Site of lesion	Cortex	Thalamus, basal ganglia, cerebellum, brain stem
Higher cortical symptoms	AphasiaApraxiaAgnosiaProsopagnosiaAcalculia	No
Motor symptoms	No	DysarthriaTremorsAtaxiaRigidity
Memory	Recall and recognition are impaired	Recall is impaired

	Cortical dementia	Subcortical dementia
Examples	Alzheimer's disease Frontotemporal dementia Creutzfeldt Jakob disease	Parkinson's disease Progressive supranuclear palsy Huntington's disease Wilson's disease Idiopathic basal ganglia calcification Normal-pressure hydrocephalus Vascular dementia

Solution to Question 3:

If diagnosed and intervened early, clinical improvement can be expected with normal pressure hydrocephalus (NPH), as it is a reversible cause of dementia.

Normal pressure hydrocephalus can present with the following triad (Adam's triad or Hakim's triad), remembered as:

- Urinary incontinence (wet)
- Dementia (wacky)
- Gait disturbance (wobbly)

Causes of dementia:

Reversible	Irreversible
Intracranial tumors Subdural hematoma Hypothyroidism Autoimmune encephalopathy Vitamin B12 deficiency Meningitis	Alzheimer's disease Huntington's disease Lewy body disease Vascular dementia Creutzfeldt-Jacob disease Pick's disease

Solution to Question 4:

Dystonia is a feature of subcortical dementia.

Extrapyramidal symptoms along with memory deficits are typical of subcortical dementia.

	Cortical dementia	Subcortical dementia
Site of lesion	Cortex	Thalamus, basal ganglia, cerebellum, brain stem
Higher cortical symptoms	Aphasia Apraxia Agnosia Prosopagnosia Acalculia	No
Motor symptoms	No	Dysarthria Tremors Ataxia Rigidity
Memory	Recall and recognition are impaired	Recall is impaired

	Cortical dementia	Subcortical dementia
Examples	Alzheimer's disease Frontotemporal dementia Creutzfeldt Jakob disease	Parkinson's disease Progressive supranuclear palsy Huntington's disease Wilson's disease Idiopathic basal ganglia calcification Normal-pressure hydrocephalus Vascular dementia

Solution to Question 5:

Pick's disease (a type of frontotemporal dementia) is a type of cortical dementia.

	Cortical dementia	Subcortical dementia
Site of lesion	Cortex	Thalamus, basal ganglia, cerebellum, brain stem
Higher cortical symptoms	Aphasia Apraxia Agnosia Prosopagnosia Acalculia	No
Motor symptoms	No	Dysarthria Tremors Ataxia Rigidity
Memory	Recall and recognition are impaired	Recall is impaired
Examples	Alzheimer's disease Frontotemporal dementia Creutzfeldt Jakob disease	Parkinson's disease Progressive supranuclear palsy Huntington's disease Wilson's disease Idiopathic basal ganglia calcification Normal-pressure hydrocephalus Vascular dementia

Solution to Question 6:

The given clinical history of old age and the frequent misplacing of spectacles (memory loss) points towards dementia. The associated history of over-reaction and agitation is suggestive of catastrophic reaction.

In catastrophic reactions, patients overreact and become agitated when confronted with their cognitive limitations or when facing changes in routine or environment. It is frequently seen in elderly patients with dementia.

Option A: The given scenario is not a brief psychotic episode because of the absence of psychotic symptoms.

Option B: Altruism is the selfless behavior of helping another member of the community; putting another person's need before one's own and learning that there is value in giving to others.

Option C: Catharsis is the expression of ideas, thoughts, and suppressed material that is accompanied by an emotional response that produces a state of relief in the patient.

Solution to Question 7:

The given clinical scenario of insidious loss of episodic memory followed by slowly progressive dementia is suggestive of Alzheimer's disease. This primarily involves the neurodegeneration of the cholinergic system.

Alzheimer's disease is the most common cause of dementia, followed by vascular dementia and Lewy body dementia.

Option B: Absence of prior cerebrovascular accident history or focal neurological deficits rules out vascular dementia.

Option C: Absence of gait disturbance, rigidity (Parkinsonism) rules out dementia with Lewy bodies.

Option D: Absence of early personality changes rules out Pick's disease.

Solution to Question 8:

The given clinical scenario of a patient with progressive cognitive impairment and cortical and subcortical atrophy in the parietal and temporal lobes is suggestive of Alzheimer's disease (AD).

Statement 2: In Alzheimer's disease, memory impairment is followed by visuospatial defects.

Statement 3 and 5: Apolipoprotein E4 is a risk factor for Alzheimer's disease while apolipoprotein E2 is protective.

Solution to Question 9:

The cognitive decline in Alzheimer's disease is due to the loss of synapses and neuronal degeneration.

Microscopically, the following are seen:

- Neuritic plaques - containing amyloid- β
- Neurofibrillary tangles - containing abnormally phosphorylated tau proteins
- Amyloid- β accumulation in the blood vessel walls of the cortex and leptomeninges.

Option A: In Korsakoff syndrome, there is inactivation (not hyperactivation) of mammillary bodies due to thiamine deficiency.

Option C: Alzheimer's disease initially affects the parietal and temporal lobe, followed by the frontal lobe in the later stages. Hence personality changes are a late feature of Alzheimer's.

Option D: Mesial temporal lobe atrophy is very sensitive to Alzheimer's disease.

Solution to Question 10:

Late-onset Alzheimer's disease is known to be associated with mutations in apolipoprotein E4 (APOE4) gene.

Mutations in genetic loci associated with early-onset Alzheimer's disease are:

- Amyloid Precursor Protein (APP) – chromosome 21
- Presenilin-1 (PS1) – chromosome 14
- Presenilin-2 (PS2) – chromosome 1

Mutations in genetic loci associated with late-onset Alzheimer's disease are:

- Apolipoprotein E4 (APOE4) – chromosome 19
- Triggering Receptor Expressed on Myeloid Cells 2 (TREM2) – chromosome 6

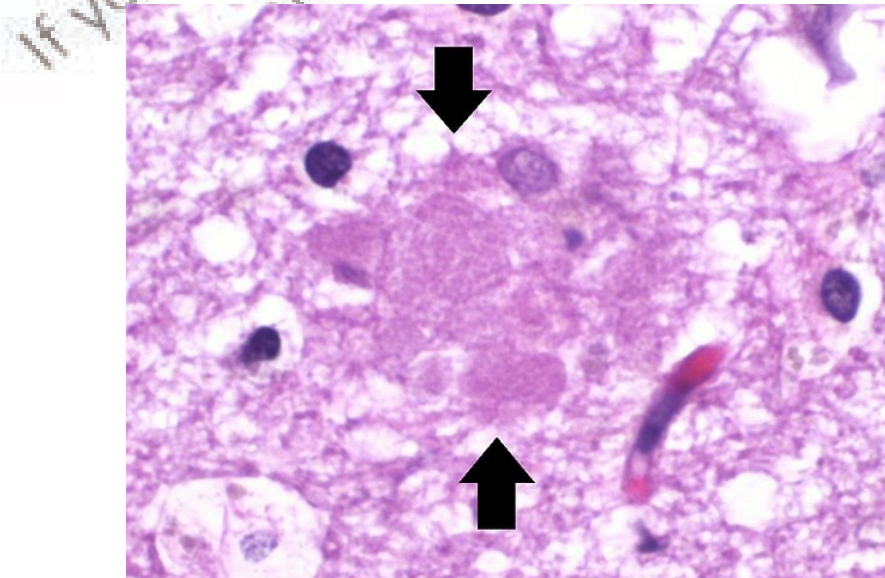
Note: Adults with trisomy 21 (Down's syndrome) develop typical neuropathologic hallmarks of AD if they survive beyond age 40.

Solution to Question 11:

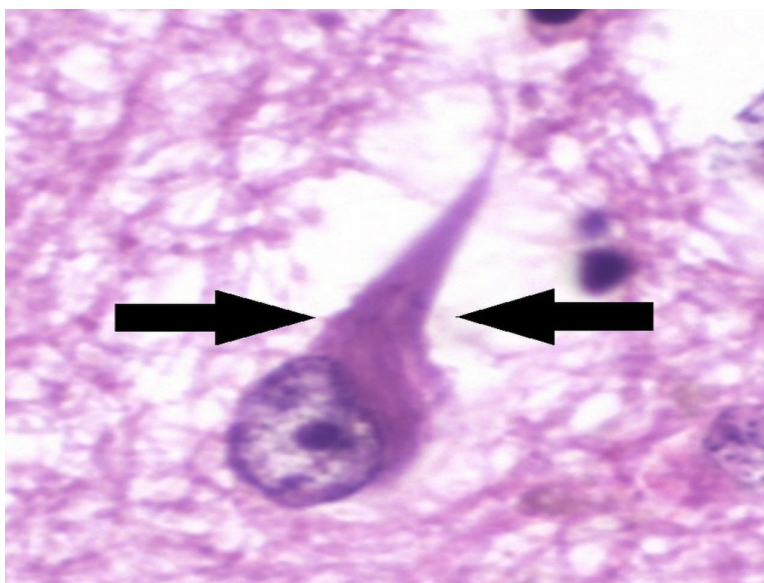
The given clinical scenario is suggestive of Alzheimer's disease and the given image shows abnormal amyloid plaques (β -amyloid peptide - $A\beta$). β - and γ -secretase activity is responsible for its development.

Excess production of toxic amyloid $A\beta$ 42 initiates cellular damage in Alzheimer's disease.

The image below depicts an amyloid plaque seen in Alzheimer's disease.



The image below depicts neurofibrillary tangles in Alzheimer's disease.



Solution to Question 12:

Nucleus of Meynert is affected in Alzheimer's disease.

Biochemically, there is a reduction of acetylcholine and degeneration of cholinergic neurons in the nucleus basalis of Meynert that project throughout the cortex. There is also noradrenergic and serotonergic depletion due to degeneration of brain stem nuclei such as the locus ceruleus and the dorsal raphe.

Microscopically, there are neuritic plaques containing amyloid- β , neurofibrillary tangles, and amyloid- β accumulation in the blood vessel walls of the cortex and leptomeninges.

The FDA recently approved Flortaucipir F18 for intravenous injection, the first radioactive diagnostic agent for adult patients with cognitive impairment who are being evaluated for Alzheimer's disease. It is indicated for PET imaging of the brain to estimate the density and distribution of aggregated tau neurofibrillary tangles (NFTs), a primary marker of Alzheimer's disease.

Solution to Question 13:

Benztropine (anticholinergic) is not indicated in Alzheimer's disease.

The characteristic feature of Alzheimer's is the degeneration of cholinergic neurons leading to decreased levels of acetylcholine. Bzotropine, a muscarinic receptor antagonist, would block acetylcholine receptors and worsen symptoms.

Donepezil, Galantamine, and Rivastigmine are all acetylcholinesterase inhibitors used in the management of Alzheimer's disease. Donepezil is the only drug approved for all stages of Alzheimer's disease.

Memantine is an NMDA receptor antagonist used in moderate to severe cases.

Solution to Question 14:

The given clinical scenario and the scan indicating atrophy of frontal and parietal lobes are suggestive of frontotemporal dementia (FTD), one of which is Pick's disease.

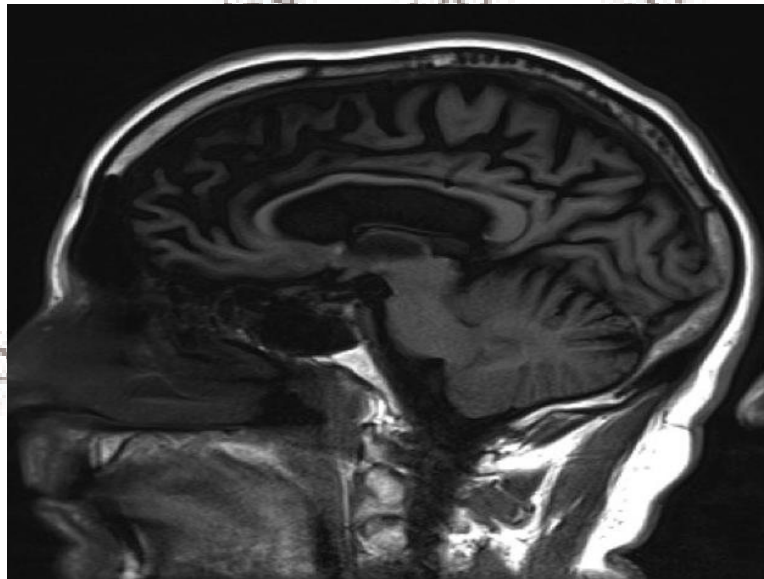
Pick's disease presents with early personality changes (frontal lobe involvement) and loss of social restraints initially, followed by memory loss. By contrast, Alzheimer's patients present with memory loss first and then develop personality changes.

Other features include loss of insight, easy distractibility, reduced concern or empathy for others, emotional lability or withdrawal, impulsiveness, poor self-care, and perseveration.

There is a second type of presentation of FTD, which is characterized by an early and progressive change in language, with problems of expression of language or severe naming difficulty, and problems with word meaning.

The classic imaging findings seen in FTD are preferential atrophy of the frontal and temporal lobes with occipitoparietal sparing.

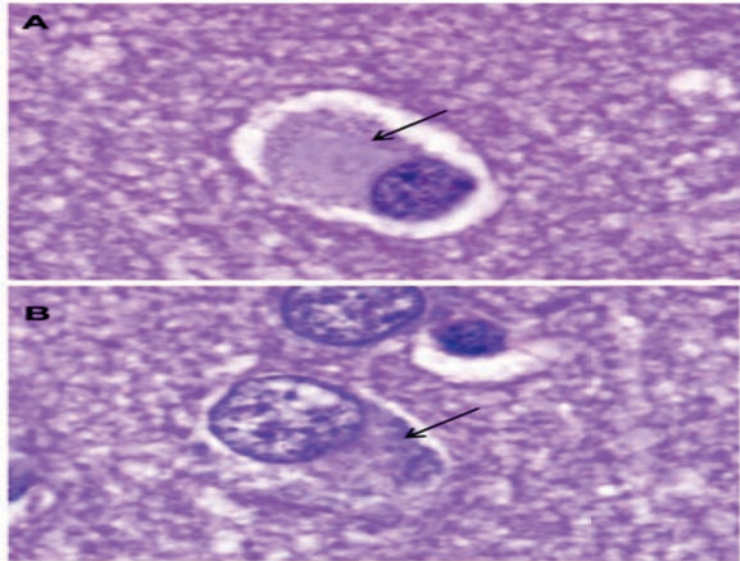
A sagittal section brain MRI is given below.



Histopathology:

- Pick cells (swollen neurons) in affected areas of the brain
- Pick bodies (intraneuronal argentophilic inclusions)

In the image below, the arrows point to the pick bodies in the frontal cortex.



Solution to Question 15:

The given clinical scenario is suggestive of frontotemporal dementia (FTD). The most common genetic abnormality associated with FTD is a hexanucleotide expansion of the gene C9orf72.

Other mutations causing frontotemporal dementia:

- Progranulin (GRN) mutation on chromosome 17
- Microtubule-associated protein tau (MAPT) mutation on chromosome 17.

Solution to Question 16:

The given clinical scenario of dementia associated with hallucinations is suggestive of dementia with Lewy bodies.

Core clinical features (the first three typically occur early and may persist throughout the course):

- Fluctuating cognition with pronounced variations in attention and alertness.
- Recurrent visual hallucinations that are typically well-formed and detailed.
- REM sleep behavior disorder which may precede cognitive decline.
- One or more spontaneous cardinal features of Parkinsonism (bradykinesia, rest tremor, rigidity).

Note: A new study found that older adults who frequently used sleep medications were 40% more likely to develop dementia over 15 years.

Solution to Question 17:

In classic vascular dementia, since infarcts are accumulated in a stepwise fashion, deterioration is similarly abrupt and stepwise rather than smoothly gradual.

The criteria for the clinical diagnosis of vascular dementia include:

- Cognitive decline from a previously higher level of functioning
- Presence of focal signs on neurological examination, consistent with stroke
- A relationship between the above two, based on the presence of one or more of the following:
- Onset of dementia within 3 months following a recognized stroke
- Abrupt deterioration in cognitive functions, or fluctuating, stepwise progression of cognitive deficits.

Imaging findings in vascular dementia include extensive leukoencephalopathy (white matter lesions), resulting from cerebral small-vessel disease or a variable number of infarcts in large-vessel territories.

Note: Subcortical or small vessel dementia, can sometimes have an insidious onset.

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Amnestic Disorders and Other Neurocognitive Disorders

Question 1:

A lesion involving which of the following neuroanatomical structures is least likely to result in an amnestic disorder?

- a) Hippocampus
- b) Amygdala
- c) Arcuate nucleus
- d) Mammillary bodies

Question 2:

A 32-year-old train accident survivor is being evaluated for suspected amnestic disorder. Which of the following is most likely to be impaired in this patient?

- a) Habit learning
- b) Skill learning
- c) Route navigation
- d) Classical conditioning

Question 3:

After detailed neuropsychiatric evaluation, an ICU patient was found to have severe retrograde amnesia with largely preserved anterograde memory. Which of the following is the most likely explanation for this presentation?

- a) Post-traumatic stress disorder
- b) Head injury
- c) Alcohol-related dementia
- d) Korsakoff syndrome

Question 4:

What does Ribot's law deal with?

- a) Anterograde amnesia
- b) Retrograde amnesia
- c) Dissociative amnesia
- d) Global transient amnesia

Question 5:

Which of the following is not a feature of mild neurocognitive disorder?

- a) Cognitive decline from previous level in one or more cognitive domain
- b) The deficit occurs exclusively during an episode of delirium
- c) Do not interfere with independence in daily activities
- d) Mini mental state examination score of 26

Question 6:

A 72-year-old man was taken to the psychiatrist by his son for memory issues. The elderly man had been living in his own house for the past 40 years, where he used to ritually water his garden every day after breakfast. Recently he moved to his son's flat in Delhi but forgets this, and continues to get ready after breakfast to go and water his garden. Neuropsychiatric evaluation is normal except for some mild cognitive impairment. What is this phenomenon called?

- a) Retroactive interference
- b) Proactive interference
- c) Output interference
- d) Biological Amnesia

Question 7:

A 42-year-old man had a fall followed by one episode of vomiting. When brought to the casualty, he was awake and conscious but had unrelieved anterograde amnesia. Which of the following is the most likely cause?

- a) Drunkenness
- b) Diffuse axonal injury

- c) Concussion
- d) Cerebral venous thrombosis

Answer Key

Question No.	Correct Option
1	c
2	c
3	a
4	b
5	b
6	b
7	c

Detailed Explanations

Solution to Question 1:

Arcuate nucleus is not associated with amnesic disorders.

The neuroanatomical structures involved in the etiology of amnesic memory include:

- Mammillary bodies
- Hippocampus
- Amygdala
- Dorsomedial and the midline thalamic nuclei

Solution to Question 2:

Route navigation is a function of declarative memory that is impaired in patients with amnesia. Non-declarative memory is preserved in amnesia.

Declarative memory supports the conscious recollection of facts and events.

- Memory for routes, lists, faces, melodies, objects
- Memory for other verbal and nonverbal material

Non-declarative memory includes:

- Skill learning
- Habit learning
- Simple forms of conditioning

Solution to Question 3:

Severe retrograde amnesia with minimal or no anterograde amnesia is seen in post-traumatic stress disorder. It is referred to as dissociative/psychogenic amnesia. It is also known as hysterical amnesia or functional amnesia.

Psychogenic amnesia presents with a sudden onset of:

- Extensive and severe retrograde amnesia
- A loss of personal identity - unable to recall their own name, information from childhood, or from their past.
- Minimal anterograde amnesia

The other given options can all cause both retrograde and anterograde amnesia.

Solution to Question 4:

Ribot's law deals with retrograde amnesia.

During incidents of retrograde amnesia, most recently acquired memories are the most vulnerable to disruption from brain damage. This temporal gradation of retrograde amnesia that preferentially spares the more distant memories is known as Ribot's law.

E.g: If an incident causing retrograde amnesia occurs at 30 years of age, the memories acquired at 25 years of age may be more severely affected than those memories acquired at 20 years of age or earlier.

Solution to Question 5:

Mild neurocognitive disorder does not occur exclusively during an episode of delirium.

Mild neurocognitive disorder or Mild Cognitive Impairment (MCI) is a level of cognitive impairment which is:

- Not severe enough to be diagnosed as dementia
- Not mild enough to be called a part of the normal aging process.

General Criteria for Mild Cognitive Impairment:

- Not normal, but does not meet criteria for dementia syndrome either.
- Cognitive decline:

- The patient and/or informant report an impairment in objective cognitive tasks.
- Evidence of decline over time in objective cognitive tasks.
- Preserved basic activities of daily living/minimal impairment in complex instrumental functions.
- MMSE score between 25-27 (out of 30)

Single domain amnesic Mild Cognitive Impairment usually progresses to Alzheimer's disease.

Solution to Question 6:

The given clinical scenario in which information stored earlier interferes with the retrieval of new information is called proactive interference.

Option A: Retroactive Interference - new information interferes with the retrieval of information stored earlier.

Option C: Output interference - the initial act of recalling particular information interferes with the retrieval of the original information. For example, When trying to remember a limited number of items, such as a list of words or the names of individuals in a group, recalling some items can make it more difficult to recall other items in the same collection.

Option D: Biological Amnesia - amnesia due to brain damage.

Solution to Question 7:

The given history of fall and anterograde amnesia points towards the diagnosis of concussion.

A concussion is the most common type of traumatic brain injury. It can result from vehicle accidents, falls, sports injuries, etc. Anterograde amnesia/post-traumatic amnesia is the hallmark of a concussion. In this type of amnesia, the events following the injury cannot be recalled.

Other clinical features of concussion include headache, dizziness, nausea, and vomiting.

Option A: Drunkenness - the patient will be drowsy or sleepy and not awake.

Option B: Diffuse axonal injury - seen in high-speed deceleration which causes disruption and shearing of axons leading to microhemorrhages. Usually results in a persistent vegetative stage.

Option D: Cerebral venous thrombosis - acute thrombosis in dural venous sinuses; manifests as headache, visual abnormalities, or seizures.

Depressive Disorders

Question 1:

According to the latest WHO statistics, what is the most common psychiatric disorder in the world?

- a) Eating disorder
- b) Depression
- c) Bipolar disorder
- d) Anxiety disorder

Question 2:

Which among the following is a component of Beck's triad of depression ?

- a) Worthlessness
- b) Anhedonia
- c) Low mood
- d) Fatigability

Question 3:

A 45-year-old man continues to smoke despite several attempts at quitting because he believes that he will always be a smoker. Which of the following theories best describes this behavior?

- a) Learned helplessness theory
- b) Theory of psychosocial development
- c) Psychodynamic theory
- d) Social learning theory

Question 4:

A 40-year-old woman is brought to the psychiatry OPD with low mood for the past 2 weeks, reduced socialization, decreased appetite and inability to sleep for the past 3 months. She

complains of frequent backache and headache, with early morning awakening. Which of the following is increased in this disorder?

- a) Cortisol
- b) Dopamine
- c) Norepinephrine
- d) Serotonin

Question 5:

A 65-year-old retired officer has been confined to his house since the COVID-19 pandemic started in March 2020. He does not have any visitors and has lost touch with his family as well. He has been having persistent feelings of low mood and sees no purpose in his life. He sometimes has thoughts about killing himself. Which of the following sleep changes occur in this disorder?

- a) Increased REM latency
- b) An increase in total sleep time
- c) Deficits of slow-wave sleep
- d) Decreased rapid eye movement (REM) sleep

Question 6:

Which of the following statement is false regarding the MRI changes seen in depression?

- a) Reduction in volume of cingulate cortex
- b) Compromised function in the prefrontal area during a cognitive task
- c) Hyperactivity of the amygdala during an emotional task
- d) Atrophy of the mesial temporal lobe

Question 7:

You receive a referral for a patient who reports a feeling of extreme heaviness in the arms or legs. As a result, he has been finding it difficult to move his limbs. In which of the following conditions is this type of paralysis seen?

- a) Involutional melancholia
- b) Atypical depression

- c) Psychotic depression
- d) Major depression

Question 8:

A 60-year-old male who lost his wife 3 months back complains that his intestines have become rotten. He feels that he is responsible for his wife's death and should be sent to prison. He complains of feeling low all the time and has lost interest in daily activities since his wife's death. What is the most likely diagnosis?

- a) Normal grief reaction
- b) Psychotic depression
- c) Delusional disorder
- d) Schizophrenia

Question 9:

An IT employee is feeling guilty, hopeless, and not able to concentrate on work. His symptoms started 3 years back when he entered college. What is the most likely diagnosis?

- a) Depressive disorder
- b) Dysthymia
- c) Adjustment disorder
- d) Cyclothymic disorder

Question 10:

A patient comes to you with a history of persistent low mood for the past 3 years. He also complains of fatigue and insomnia during this period. He gives a history of worsening low mood over the past 3 weeks, along with suicidal thoughts and a loss of interest in all activities. What is the probable diagnosis?

- a) Major depressive disorder
- b) Dysthymia
- c) Cyclothymia
- d) Double depression

Question 11:

A mother started to feel sad and tearful over the first two weeks following childbirth. She felt overwhelmed by the responsibilities of nursing her baby and changing diapers and waking up in the middle of the night. She felt that she was a failure as a mother. What is the most likely diagnosis?

- a) Post-partum blues
- b) Postpartum depression
- c) Post-partum psychosis
- d) Post-partum anxiety

Question 12:

A woman who had delivered a healthy baby 3 weeks ago was brought to the psychiatry OPD. She intently stares at you and says that her baby was stolen from the womb by her sister. On examination she has labile mood, and is mumbling to herself. What is the likely diagnosis?

- a) Baby blues
- b) Postpartum depression
- c) Postpartum psychosis
- d) Schizophrenia

Question 13:

What is the treatment of choice for postpartum blues?

- a) Fluoxetine
- b) Cognitive behavioural therapy
- c) Lithium carbonate
- d) Support and education

Question 14:

A primigravida who is 9 weeks pregnant, with low mood, loss of appetite, anhedonia, and insomnia for the past 2 weeks was referred to the psychiatry department. Which of the following drugs would you prescribe her?

- a) Imipramine

- b) Desipramine
- c) Selegiline
- d) Paroxetine

Question 15:

For how long would you continue SSRIs for a patient who had a single episode of depression?

- a) 4 weeks after complete remission
- b) 6 months after complete remission
- c) 6 weeks after complete remission
- d) Until complete remission

Question 16:

A patient was treated with TCA for a major depressive episode in the hospital for 4 weeks. What is the main concern while considering his discharge from the hospital?

- a) Need for drug monitoring
- b) ECG monitoring for arrhythmias
- c) Suicidal risk
- d) Sedation being the side effect

Question 17:

What is the treatment of choice in a patient with refractory depression and suicidal thoughts?

- a) Selective serotonin receptor inhibitors
- b) Tricyclic antidepressants
- c) Electroconvulsive therapy
- d) Monoamine oxidase inhibitors

Question 18:

Which is a mood stabiliser with an anti-suicidal role?

- a) Carbamazepine

- b) Lamotrigine
- c) Lithium
- d) Valproate

Question 19:

A 36-year-old woman presented with symptoms of low mood, loss of interest, loss of appetite, and sleep disturbances for the past 3 weeks. She has a history of two similar episodes over the last 3 years. She has no history of episodes of elated mood, racing thoughts, or decreased need to sleep. Which of the following is not a risk factor for her condition?

- a) Short episode duration
- b) Recurrent dysthymia
- c) Family history of similar episodes
- d) Concurrent non-affective psychiatric illness

Question 20:

An elderly gentleman presents to you with complaints of forgetfulness. He is unable to work as his memory issues were causing him distress, and he has difficulty concentrating. He also has insomnia, depressed mood, loss of appetite, and fatigue for the past two weeks. Which of the following best describes this condition?

- a) Alzheimer's disease
- b) Delirium
- c) Dementia
- d) Pseudo-dementia

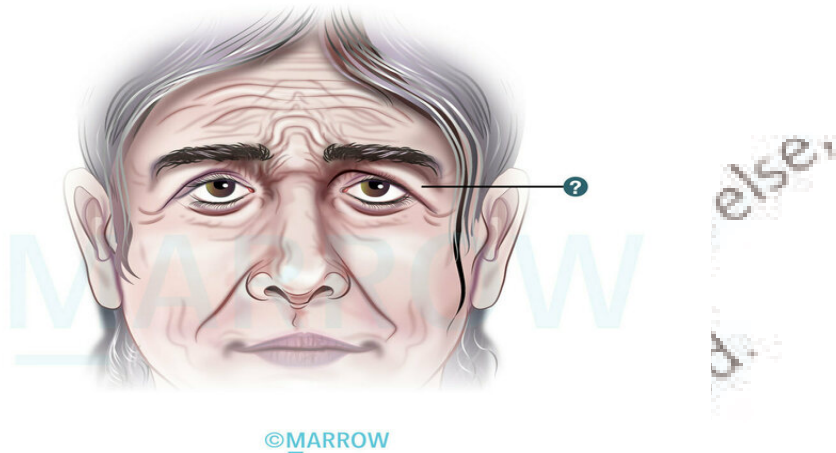
Question 21:

What is anaclitic depression?

- a) Depression in infants when separated from primary caregiver
- b) Depression seen in mental retardation
- c) Depression seen in autism spectrum disorder
- d) Depression in schizophrenia

Question 22:

A middle-aged woman diagnosed with depression presented to your OPD for a follow-up. You notice a characteristic sign marked by an arrow in the image. Identify this sign.



- a) Veraguth's sign
- b) Omega sign
- c) Van Gogh sign
- d) Ottoman's sign

Question 23:

Which of the following is not a feature of melancholia?

- a) Severe anhedonia
- b) Weight loss
- c) Sleep-onset insomnia
- d) Profound feelings of guilt over trivial events

Question 24:

Which among the following is not a feature of a patient with hysteroid dysphoria?

- a) Reversed vegetative symptoms
- b) No therapeutic response to monoamine oxidase inhibitors

- c) They experience a craving for chocolate
- d) Impaired anticipatory pleasure is seen

Question 25:

A 32-year-old male presents with symptoms of low mood, fatigue, and failure to experience pleasure in any activities. He also complains of insomnia and lack of concentration. These symptoms are present during most of the months of winter and completely remit during spring. The symptoms have been recurring over the past 3 years. What is the most probable diagnosis?

- a) Major Depressive disorder
- b) Major Depressive Disorder with seasonal pattern
- c) Cyclothymia
- d) Dysthymia

Question 26:

A 32-year-old man presents with symptoms of low mood, fatigue, and inability to experience pleasure in any activities. He also complains of insomnia and lack of concentration. These symptoms are present during the months of winter and completely remit during spring. On further questioning, you find that he is a laborer who is always left unemployed during the winter months. What is the most likely diagnosis?

- a) Major depressive disorder
- b) Major depressive disorder with seasonal pattern
- c) Dysthymia
- d) Cyclothymia

Question 27:

Phototherapy is a treatment for which of the following?

- a) Schizophrenia
- b) Chronic major depression
- c) Seasonal affective disorder
- d) Cyclothymia

Question 28:

A middle-aged female patient presents with a history of loss of interest in day to day activities, weight loss, insomnia, and sadness for six months. She also recalls hearing a voice once that ordered her to kill herself. What is the DSM-V diagnosis?

- a) Major depressive disorder with psychotic features
- b) Schizophrenia
- c) Schizoaffective disorder
- d) Delusional disorder

Question 29:

A 30-year-old patient comes to the casualty with a dry mouth, decreased sweating and blurring of vision, tremors. On examination, blood pressure is low, and mydriasis is present. The patient says that he has been on psychiatric medication for the past year. Which of the following drugs is responsible for the above presentation?

- a) Disulfiram
- b) Imipramine
- c) Lithium
- d) Valproate

Question 30:

A 35-year-old woman developed serotonin syndrome after receiving a single dose of imipramine. She was already being treated for depression with paroxetine. Which of the following is not seen on examination?

- a) Tremors
- b) Rigidity
- c) Hypothermia
- d) Myoclonus

Answer Key

Question No.	Correct Option
1	d
2	a
3	a
4	a
5	c
6	d
7	b
8	b
9	b
10	d
11	a
12	c
13	d
14	b
15	b
16	c
17	c
18	c
19	a
20	d
21	a
22	a
23	c
24	b
25	b
26	a
27	c
28	a
29	b
30	c

Detailed Explanations

Solution to Question 1:

According to the WHO global health statistics 2020, anxiety disorder is the most common psychiatric illness in the world.

Solution to Question 2:

Worthlessness is a component of Beck's cognitive triad of depression. It is also known as the negative triad.

Aaron Beck's cognitive triad consists of:

- Negative views about one's self - A tendency to devalue to feel personally inadequate (Worthlessness)
- Negative views about the world - A tendency to feel that there is no help available (Helplessness)
- Negative views about the future - The expectation of suffering and failure (Hopelessness)

Anhedonia - Decreased ability to experience pleasure.

Solution to Question 3:

The clinical scenario is suggestive of the learned helplessness theory of depression. The theory connects depressive phenomena to the experience of uncontrollable events. It was proposed by Martin Seligman.

Another good example of this can be a situation of domestic abuse where women tend to leave several times before doing so for good. A person may believe that they can never escape the abuser, even when help and support are available.

Option B: The theory of psychosocial development was proposed by Erik Erikson. There are 8 stages of psychosocial development. He states that there are critical time periods, each of which poses a particular psychosocial conflict to the individual. The resolution of this conflict results in either psychosocial growth or regression.

Option C: Psychodynamic theory of development explains personality in terms of the interaction between the conscious and unconscious forces of Id, ego, and super-ego.

Option D: Social learning theory is a theory of learning process and social behavior which proposes that new behaviors can be acquired by observing and imitating others.

Solution to Question 4:

The given clinical scenario of low mood along with reduced appetite, reduced interest in socialization, somatic symptoms, and disturbed sleep, points towards a diagnosis of depression (major depressive disorder). Cortisol levels are increased in depression.

The diagnostic criteria for major depressive disorder are as follows:

A. Five or more of the following symptoms have been present during the same 2 week period. At least one of the symptoms is either depressed mood or loss of interest or pleasure.

- Depressed mood most of the day
- Markedly diminished interest or pleasure in activities (anhedonia)
- Significant weight loss (loss of more than 5% of body weight in a month) when not dieting or weight gain, decrease or increase in appetite
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness or excessive or inappropriate guilt
- Diminished ability to think or concentrate, or indecisiveness
- Recurrent thoughts of death, recurrent suicidal ideation

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or to another medical condition.

D. The occurrence of the major depressive episode is not better explained by:

- Schizoaffective disorder
- Schizophrenia
- Schizophreniform disorder
- Delusional disorder
- Another specified or unspecified schizophrenia spectrum, or other psychotic disorders.

E. There has never been a manic episode or a hypomanic episode.

Note: The levels of norepinephrine, serotonin, and dopamine are decreased in depression

Solution to Question 5:

The given clinical scenario is suggestive of depression (major depressive disorder). It is associated with a premature loss of deep (slow-wave) sleep.

Sleep changes in depression:

- A premature loss of deep (slow-wave) sleep
- An increase in nocturnal arousal manifested as:
- An increase in nocturnal awakenings
- A reduction in total sleep time
- Increased phasic rapid eye movement (REM) sleep

- Increased core body temperature

The combination of increased REM drive and decreased slow-wave sleep results in a significant reduction in the first period of non-REM (NREM) sleep, a phenomenon referred to as reduced REM latency.

Solution to Question 6:

Atrophy of the mesial temporal lobe particularly the hippocampus, entorhinal cortex and perirhinal cortex is an MRI change seen in Alzheimer's disease (and not depression).

The MRI changes seen in depression are:

- Reduction in volume of cingulate cortex, prefrontal cortex, amygdala and hippocampus
- Compromised function in the prefrontal area during the implementation of a cognitive task
- Hyperactivity of the limbic system (including the amygdala) during an emotional task

Solution to Question 7:

The given clinical scenario is suggestive of leaden paralysis and it refers to a feeling of extreme heaviness, usually in the arms or legs resulting in the difficulty of moving the limbs. It is seen in atypical depression.

Atypical depression is characterized by:

- Low mood
- Increased sleep
- Increased appetite
- Weight gain
- Becomes sensitive to any comments
- Leaden paralysis

Note: Involutional melancholia is a severe depressive state seen exclusively in people between 40-65 years. It is usually associated with the delusions of persecution and nihilism.

Solution to Question 8:

The given clinical scenario of persistent low mood, anhedonia, guilt, and self-critical thought content along with nihilistic delusion (rotten intestine), points towards a diagnosis of major depression with psychotic features.

Differentiating features of grief and depression have been enlisted in the following table:

Note: Tricyclic antidepressants are considered to be the first-line drugs for psychotic depression.

Grief	Depression
Feelings of emptiness and loss	Persistent low mood and inability to anticipate pleasure
Dysphoria comes in waves and tends to decrease in intensity over time	Low mood tends to be persistent and consistent
Associated with thoughts and reminders of deceased/loss	Not tied to specific thoughts and pre-occupations
May be present along with positive emotions and humor	Pervasive unhappiness and misery
Thought content associated with thoughts and memories of deceased/loss	Thought content associated with self-critical and pessimistic ruminations
Self-esteem is generally preserved	Worthlessness and self-loathing is common
Ideas of death focused on joining the deceased	Ideas of death focused on ending life due to hopelessness

Solution to Question 9:

The given clinical scenario of guilt, hopelessness, and difficulty in concentrating over a period of more than 2 years, is suggestive of dysthymia (persistent depressive disorder).

The DSM 5 and ICD-11 criteria for diagnosis of dysthymia:

- A. Depressed mood for most of the day as indicated by either subjective account or observation by others, for at least 2 years. In children and adolescents at least 1 year.
- B. Presence of two (or more) of the following while being depressed.
 - Poor appetite or overeating
 - Insomnia or hypersomnia
 - Low energy or fatigue
 - Low self-esteem
 - Poor concentration and/or difficulty making decisions
 - Feelings of hopelessness
- C. During the 2-year period (1 year for children or adolescents) of the disturbance, the individual has never been without the symptoms in criteria A and B for more than 2 months at a time.
- D. Criteria for a major depressive disorder may be continuously present for 2 years.
- E. There has never been a manic episode or a hypomanic episode, and criteria have never been met for cyclothymic disorder.

F. The disturbance is not better explained by a persistent schizoaffective disorder, schizophrenia, delusional disorder, or other specified or unspecified schizophrenia spectrum and other psychotic disorders.

G. The symptoms are not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g. hypothyroidism).

H. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Option C: Adjustment disorder is characterized by emotional or behavioral symptoms that develop within 3 months of exposure to an identifiable stressor and usually do not last more than 6 months after the stressor ends.

Option D: Cyclothymic disorder is symptomatically a mild form of bipolar II disorder, characterized by episodes of hypomania and mild depression.

Solution to Question 10:

Double depression is the most probable diagnosis in this scenario. Dysthymia and major depressive disorder in the same period constitute double depression.

From the given history:

- Features of low mood, fatigue, and insomnia for more than 2 years point towards dysthymia.
- Features of low mood, fatigue, insomnia, anhedonia, and suicidal thoughts for more than 2 weeks point towards major depressive disorder.

Solution to Question 11:

The given clinical scenario is suggestive of postpartum blues.

It is characterized by a labile mood, sadness, and subjective confusion. It is thought to be due to changes in hormone levels, the stress of childbirth, and anxiety about the responsibilities of motherhood. This usually resolves spontaneously.

If symptoms last longer than 2 weeks, an evaluation for postpartum depression is needed.

Note: Zuranolone is the first-ever oral drug to be approved specifically for the treatment of postpartum depression. It is a neuroactive steroid that enhances the action of GABA in the brain and regulates mood.

Solution to Question 12:

From the given clinical scenario the patient is showing features of postpartum psychosis (depression with psychotic features). It can often begin within a few days following delivery, although the mean time of onset is usually within 2 to 4 weeks of delivery.

Characteristically, the patient begins to complain of fatigue, episodes of tearfulness, and emotional lability. Later develops, suspiciousness, confusion, irrational statements, and obsessive concerns about the baby's health and welfare may be present. Patients eventually develop delusions that involve the idea that the baby is dead or defective. Hallucinations if present may involve voices telling the patient to harm the baby or herself.

Solution to Question 13:

Postpartum blues is common in mothers in the puerperal period and requires nothing more than education and support. It is characterised by a labile mood, sadness and subjective confusion. It is thought to be due to changes in hormone levels, the stress of childbirth and anxiety about the responsibilities of motherhood.

If symptoms last longer than 2 weeks, an evaluation for postpartum depression is needed.

Solution to Question 14:

The given scenario is suggestive of depression. Desipramine is the safest to use amongst the given options, for depression during pregnancy.

Antidepressants and pregnancy:

Tricyclic Antidepressants (TCA):

- Cross the placenta.
- Imipramine - not safe, due to high anticholinergic and hypotensive properties
- Desipramine, nortriptyline - recommended
- Neonatal withdrawal effects are frequent and mild

Mono Amine Oxidase Inhibitors (MAO-I):

- Should be avoided in pregnancy, as they increase the risk of hypertensive crisis
- Associated with pulmonary hypertension in newborns

Selective Serotonin Reuptake Inhibitors (SSRI):

- Associated with preterm delivery and spontaneous abortions
- Paroxetine - shows cardiac abnormalities in newborns
- Citalopram, Sertraline - safer drugs
- Neonate shows serotonin toxicity and withdrawal symptoms

Note: Antipsychotic drugs like olanzapine, quetiapine, and risperidone are considered safe during pregnancy.

Solution to Question 15:

SSRIs should be continued for 6-9 months after complete remission of symptoms in a patient with a single episode of depression.

Treatment of depression:

- In recent-onset mild depression, cognitive behavioural therapy (CBT) is preferred and antidepressants are not recommended.
- For moderate to severe depression and dysthymia - Antidepressants (SSRIs) + CBT.
- For treatment-resistant depression, recommended strategies include augmentation with lithium or an antipsychotic or the addition of a second antidepressant.
- For severe and treatment-resistant depression - Electroconvulsive therapy (ECT) can also be used.

The various classes of drugs used in depression and anxiety are listed below:

Class of drugs	Examples
Selective serotonin reuptake inhibitors (SSRI)	Fluoxetine Fluvoxamine Paroxetine Sertraline Citalopram
Serotonin-norepinephrine reuptake inhibitors	Venlafaxine Desvenlafaxine Duloxetine Milnacipran
Tricyclic antidepressants	Amitriptyline Imipramine Nortriptyline Desipramine Amoxapine
Atypical antipsychotics	Aripiprazole Olanzapine Quetiapine Risperidone
Monoamine oxidase inhibitors (MAO)	Isocarboxazid Selegiline Phenelzine
Atypical antidepressants	Bupropion Trazodone Mirtazapine Mianserin

Solution to Question 16:

Suicidal thoughts or behavior are a side effect of TCAs. Therefore, the attendants of the patient should be warned regarding this when a patient gets discharged after being treated with TCAs for a major depressive episode.

Tricyclic antidepressants (TCAs) are drugs that act by inhibiting the reuptake of noradrenaline and serotonin from the synaptic clefts.

The side effects of TCAs are due to blockade of other receptors:

- Muscarinic M receptors- constipation, dry mouth, arrhythmia
- Histamine H1 receptors- sedation
- 5HT receptors - weight gain due to increased appetite
- Alpha1 receptors - postural hypotension.

Solution to Question 17:

Electroconvulsive therapy (ECT) is the treatment of choice for depression with suicidal thoughts and refractory depression.

Modified ECT uses short-acting anaesthesia and short-acting muscle relaxants.

Treatment of depression:

- In recent-onset mild depression, cognitive behavioural therapy (CBT) is preferred and antidepressants are not recommended.
- For moderate to severe depression and dysthymia - Antidepressants (SSRIs) + CBT.
- For treatment-resistant depression, recommended strategies include augmentation with lithium or an antipsychotic or the addition of a second antidepressant
- For severe and treatment-resistant depression - Electroconvulsive therapy (ECT) can also be used.

Somatic and newer treatment modalities for depression include:

- Vagus nerve stimulation for resistant depression
- Repeated transcranial magnetic stimulation
- Phototherapy
- Deep brain stimulation.

Solution to Question 18:

Lithium is a mood stabilizer with an anti-suicidal role.

Maintenance treatment with lithium has been shown to significantly decrease the rate of suicide in patients diagnosed with mood disorders when compared to other mood stabilizers such as carbamazepine, lamotrigine, and valproate.

Lithium is also used as an augmentation agent in treatment-resistant depression. Recurrent depression with a cyclic pattern can be controlled by either lithium or imipramine.

Solution to Question 19:

The given clinical scenario points towards a diagnosis of recurrent depressive disorder. Long episode duration is a risk factor for recurrent depression.

Risk factors:

- Family history of depression
- Recurrent dysthymia

- Concurrent non-affective psychiatric illness
- Female gender
- Long episode duration
- Degree of treatment resistance
- Chronic medical illness
- Social factors (lack of confiding relationships and psychosocial stressors)

Solution to Question 20:

The above scenario of an elderly depressed patient with memory loss and dementia syndrome is suggestive of pseudodementia. This syndrome has been termed as dementia syndrome of depression/depression with reversible dementia. The condition may improve or even completely subside after the remission of depression.

Pseudodementia is a condition that appears similar to dementia but does not have neurological degeneration. Such patients commonly complain of impaired concentration and forgetfulness.

Solution to Question 21:

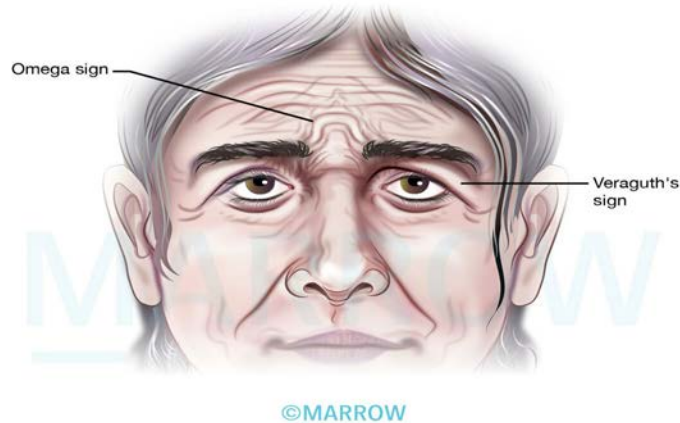
Anaclitic depression, also known as hospitalism, is a type of depression in infants where sudden separation from their primary caregivers leads to depression, withdrawal, nonresponsiveness, and loss of milestones in the infants. However, they recover when their mothers return or when surrogate mothering is available.

Solution to Question 22:

In the given image, the arrow indicates Veraguth's sign or Veraguth's fold, a diagonal palpebral fold running from the lateral corners of the eyes, medially upward to the medial end of the eyebrows. It is a physical sign of depression.

Another physical sign of depression is the Omega sign. In this, there is vertical wrinkling between the eyebrows joined at the top by a horizontal crease.

Omega Sign and Veraguth's Sign



Solution to Question 23:

Sleep-onset insomnia is a characteristic feature of anxiety disorder, not melancholia.

Melancholia is one of the oldest terms used in psychiatry, to describe the dark mood of depression. It is still used to refer to a state of depression characterized by:

- Severe anhedonia
- Early morning awakening (terminal insomnia)
- Weight loss
- Profound feelings of guilt (often over trivial events)

Melancholia is sometimes referred to as "endogenous depression" or depression that arises in the absence of external life stressors or precipitants.

Solution to Question 24:

Persons with hysteroid dysphoria respond well to treatment with monoamine oxidase inhibitors.

Hysteroid dysphoria is a type of atypical depression. The following features can be seen in this condition:

- Reversed vegetative symptoms:
- Insomnia
- Tendency to oversleep and to overeat
- Mood worsens in the evening
- Extreme sensitivity to rejection (hallmark feature)

- Impaired anticipatory pleasure (prediction of pleasure from a future reward), but affected persons are capable of mood reactivity i.e., their mood brightens in response to positive events
- Craving for chocolate
- Like patients with bipolar depression, they respond preferentially to monoamine oxidase inhibitors (MAOIs).

Solution to Question 25:

Major depressive disorder with seasonal pattern is the most likely diagnosis in this scenario.

Features of major depressive disorder with seasonal pattern:

- Onset and remission of major depressive episodes at specific times of the year.
- In most cases, the episodes begin in the fall or winter and remit in spring.
- This pattern of onset and remission of episodes must have occurred during at least a 2-year period, without any nonseasonal episodes during this period.
- In addition, the seasonal depressive episodes must substantially outnumber any nonseasonal depressive episodes over the individual's lifetime.
- Absence of seasonally linked psychosocial stressors (e.g., seasonal unemployment or school schedule).
- Major depressive episodes that occur in a seasonal pattern are often characterized by prominent energy, hypersomnia, overeating, weight gain, and a craving for carbohydrates.

Note: According to ICD-11, seasonal depressive disorder is included under recurrent depressive disorders.

Solution to Question 26:

Major depressive disorder is the most likely diagnosis in this case.

DSM-V criteria for diagnosis of depression:

- Depressed mood most of the day
- Anhedonia- diminished interest in day-to-day activities
- Significant weight loss or weight gain and/or change in appetite.
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness or excessive, inappropriate guilt
- Diminished ability to think or concentrate, indecisiveness

- Recurrent thoughts of death and suicide

At least five out of nine symptoms must be present over a two-week period and one symptom must be depressed mood or anhedonia.

Major depressive disorder with seasonal pattern (option B) is not the diagnosis as there is the presence of a psychosocial stressor (e.g., seasonal unemployment or school schedule). It is explicitly mentioned in the question that the patient always remains unemployed during the winter months which acts as the objective psychological stressor in this case.

Major depressive disorder with seasonal pattern refers to the onset and remission of major depressive episodes at specific times of the year. In most cases, the episodes begin in the fall or winter and remit in spring. Major depressive episodes that occur in a seasonal pattern are often characterized by prominent energy, hypersomnia, overeating, weight gain, and a craving for carbohydrates. This pattern of onset and remission of episodes must have occurred during at least a 2-year period, without any nonseasonal episodes during this period.

Dysthymia (option C) is the presence of a persistently depressed mood that lasts most of the day and is continuous. There are also feelings of guilt, irritability, and anger associated with it. These symptoms are present for at least 2 years. Dysthymia will also never present with an episode of mania/hypomania.

Cyclothymia (option D) is a mild form of bipolar II disorder, characterized by symptoms of hypomania and mild depression. Hypomania mainly includes symptoms like persistently elevated or irritable mood and abnormally increased energy lasting for at least 4 consecutive days. The depression seen in cyclothymia does not qualify the criteria for a major depressive episode.

Solution to Question 27:

Phototherapy was introduced as a treatment for seasonal affective disorder.

In this disorder, patients typically experience depression as the photoperiod of the day decreases with advancing winter.

Phototherapy typically involves exposing the affected patient to bright light in the range of 1,500 to 10,000 lux or more, typically with a lightbox. The patient sits in front of this lightbox for approximately 1 to 2 hours before dawn each day.

Solution to Question 28:

Since the patient fulfills the DSM-V criteria for major depressive disorder and has had an episode of auditory hallucination, a diagnosis of major depressive disorder with psychotic features is made.

Diagnostic criteria for depression:

- Depressed mood most of the day
- Anhedonia- diminished interest in day to day activities

- Significant weight loss or weight gain. Change in appetite.
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness or excessive, inappropriate guilt
- Diminished ability to think or concentrate, indecisiveness
- Recurrent thoughts of death, suicidal ideation

At least five out of nine symptoms must be present over a two week period and one symptom must be depressed mood or anhedonia.

In major depressive disorder with psychotic features, delusions and/or hallucinations are present along with the depression symptoms.

Solution to Question 29:

The manifestations given in the question are the side effects of tricyclic antidepressants (imipramine).

TCA's have anticholinergic side effects such as dry eyes, pupillary dilation, decreased sweating, urinary retention, and constipation.

These drugs are contraindicated in patients with glaucoma and benign prostatic hyperplasia.

Side effects of tricyclic antidepressants:

Receptor blocked	Side effect
Muscarinic receptor blockade	Anticholinergic- dry mouth, dilated pupils, tachycardia, urinary retention
Alpha 1 adrenergic receptor blockade	Drowsiness, postural hypotension, sexual dysfunction
H1 receptor blockade	Weight gain, drowsiness

Solution to Question 30:

Hypothermia is not a feature of serotonin syndrome.

Serotonin syndrome is characterized by 3 A's:

- Neuromuscular hyperactivity (clonus, hyperreflexia, hypertonia, tremor, and seizure)
- Autonomic stimulation (hyperthermia, diaphoresis, diarrhoea)
- Agitation.

It can occur with any drug that increases 5-HT (eg, MAOIs, SSRIs, SNRIs, TCAs, tramadol, ondansetron, triptans, linezolid, MDMA, dextromethorphan).

Treatment: Discontinuation of the offending drug, supportive management, cyproheptadine (5-HT₂ receptor antagonist).

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you may have been scammed.

Bipolar and Related Disorders

Question 1:

A man brings his wife to the psychiatric OPD, reporting concerns about her recent behaviour. She complains of irritability, distractibility, and reduced need for sleep. Her husband observes that she has an elated mood, talks excessively, and struggles to manage her daily activities. What is the most likely diagnosis?

- a) Schizophrenia
- b) Depression
- c) Hypomania
- d) Mania

Question 2:

A 20-year-old male presents to the OPD with decreased sleep, elation and talkativeness for the past 5 days. He also complains of irritability and distractibility. What is the diagnosis?

- a) Mania
- b) Anxiety disorder
- c) Hypomania
- d) Schizophrenia

Question 3:

A patient with a previously diagnosed psychiatric disorder presented for a follow-up in the OPD. He had mood swings fluctuating between short periods of mild depression and hypomania over 3 years. What is this disorder known as?

- a) Cyclothymia
- b) Bipolar I
- c) Bipolar II
- d) Dysthymia

Question 4:

As a first-year psychiatry resident, you see a patient diagnosed with bipolar type II disorder. Which of the following constitutes this disorder?

- a) Repeated episodes of mania
- b) Mania + hypomania
- c) Hypomania + major depression
- d) Mania + major depression

Question 5:

As an intern posted in psychiatry, you observe a patient with mania. Which of the following is true about neurotransmitters in this disorder?

- a) Decrease in serotonin
- b) Decrease in norepinephrine
- c) Increase in neuropeptide Y
- d) Increase in norepinephrine

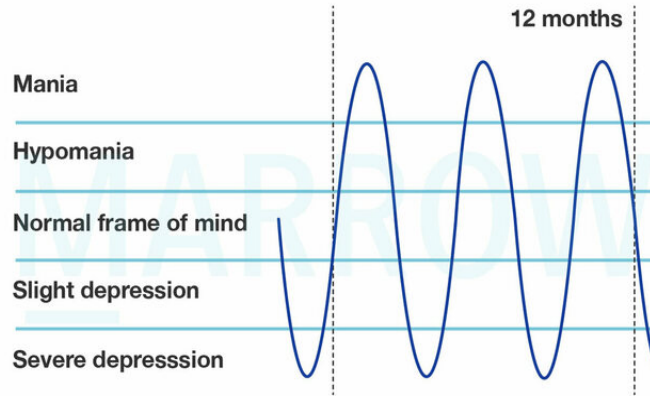
Question 6:

Which of the following statement is not true regarding the epidemiology of bipolar disorders?

- a) The lifetime prevalence of bipolar disorder is around 1%
- b) The average age of onset of bipolar I disorder is 30 years
- c) Prevalence is equal among both the sexes
- d) Prevalence is higher in higher socio-economic strata

Question 7:

A 40-year-old patient comes to the OPD with a history significant for a mood disorder. Her moods can be charted as done in the image given below. What is the diagnosis?



©Marrow

- a) Cyclothymia
- b) Dysthymia
- c) Rapid cycling disorder
- d) Hypomania

Question 8:

As a first-year psychiatry resident, you are consulting on a young man with depression. Which of the following would you not expect to see in this patient?

- a) Delusions
- b) Flight of ideas
- c) Early morning awakening
- d) Hallucination

Question 9:

Which of the following is not a risk factor for rapid cycling in bipolar disorder?

- a) Female sex
- b) Hypothyroidism
- c) Use of antidepressants
- d) BPAD 1

Question 10:

A 21-year-old was brought to your OPD by his worried parents. He frequently states that he is more learned than all his professors and is on the verge of a breakthrough. He barely slept and spent long hours talking to his friends about the importance of his ideas. His parents confirmed that he had some periods of withdrawal and depression during his adolescence. What is the drug of choice for the maintenance therapy of this disorder?

- a) Lithium
- b) Valproic acid
- c) Carbamazepine
- d) Anti-psychotics

Question 11:

What is the upper limit of serum lithium above which a patient is said to have lithium toxicity?

- a) 0.8 mEq/L
- b) 2.5 mEq/L
- c) 0.5 mEq/L
- d) 1.5 mEq/L

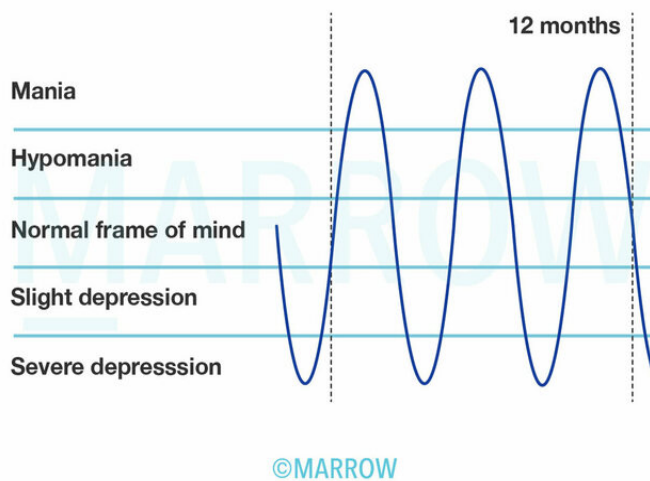
Question 12:

A 35-year-old man with bipolar disorder comes to the clinic for a routine follow-up. His condition was difficult to control and required treatment with multiple medications over the past two years. The patient says his mood has been stable with his current regimen, but for the past three months, he has had tremors primarily affecting his hands. Which of the following drugs is the most likely cause?

- a) Carbamazepine
- b) Gabapentin
- c) Lamotrigine
- d) Lithium carbonate

Question 13:

A patient comes to the OPD with a history significant of a mood disorder. His moods can be charted as shown in the image. What will be the best drug for him?



- a) Lamotrigine
- b) Sodium valproate
- c) Carbamazepine
- d) Lithium

Question 14:

A baby born to a woman taking prophylactic medication for manic disorder is cyanotic, lethargic, and hypotonic. Which other finding is the baby most likely to have?

- a) Renal agenesis
- b) Anencephaly
- c) Tricuspid valve displacement
- d) Ventricular septal defect

Answer Key

Question No.	Correct Option
1	d

2	c
3	a
4	c
5	d
6	b
7	c
8	b
9	d
10	a
11	d
12	d
13	b
14	c

Detailed Explanations

Solution to Question 1:

The given clinical history of decreased sleep, elation, talkativeness, irritability, and distractibility present for at least 1 week is characteristic of mania.

Diagnostic criteria for mania.

A. Distinct period of abnormally and persistently elevated/irritable mood, abnormally and persistently increased activity/energy, lasting at least 1 week or any duration if hospitalization is necessary.

B. During the period of mood disturbance and increased energy/activity, three (or more) of the following symptoms and four (or more) if irritable have been present to a significant degree:

- Inflated self-esteem or grandiosity
- Decreased need for sleep
- More talkative than usual
- Flight of ideas
- Distractibility
- Increase in goal-oriented activity or psychomotor agitation
- Excessive involvement in activities that have a high potential for painful consequences

C. The episode is severe enough to cause marked social or occupational impairment or to necessitate hospitalization.

D. The episode is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication, other treatment) or to another medical condition.

Solution to Question 2:

The given clinical scenario of symptoms of mania occurring for at least 4 days points towards a diagnosis of hypomania.

Diagnostic criteria for hypomania:

A. Distinct period of abnormally and persistently elevated/irritable mood, abnormally and persistently increased activity/energy, lasting for at least 4 consecutive days.

B. During the period of mood disturbance and increased energy and activity, three (or more) and if irritable, four (or more) of the following symptoms have been present to a significant degree:

- Inflated self-esteem or grandiosity
- Decreased need for sleep
- More talkative than usual
- Flight of ideas
- Distractibility
- Increase in goal-oriented activity or psychomotor agitation
- Excessive involvement in activities that have a high potential for painful consequences (for example, foolish business investments).

C. The episode is associated with an unequivocal change in functioning that is uncharacteristic of the individual when not symptomatic and is observable by others.

D. The episode is not severe enough to cause marked impairment in social or occupational functioning or to necessitate hospitalization. No psychotic episodes.

E. The episode is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication, other treatment) or to another medical condition.

Solution to Question 3:

Cyclothymia is a chronic disorder characterized by at least 2 years of fluctuating, mild hypomanic & depressive symptoms (that do not meet the full criteria for hypomanic episodes or major depressive episodes). It is a symptomatically milder form of bipolar II disorder.

Dysthymia (persistent depressive disorder) is characterized by at least 2 years of depressed mood that does not satisfy the criteria for a major depressive episode and with no episodes of mania or hypomania. In children, a diagnosis of dysthymia is made if depressive symptoms are present for more than 1 year.

Solution to Question 4:

Episodes of hypomania and major depressive disorder constitute bipolar type II disorder.

Types of bipolar disorder:

Bipolar I: Episodes of mania with or without episodes of major depressive disorder (at least one-lifetime episode of mania is required for diagnosis)

Bipolar II: Episodes of hypomania with episodes of major depressive disorder (negative history of a manic episode is required for diagnosis)

Solution to Question 5:

In mania, there is an increase in norepinephrine and dopamine levels.

Solution to Question 6:

The average age of onset of bipolar I disorder is 20 years, and in more than half of the cases, the onset is frequently in late adolescence.

The lifetime prevalence of bipolar disorder is 1.2% and prevalence is equal in both genders (unlike depression, which has a higher prevalence among females than males).

The prevalence of bipolar disorder is higher in higher socio-economic strata. By contrast, schizophrenia has a higher prevalence in the lower socio-economic strata.

Note: The mean age of onset of depression is 40 years.

Solution to Question 7:

The given image showing 3 episodes of mania and 2 episodes of depression within 1 year, points towards a diagnosis of rapid cycling bipolar disorder.

It is diagnosed when the patient has a combination of 4 or more alternating episodes of depression and mania/hypomania within one year. There must be less than 2 weeks of normalcy between the episodes or an immediate shift between the symptoms with no intervening normal mood.

Risk factors:

- Female patients
- Hypothyroidism
- Alcoholism or substance abuse
- Antidepressants (if used without mood stabilizers)
- Cyclothymia
- Bipolar II disorder

Note: If the phases of mania and depression alternate very rapidly in a matter of hours or days then the condition is known as ultra-rapid cycling disorder.

Solution to Question 8:

Flight of ideas is a sign of mania and is not seen in depression.

Early morning awakening is also known as terminal insomnia and is seen in depression.

Severely depressed patients sometimes present with mood-congruent delusions or hallucinations and are said to have a major depressive episode with psychotic features.

Mood congruent psychotic features	Mood incongruent psychotic features
Consistent with the mood	Not consistent with the mood
Occurs in mood disorders with psychotic features	Occurs in schizophrenia
E.g., Delusions of guilt, sinfulness, worthlessness, poverty, failure, persecution, and command hallucinations to kill oneself, in a person with a depressed mood.	E.g., Delusion of exaggerated power, knowledge, and worth in a person with a depressed mood

Solution to Question 9:

Bipolar affective disorder II (BPAD II) is a risk factor of rapid cycling (not BPAD I).

Risk factors for developing rapid cycling include:

- Female patients
- Hypothyroidism
- Alcoholism or substance abuse
- Antidepressants (if used without mood stabilizers)
- Cyclothymia
- Bipolar II disorder

Solution to Question 10:

The given clinical scenario is suggestive of bipolar disorder. Lithium is the drug of choice for maintenance therapy of bipolar disorder.

It is also the most effective long-term treatment choice for bipolar disorder.

Solution to Question 11:

Lithium toxicity is considered when the blood concentration reaches 1.5 mEq/L (or more).

Blood concentration of lithium in the treatment of mood disorders:

- For treatment: 0.8 - 1.2 mEq/L
- For prophylaxis: 0.5 - 0.8 mEq/L
- Toxic levels: \geq 1.5 mEq/L

Manifestations of lithium toxicity:

- Acute: Coarse tremors (most common), delirium, dementia, seizures, and increase in deep tendon reflexes
- Chronic: Nephrotoxicity (lithium-induced nephrogenic diabetes insipidus), hypothyroidism

The most effective means of treating lithium toxicity is dialysis. It is necessary for severe poisoning cases, where:

- The patient is exhibiting symptoms of toxicity, or
- Lithium concentration is 4 mEq/L or more.

Solution to Question 12:

Lithium carbonate is most likely to cause the tremors described in the given scenario.

Tremors are a common adverse effect of lithium carbonate. They are sometimes related to peak serum lithium levels.

Dividing the dose of lithium carbonate and decreasing caffeine intake can decrease the severity of the tremors. In case of severe coarse tremors, lithium carbonate toxicity (serum lithium level greater than 2.5 mEq/L) must be ruled out.

Options A and C: Carbamazepine and lamotrigine are off-label agents used for the management of bipolar disorder, however, they do not cause tremors.

Option B: Tremors may occur as an adverse effect of gabapentin, but it is not prescribed for the management of bipolar disorder.

Solution to Question 13:

The patient has rapid-cycling bipolar disorder. Sodium valproate is the drug of choice for this disorder.

Diagnosis of rapid-cycling bipolar disorder:

- 4 or more mood disturbances in a year

Episodes either have a partial or full remission for at least 2 months or switch to the opposite polarity

Other options:

Option A: Lamotrigine has been found to have limited uses in rapid-cycling bipolar disorder. It can prolong the time between depression and mania.

Option C: Carbamazepine takes 2-3 weeks for the onset of action and is used in patients not responding to Lithium in Acute Mania.

Option D: Lithium takes 5-7 days to achieve a level of equilibrium, moreover it is effective in Bipolar I disorder and is less efficacious than Divalproex in rapid-cycling bipolar disorder.

Solution to Question 14:

The given clinical features are seen in Ebstein's anomaly. This is a rare congenital cyanotic heart disease caused by the downward displacement of the tricuspid valve into the right ventricle. It is a teratogenic effect of lithium, a drug used for prophylaxis in manic disorder.

Lithium is thus avoided in the first trimester and during lactation. An antipsychotic like olanzapine should be considered instead of prophylactic management.

If lithium is to be continued, then:

- The dose should be tapered to the lower end of the therapeutic range
- It should be given in divided doses
- The levels should be checked every two weeks
- The woman should be hydrated well throughout labour
- Withholding lithium therapy for 24-48 hours before delivery is recommended

Alcohol-Related Disorders

Question 1:

Which of the following is the most common substance abused in India?

- a) Alcohol
- b) Cannabis
- c) Inhalants
- d) Caffeine

Question 2:

Which of the following is not a criterion for substance use disorder under DSM-5?

- a) Substance is taken in larger amounts or for longer than intended
- b) Use despite substance-related legal problems
- c) Prior unsuccessful efforts to control substance use
- d) Use causes arguments with spouse and domestic abuse

Question 3:

A 49-year-old man was brought to the casualty by the local police after they found him lying in a roadside drain. On examination, his speech was slurred and he was unable to recall any of the events that happened in the past 2 hours. His serum alcohol level was 260 mg/dl. His cognitive deficits can be attributed to the action of alcohol on which of the following receptors?

- a) GABA-A receptor
- b) GABA-B receptor
- c) NMDA receptor
- d) Glycine receptor

Question 4:

In the clinical assessment of patients with alcohol use disorder, which of the following is not used?

- a) Fagerstrom tolerance questionnaire
- b) SADQ questionnaire
- c) CAGE questionnaire
- d) AUDIT test

Question 5:

The police charged two college students with drunken driving and brought them to the hospital for confirmation of their alcohol levels. On examination, the driver did not appear drunk and denied the charges, while the other student was clearly drunk and was barely conscious. However, the blood reports came back suggesting both of them having similarly elevated levels of alcohol. Which of the following is a possible explanation for this observation?

- a) Mellanby effect
- b) Intermediate syndrome
- c) Reverse tolerance
- d) Grand Rapids effect

Question 6:

A middle-aged man has been regularly consuming around 750 mL of alcohol for the past 20 years. Of late, he has noticed that he is able to obtain the same effect with just a quarter bottle. What is this phenomenon called?

- a) Tachyphylaxis
- b) Desensitization
- c) Reverse tolerance
- d) Cross tolerance

Question 7:

Which among the following is not an anti-craving drug?

- a) Acamprosate
- b) Naltrexone

- c) Disulfiram
- d) SSRI

Question 8:

A patient has been admitted to the psychiatry wards for alcohol deaddiction. Which of the following medications will not be used in the maintenance phase?

- a) Chlordiazepoxide
- b) Naltrexone
- c) Acamprosate
- d) Disulfiram

Question 9:

In a patient experiencing alcohol withdrawal, which of the following is the first symptom that becomes clinically noticeable?

- a) Delirium
- b) Seizure
- c) Nausea and vomiting
- d) Tremulousness

Question 10:

A 40-year-old man was admitted to the COVID ICU. On the third day, he developed diffuse tremors and breathing difficulty, and was noted to be restless. Suddenly he started scratching and tearing at his skin, screaming of insects crawling all over his body. He then had one episode of seizures which was controlled with lorazepam. On probing further, it was found out that he is a chronic alcoholic. What is the likely diagnosis?

- a) ICU psychosis
- b) Alcohol intoxication
- c) Wernicke-Korsakoff Psychosis
- d) Delirium tremens

Question 11:

Which of the following is not a treatment option in alcohol withdrawal delirium?

- a) Lorazepam
- b) Antipsychotics
- c) Chlordiazepoxide
- d) High calorie diet with multivitamins

Question 12:

A 52-year-old man, with a history of alcohol use presented after a fall. He appeared malnourished, confused, and had grossly impaired memory. On neurological examination, he had reduced coordination, an ataxic gait, dysarthria, and tremors. Despite initiating treatment for alcohol withdrawal and detoxification, his symptoms persisted. An MRI of his brain revealed symmetrical demyelination of the corpus callosum. Which of the following statements is true regarding the given condition?

- a) Patients usually have ophthalmoplegia.
- b) Medial thalamic nuclei and mammillary bodies are involved.
- c) MRI shows 'sandwich' sign.
- d) It is a complication of acute alcohol intoxication

Question 13:

A 64-year-old man was brought to the casualty with confusion and gait instability. Medical history is significant for alcohol use disorder, requiring multiple hospitalizations in the past. On examination, he appears inattentive, has bilateral horizontal nystagmus, and his gait is slow and wide-based. What is the next step in management?

- a) Administer IV dextrose
- b) Give haloperidol injection
- c) Give thiamine injection
- d) Correct electrolytes

Question 14:

A psychiatry resident is evaluating a chronic alcoholic patient admitted to the ward. When asked about his day, he correctly remembered that he was wheeled out of the ward, but then went on to tell a story of a trip he made to the nearby park, which did not occur. He also

made up random names as he went on talking about his children. What is the most likely diagnosis?

- a) Alcohol withdrawal
- b) Acute alcohol intoxication
- c) Wernicke's encephalopathy
- d) Korsakoff's psychosis

Answer Key

Question No.	Correct Option
1	a
2	b
3	c
4	a
5	a
6	c
7	c
8	a
9	d
10	d
11	b
12	c
13	c
14	d

Detailed Explanations

Solution to Question 1:

Among the given options, alcohol is the most commonly abused substance.

Note: Cannabis is the most commonly used illegal drug in the world.

Solution to Question 2:

The use of illegal drugs or drug-related legal problems is not an exclusive criterion to diagnose substance use disorder under DSM-5.

Substance use disorder can occur with legally available substances like alcohol, tobacco and some prescription drugs.

Substance use disorder is defined as a maladaptive pattern of substance use leading to clinically significant impairment. It is manifested by 2 or more out of 11 criteria occurring within a 12-month period.

DSM-5 criteria for diagnosing substance use disorder:

- Recurrent substance use resulting in failure to fulfill obligations at work, school, or home. e.g., substance-related absences or expulsions from school.
- Recurrent substance use even in physically hazardous situations e.g., driving an automobile when impaired by substance use.
- Continued substance use despite having persistent social problems caused by the effects of the substance e.g., arguments with the spouse.
- Continued substance use despite having a physical or psychological problem that is likely to have been caused by the substance.
- The substance is often taken in larger amounts or over a longer period than was intended.
- Efforts are made to cut down or control substance use but are unsuccessful.
- Tolerance - there is markedly diminished desired effect with continued use of the same amount of the substance, hence there is a need for increased amounts of the substance to achieve intoxication.
- Withdrawal - developing characteristic withdrawal symptoms for the substance, which can be relieved by taking the same or closely related substance.
- Craving or a strong desire or urge to use a specific substance.
- A great deal of time is spent to obtain the substance, use the substance, or recover from its effects.
- Important activities are given up or reduced because of substance use.

Solution to Question 3:

The given scenario describes a case of an alcoholic blackout. NMDA receptor is implicated in many aspects of cognitive function including learning and memory.

"Blackouts" are periods of anterograde memory loss that occur due to alcohol intoxication when the blood level of alcohol is between 200-300 mg/dl. It is due to the inhibition of the action of glutamate on NMDA receptors.

Impairment likely to be seen at various blood alcohol levels is shown below:

Level (mg/dL)	Impairment
20–30	Slowed motor performance and decreased thinking ability
30–80	Increase in motor and cognitive problems
80–200	Increase in incoordination and judgment errors Mood lability Deterioration in cognition
200–300	Nystagmus Marked slurring of speech Alcoholic blackouts
>300	Impaired vital signs and possible death

Solution to Question 4:

Fagerström tolerance questionnaire and its revision, Fagerström Test for Nicotine Dependence (FTND) are used in the assessment of nicotine addiction related to cigarette smoking. It contains six items that evaluate the quantity of cigarette consumption, the compulsion to use, and dependence.

Option B: Severity of Alcohol Dependence Questionnaire (SADQ-Q) was developed to assess the severity of alcohol dependence.

Option C: The CAGE questionnaire is used to assess whether or not there is a problem with dependence.

- C - Have you ever felt you ought to cut down on your drinking?
- A - Have people annoyed you by criticizing your drinking?
- G - Have you ever felt guilty or bad about your drinking?
- E - Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye-opener)?

One 'yes' response raises a suspicion of an alcohol use problem and more than one is a strong indication of abuse or dependence.

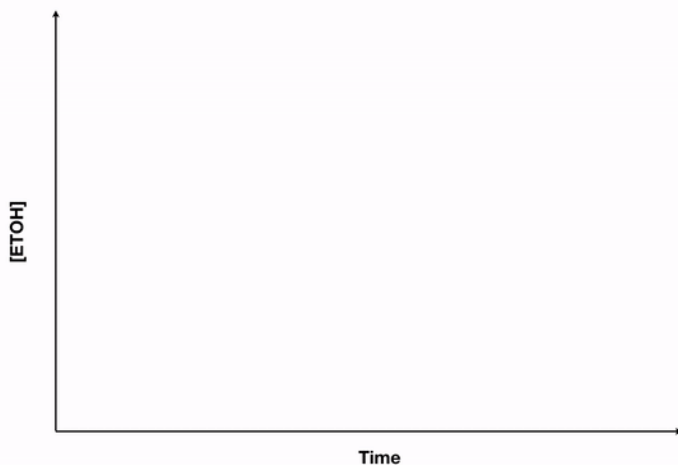
Option D: The Alcohol Use Disorders Identification Test (AUDIT) is a 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviors, and alcohol-related problems. The AUDIT also helps to identify alcohol dependence and some specific consequences of harmful drinking.

Solution to Question 5:

The given situation can be best explained by the Mellanby effect.

The Mellanby effect is the phenomenon where an individual's perceived level of impairment at identical blood alcohol concentration (BAC) levels is greater when the BAC is rising (while drinking) than when it is falling (after drinking).

The clip below describes the Mellanby effect seen originally in a dog experiment.



Option B: Intermediate syndrome is a delayed-onset of muscular weakness and paralysis following an episode of organophosphate (acute cholinesterase inhibitor) poisoning.

Option C: Reverse tolerance refers to the phenomenon when an individual requires a lesser dose of alcohol (drug) to obtain the same effect as before.

Option D: Grand Rapids effect or dip is a controversial effect noted in certain studies where a BAC of 0.01–0.04% slightly lowered the risk of being in a vehicle accident when compared to a BAC of 0.00%

Solution to Question 6:

When an individual requires a lesser dose of alcohol (drug) to obtain the same effect as before, this phenomenon is known as reverse tolerance.

In alcoholics, it is a sign of late-stage alcoholism, where the patient has developed cirrhosis. The liver doesn't produce enough enzymes like before to metabolize alcohol leading to increased blood alcohol levels.

Option A: Tachyphylaxis is the rapid development of tolerance when a drug is repeatedly used in quick succession, resulting in a marked reduction in response.

Option B: Desensitization may be equivalent to drug tolerance and refers to a diminished response/effect with continued use of the same dose of the substance.

Option D: Cross-tolerance is a phenomenon that occurs when tolerance to the effects of one drug produces tolerance to another drug. It often happens between two drugs with similar pharmacological actions. eg. alcohol and benzodiazepines (both are depressants).

Note: A quarter bottle is approximately 180 ml.

Solution to Question 7:

Disulfiram is a deterrent agent, not an anti-craving drug. It is an irreversible aldehyde dehydrogenase inhibitor.

Acetaldehyde is the first breakdown product of alcohol, which is further metabolized by aldehyde dehydrogenase. If a patient who is on disulfiram consumes alcohol, it results in toxic levels of acetaldehyde.

This causes symptoms such as flushing, pulsating headache, nausea, vomiting, respiratory difficulties, chest pain, and autonomic manifestations, collectively termed as disulfiram ethanol reaction (DER).

Other deterrent agents include citrated calcium carbamide and metronidazole.

Anti-craving drugs used in alcohol deaddiction include:

- Baclofen
- Acamprosate
- Naltrexone
- Newer drugs are topiramate, SSRI and ondansetron

Alcohol deaddiction treatment involves the following phases:

1. Intervention - aimed at maximizing the motivation for treatment and continued abstinence.
2. Detoxification - involves minimizing withdrawal symptoms.
3. Rehabilitation and maintenance - includes three major components:
 - Continued efforts to increase and maintain high levels of motivation for abstinence
 - Work to help the patient readjust to a lifestyle free of alcohol
 - Relapse prevention

Solution to Question 8:

Chlordiazepoxide is a benzodiazepine drug used in alcohol withdrawal and the detoxification phase of management.

All the other given drugs are approved for maintenance therapy and to prevent relapse:

- Naltrexone - It is an orally active opioid antagonist.
- Acamprosate - An NMDA receptor antagonist with modest GABA A receptor agonistic activity.
- Disulfiram - A deterrent drug that works by inhibiting the aldehyde dehydrogenase enzyme.

Solution to Question 9:

Tremulousness is the first withdrawal symptom of alcohol abuse. It is commonly called shakes or jitters and develops 6 to 8 hours after the cessation of drinking. It is the classical sign of alcohol withdrawal.

Solution to Question 10:

The given clinical scenario of a chronic alcoholic patient who has not consumed alcohol in the last few days (due to ICU admission) with tremors, hallucinations, and seizures, is suggestive of delirium tremens.

Delirium tremens is a medical emergency that occurs during alcohol withdrawal. It is an acute condition with symptoms of both delirium and alcohol withdrawal. It develops within 48-72 hours after the last drink.

Clinical features include:

- Clouding of consciousness with disorientation
- Perceptual distortions, most frequently visual or tactile hallucinations
- Autonomic hyperactivity with tachycardia, fever, anxiety, insomnia, hypertension, sweating
- Fluctuating levels of psychomotor activity, ranging from agitation to lethargy
- Altered sleep-wake cycle

Note: Alcoholic hallucinosis occurs during alcohol intoxication as well as withdrawal.

Solution to Question 11:

Antipsychotics are not the treatment option of alcohol withdrawal delirium. Antipsychotic medications may reduce the seizure threshold in these patients and should be avoided.

The best treatment for delirium tremens is prevention. Patients withdrawing from alcohol who exhibit withdrawal phenomena should receive benzodiazepines, such as 25 to 50 mg of chlordiazepoxide every 2 to 4 hours until they seem to be out of danger.

Once the delirium appears, 50 to 100 mg of chlordiazepoxide should be given every 4 hours orally, or lorazepam should be given intravenously (IV) if oral medication is not possible.

A high-calorie, high-carbohydrate diet supplemented by multivitamins is also important. Carbohydrates increase the serotonin levels similar to alcohol, lowering the rates of withdrawal seizures.

Solution to Question 12:

The given clinical scenario is suggestive of Marchiafava Bignami disease (MBD). It is characteristically associated with a 'sandwich' sign on MRI.

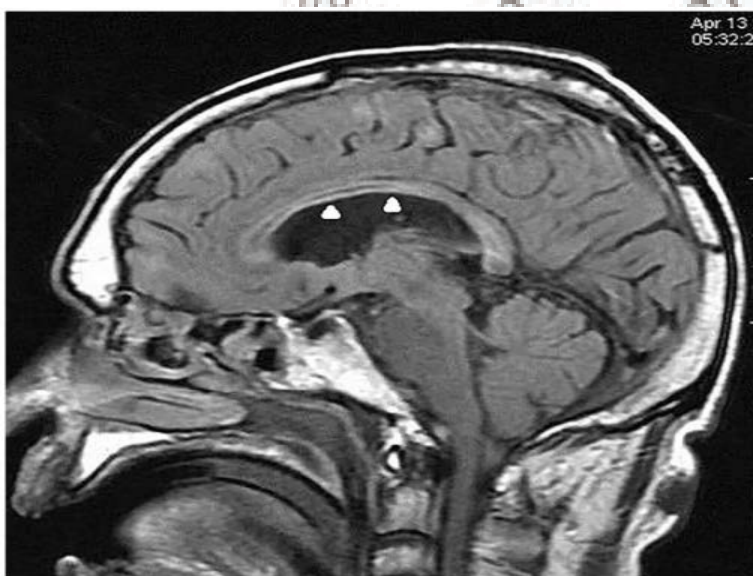
MBD is a rare, idiopathic CNS disorder seen as a complication of chronic alcoholism. Early symptoms may include depression, paranoia, psychosis, or dementia. Seizures, hemiparesis, aphasia, and abnormal movements, and ataxia are also seen. If not promptly identified and treated may progress to coma and death.

It is associated with central degeneration of corpus callosum, sparing the dorsal and ventral parts. This characteristic pattern of degeneration presents as the 'sandwich' sign, best visualized on sagittal MRI of the brain.

Clinically, conditions such as Wernicke's encephalopathy, delirium tremens, or pontine demyelination may have similar presentations and their features may overlap. Hence neuroimaging plays a significant role in the accurate diagnosis of MB disease.

Ophthalmoplegia and involvement of mamillary bodies and medial thalamic nuclei are associated with Wernicke-Korsakoff syndrome, not MBD.

The sagittal MRI image given below shows the characteristic 'sandwich' sign in Marchiafava Bignami disease.



Solution to Question 13:

The given clinical scenario is suggestive of Wernicke's encephalopathy, which is a medical emergency. Thiamine administration (100 mg IV or IM for 3 days followed by two to three times a day orally for 1 to 2 weeks) may reduce the risk of it progressing to chronic Korsakoff psychosis which is irreversible.

Wernicke-Korsakoff syndrome is seen due to the deficiency of thiamine (vitamin B1). Thiamine is a cofactor (TPP) in glucose metabolism. Thus, starting dextrose infusions before thiamine administration will exacerbate the existing thiamine deficiency, precipitating Wernicke's disease. Thiamine is also involved in the conduction of the axon potential and synaptic transmission.

Alcohol abuse leads to thiamine deficiency by the following mechanisms:

- Poor nutritional habits
- Folate deficiency - reduces thiamine absorption from the gastrointestinal tract
- Direct damage of the intestinal mucosa

Wernicke's encephalopathy/alcoholic encephalopathy is an acute neurological disorder characterized by the clinical triad (GOA):

- Global Confusion
- Ophthalmoplegia (first symptom to improve with thiamine +dextrose infusion)
- Ataxia

Solution to Question 14:

The given clinical scenario is suggestive of confabulation. It is one of the features of Korsakoff's psychosis. Confabulation is filling up gaps in memory with false stories.

Korsakoff's psychosis is a chronic amnesic syndrome that can follow Wernicke's encephalopathy due to thiamine deficiency (secondary to alcoholism). The cardinal features are impaired mental syndrome and anterograde amnesia. Only 20% of patients recover with treatment (whereas in Wernicke's encephalopathy there is complete reversal with treatment).

Clinical features:

- Impaired mental syndrome - especially recent memory
- Striking inability to form new memories - severe anterograde amnesia
- Retrograde amnesia is less severe.
- Present with confabulation as an attempt to cover the memory deficit
- There is a lack of insight and no intellectual functional loss.
- Overall intact intelligence
- Implicit learning (e.g., learning procedures) is preserved.
- Long-term and immediate memory is normal.

Treatment: Thiamine is given 100mg orally two to three times daily for 3 to 12 months.

Other Substance Use Disorders

Question 1:

Which of the following substances do not lead to physical dependence?

- a) LSD
- b) Amphetamine
- c) Opioids
- d) Nicotine

Question 2:

A patient undergoing withdrawal from which of the following drugs is least likely to experience suicidal thoughts?

- a) Barbiturates
- b) Alcohol
- c) Opioids
- d) LSD

Question 3:

A 34-year-old man who came to the dermatology clinic for acne complaints was incidentally noted to have multiple scars suspected to be from 'skin popping'. He is most likely to be abusing which of the following drugs?

- a) Opioid
- b) Cannabis
- c) Mescaline
- d) LSD

Question 4:

A college student was brought to the casualty by his friends after he was found unresponsive in his hostel room. On examination, his respiratory rate was 8 breaths per minute, BP: 80/60

mmHg, and had pinpoint pupils. What is the most probable cause of these findings?

- a) Cocaine intoxication
- b) Alcohol intoxication
- c) Heroin withdrawal
- d) Opioid intoxication

Question 5:

A middle-aged man was brought to the ED with suspected morphine overdose. He was intubated and mechanical ventilation was started. What is the drug of choice to be administered in this patient?

- a) IV Naloxone
- b) IM Methadone
- c) IV Clonidine
- d) Oral Naltrexone

Question 6:

An anxious 45-year-old man comes to the casualty, drenched in sweat. He is constantly wiping secretions from his mouth and nose and also complains of abdominal cramps. On examination, his BP is elevated and mydriasis is seen. On further questioning, he reluctantly reveals a history suggestive of drug abuse. Which of the following is most likely to be the cause?

- a) Alcohol withdrawal
- b) Heroin withdrawal
- c) Cocaine withdrawal
- d) Cannabis withdrawal

Question 7:

Which of the following drugs is also known by the street name 'crack'?

- a) Cannabis
- b) Heroin
- c) Cocaine

d) Gamma Hydroxy Butyrate

Question 8:

A 21-year-old student, with his mother, presented to the OPD with complaints of reduced concentration, and a lack of motivation related to attending college. Initially, only his attendance, classwork, and performance in exams were affected but lately, his mother adds that he has lost interest in going out to eat or even maintaining personal hygiene. On probing further, he gives a history of substance abuse. Which of the following is most likely?

- a) Cannabis
- b) Cocaine
- c) LSD
- d) Alcohol

Question 9:

Which drug is commonly associated with flashback phenomenon?

- a) Barbiturates
- b) Benzodiazepines
- c) Cannabis
- d) Cocaine

Question 10:

Angel dust is a street name for which drug?

- a) Phencyclidine
- b) LSD
- c) Heroin
- d) Ketamine

Question 11:

A patient who was initially admitted with a history suggestive of paranoid schizophrenia is now suspected to have drug-induced psychosis. Which of the following drugs is the most

likely causative agent?

- a) Clonidine intoxication
- b) Amphetamine abuse
- c) LSD abuse
- d) Cannabis abuse

Question 12:

A man was brought in for questioning after a teenager was found dead at a Goa rave party. He reveals that he runs a nightclub in the city and that he has noticed anonymous people selling certain drugs that can enhance energy, endurance, and sociability in the clubbers who take them. Which of the following drugs is he most likely referring to?

- a) Cocaine
- b) Methamphetamine
- c) Heroin
- d) Cannabis

Question 13:

A 25-year-old male presented to the clinic with a complaint of the feeling of insects crawling under the skin. Which of the following drug abuse can cause the symptoms of this patient?

- a) Cannabis
- b) Cocaine
- c) Amphetamine
- d) Alcohol

Question 14:

Which of the following drugs is used as an anti-smoking agent?

- a) Busulfan
- b) Acamprosate
- c) Varenicline
- d) Gabapentin

Question 15:

A physician prescribed varenicline to a young smoker who wanted to quit smoking. About which of the following adverse effect should he be counselled about?

- a) Decreased seizure threshold
- b) Hepatotoxicity
- c) Skin rash
- d) Suicidal ideation

Answer Key

Question No.	Correct Option
1	a
2	d
3	a
4	d
5	a
6	b
7	c
8	a
9	c
10	a
11	b
12	b
13	b
14	c
15	d

Detailed Explanations

Solution to Question 1:

Neither physical dependence nor withdrawal symptoms occur with LSD, but a user can develop a psychological dependence on the insight-inducing experiences of episodes of hallucinogen use.

Physical dependence indicates an altered physiological state due to repeated administration of a drug, the cessation of which results in the appearance of a withdrawal syndrome characteristic of the particular drug.

Psychological dependence also referred to as habituation, is characterized by a continuous or intermittent craving (i.e., intense desire) for the substance to avoid a dysphoric state (state of unease or dissatisfaction with depression, anxiety, or agitation).

The physical and psychological dependence potential of MDMA (3,4 methylenedioxy-methamphetamine) is also not well established. It is an illegal, synthetic drug classified as a stimulant with potentially hallucinogenic properties.

Agents, known to cause strong physical and psychological dependence:

- Opioids
- Alcohol
- Nicotine
- Cannabis
- Barbiturates

Solution to Question 2:

Withdrawal symptoms do not occur with hallucinogens such as LSD. Withdrawal symptoms appear when the drug abuse leads to physical dependence.

Drugs that cause significant withdrawal symptoms:

- Alcohol
- Opioids
- Cocaine
- Nicotine
- Barbiturates
- BZD

Solution to Question 3:

Among the given options, opioid abuse is the most likely cause of the skin popping scars in this patient. Skin popping is a method of injecting illicit drugs into the skin. Drugs like heroin, cocaine, barbiturates can be injected intradermally or subcutaneously with the goal of achieving slower absorption, decreased risk of overdose, and easier administration than with intravenous drug use.

LSD and mescaline (hallucinogens) and cannabis are not taken through injections, but by oral route or through smoking.

The image given below shows circular depressed scars from skin popping.



Solution to Question 4:

The given clinical scenario is suggestive of opioid intoxication. Opioids include morphine, heroin, codeine, etc.

Opioid overdose (intoxication) is classically associated with the triad of coma, respiratory depression, and pinpoint pupils (miosis). Hypotension, bradycardia, and hypothermia are also seen.

Opioid withdrawal symptoms (mnemonic- O MY WITHDRAWALS):

- Mydriasis
- Yawning
- Weakness
- Insomnia, irritability
- Tremors, tachycardia
- Hyperthermia, hypertension
- Diarrhea
- Rhinorrhoea
- Apnoeic attacks
- Weight loss
- Anxiety
- Lacrimation
- Sweating

Solution to Question 5:

Intravenous naloxone is the drug of choice in acute morphine overdose.

The first step is to ensure an adequate airway. Intubation and mechanical ventilation may be necessary.

IV Naloxone is administered at a slow rate. Signs of improvement (increased respiratory rate and pupillary dilation) should occur promptly. If no response to the initial dosage, repeat after a few minutes. Repeated administration may be required to prevent recurrence of opioid toxicity because the duration of action of naloxone is less.

Solution to Question 6:

The clinical scenario describes a patient with the classic symptoms of heroin withdrawal.

Heroin withdrawal:

- Characteristic symptoms - myalgia, arthralgia, abdominal cramps, nausea, diarrhea, rhinorrhea, lacrimation, and sweating.
- Signs on physical examination - restlessness, elevated heart rate and blood pressure, pupillary dilatation (mydriasis), piloerection, and yawning.

Treatment for opioid dependence:

Detoxification:

- Long-acting opioid agonist - a safer substitute like methadone is given in a supervised manner to prevent withdrawal symptoms.
- Partial agonist - buprenorphine can also be used.
- Clonidine, lofexidine - alpha-2 agonist acts as sympatholytic and reduces the withdrawal symptoms.

Maintenance:

- Methadone, buprenorphine, LAAM (L-Alpha-Acetyl-Methadol) - opioid agonists which reduce craving.
- Naltrexone is an opioid antagonist that blocks opioid effects, particularly euphoria, and discourages persons with opioid dependence from substance-seeking behavior.

Solution to Question 7:

Crack is a freebase form of cocaine and is extremely potent. It is sold in small, ready-to-smoke amounts, commonly called rocks. Crack cocaine is highly addictive, even one or two experiences with the drug can cause an intense craving for more.

γ -Hydroxybutyrate (GHB) also called liquid ecstasy is a naturally-occurring neurotransmitter. It is a central nervous system (CNS) depressant that acts through the endogenous opioid system.

Solution to Question 8:

The given clinical scenario is suggestive of amotivational syndrome. It has been associated with long-term heavy use of cannabis.

It is characterized by a person's unwillingness to persist in a task at school, at work, or in any setting that requires prolonged attention or tenacity. Persons are described as becoming apathetic and anergic, usually gaining weight, and appearing slothful.

Products obtained from cannabis are marijuana, bhang, ganja, hashish, and charas.

Features associated with cannabis intoxication:

- Conjunctival injection (red eye)
- Dry mouth
- Tachycardia
- Increased appetite
- Heightened sensitivity to external stimuli
- Depersonalization and derealization
- Impaired motor skill

Hemp insanity refers to cannabis-induced psychotic disorder.

Run amok refers to cannabis-induced rampage destroying things and killing people.

Solution to Question 9:

Flashback phenomenon is more commonly seen with cannabis.

Flashback phenomenon refers to a person experiencing sensations related to substance intoxication after the short-term effects of the substance have disappeared. That is, the person relives the substance (cannabis) use experience without consuming it.

It is also seen in lysergic acid diethylamide (LSD) and phencyclidine which are hallucinogens.

Solution to Question 10:

Angel dust is the street name for phencyclidine. It is an NMDA antagonist.

Popular street names of abused drugs:

- Phencyclidine(PCP)- Angel dust, peace pill

- Marijuana- Pot, weed
- Heroin- Smack
- Cocaine- Crack
- Methylenedioxymethamphetamine(MDMA)- Ecstasy, X
- Flunitrazepam- Roofie, forget-me pill

Speedball is a combination of cocaine and heroin(opioid).

Solution to Question 11:

Amphetamine abuse resembles paranoid schizophrenia.

Amphetamine is a stimulant that causes stimulant-induced psychotic disorder. It induces ideas of reference, paranoid delusions, and hallucinations.

The treatment of choice for the amphetamine-induced psychotic disorder is the short-term use of an antipsychotic medication such as haloperidol.

Drug-induced psychosis can also be seen with chronic and heavy exposure to cocaine.

Solution to Question 12:

Methamphetamine is a rave drug among the given options. Few substances are commonly used in all-night dance parties (raves) and in clubs to increase energy, endurance, sociability, and arousal. These substances are not all in the same drug class, and they do not produce the same physical or subjective effects.

This includes:

- Methamphetamine
- Methylenedioxymethamphetamine- MDMA
- LSD
- Gamma hydroxybutyrate (GHB)
- Ketamine
- Flunitrazepam (Rohypnol)

GHB, Ketamine, and Rohypnol have been called date rape drugs because they produce disorienting and sedating effects, and often users cannot recall what occurred under the influence of the drug.

Solution to Question 13:

The feeling of insects crawling under the skin, also known as cocaine bugs or formication, is a feature of cocaine abuse.

Other features of acute cocaine intoxication are delusions of persecution, paranoia, and suspiciousness. It is essential to differentiate acute cocaine intoxication from acute schizophrenia which it closely resembles.

Solution to Question 14:

Varenicline is an $\alpha 4\beta 2$ nicotinic acetylcholine receptor partial agonist used in the treatment of nicotine addiction.

The FDA approved medication to aid in smoking cessation include:

- NRT-Nicotine Replacement Therapy
- Bupropion
- Varenicline

Drugs are only adjunctive to behavioral therapy, which is the first line of management.

Behavior therapy is the most widely accepted and well-proven psychological therapy for treating Tobacco use disorder. It consists of several techniques:

- Skill training and relapse prevention.
- Stimulus control.
- Mindfulness approaches.

Bupropion:

- It enhances both noradrenergic and dopaminergic neurotransmission by inhibiting reuptake.
- Used for aiding smoking cessation and for the treatment of depression in combination with SSRIs.
- Side effects: seizures, sedation

Varenicline:

- $\alpha 4\beta 2$ Nicotinic ACh receptor partial agonist.
- Used for smoking cessation.
- Side effects: sleep disturbance, may depress mood and increase suicidal tendencies.

Mirtazapine:

- Serotonin receptor antagonist.
- Used for the treatment of depression in combination with SSRIs and for insomnia in depressive patients.
- Side effect: sedation

Solution to Question 15:

Suicidal ideation is a side effect associated with varenicline.

Varenicline is an $\alpha 4\beta 2$ nicotinic acetylcholine receptor partial agonist.

The FDA approved medications to aid cessation of smoking tobacco:

- NRT- Nicotine Replacement Therapy
- Bupropion
- Varenicline

Bupropion is associated with decreased seizure threshold and suicidal ideation.

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If you purchased this from someone else,
you may have been scammed.

Anxiety Disorders

Question 1:

Which of the following is not an anxiogenic substance?

- a) Caffeine
- b) Cholecystokinin
- c) Carbon dioxide
- d) Neuropeptide Y

Question 2:

A first-year MBBS student came to OPD with intermittent episodes of a feeling of impending doom accompanied by intense perspiration. Usually, the episodes occur prior to her exams. What is the most likely diagnosis?

- a) Panic disorder
- b) Conversion disorder
- c) Social anxiety disorder
- d) Generalized anxiety disorder

Question 3:

Which of the following is not classified under anxiety disorders?

- a) Social anxiety disorder
- b) Post-traumatic stress disorder
- c) Specific Phobia
- d) Panic attacks

Question 4:

A 35-year-old lady presents to the casualty with symptoms of acute-onset breathlessness, palpitations, sweating, and nausea. Physical examination and laboratory workup were unremarkable. Which of the following best explains the episode?

- a) Phobia
- b) Acute respiratory distress syndrome
- c) Generalized anxiety disorder
- d) Panic attack

Question 5:

A 30-year-old female was brought to the hospital with complaints of recurrent episodes of acute onset breathlessness, palpitations, sweating and dizziness for the past 2 months. Physical examination and laboratory investigations were normal. Which of the following is the drug of choice in the treatment of this condition?

- a) Selective serotonin reuptake inhibitors
- b) Benzodiazepines
- c) Monoamine oxidase inhibitors
- d) Buspirone

Question 6:

A young woman has a fear of places from where escape is difficult. What is this condition known as?

- a) Claustrophobia
- b) Aerophobia
- c) Agoraphobia
- d) Ailurophobia

Question 7:

A 50-year-old man feels uncomfortable in using the lift, being in crowded places and travelling. Which of the following is the most appropriate line of management?

- a) Expressive therapy
- b) Inter-personal therapy
- c) Behavioural therapy
- d) Cognitive therapy

Question 8:

A construction worker experiences intense fear when working on a project of renovating a high-rise building, which requires him to climb scaffolding. He finds it difficult and awkward to explain this to his on-site contractors. What is this irrational fear known as?

- a) Acarophobia
- b) Algophobia
- c) Agoraphobia
- d) Acrophobia

Question 9:

A 5-year-old girl was brought to the psychiatric OPD by her mother with the history that her daughter cries terribly when sent to school. When interviewed, she keeps worrying about her mother and that something bad might happen to her when she is left at school. Her mother also mentions that she does not sleep well and often experiences nightmares about being away from her mother. Which of the following best explains the situation?

- a) Agoraphobia
- b) Panic disorder
- c) Generalised anxiety disorder
- d) Separation anxiety disorder

Question 10:

An adolescent complains that she is experiencing a significant amount of stress because she finds it difficult to concentrate during conversations. She is busy worrying about what others will think of her, assuming they will find her 'dumb' or 'boring'. After interactions, she replays the conversation over and over again, focusing on the 'stupid' things she had said. She says has been isolating herself more, turning down invitations from her roommate to go out to eat. What is the likely diagnosis?

- a) Panic disorder
- b) Social anxiety disorder
- c) Generalised anxiety disorder
- d) Selective mutism

Question 11:

A 40-year-old man presents with complaints of excess uncontrollable worry over daily life activities, finance and his health over the past 2 years. Because of this, he feels restless most of the time. He also complains of fatigue and disturbed sleep. What is the diagnosis?

- a) Depression
- b) Illness anxiety disorder
- c) Somatoform disorder
- d) Generalised anxiety disorder

Question 12:

Which of the following is the drug of choice that you will prescribe for a patient with a generalised anxiety disorder?

- a) Sertraline
- b) Amitriptyline
- c) Alprazolam
- d) Selegiline

Question 13:

A 5-year-old boy was brought to the psychiatric OPD with complaints of being quiet in his classroom since he joined the school. At home, he talks well with his parents. He has two close friends with whom he converses well. Apart from his parents and two friends, he does not interact with anyone. His birth history is normal. Which of the following best explains his condition?

- a) Social anxiety disorder
- b) Autism
- c) Selective mutism
- d) ADHD

Question 14:

A young lady appraised her racing heart as having a heart attack and reduced her physical activity in order to reduce the strain on her heart. During a routine BMI check, she was found

to be obese and reported to her physician. A referral to the psychiatrist was made and following a few sessions, she was started on a practice designed to induce the somatic symptoms of an increased heart rate, but under a controlled circumstance. What is this procedure known as?

- a) Interoceptive exposure
- b) Imaginal exposure
- c) In vivo exposure
- d) Flooding

Answer Key

Question No.	Correct Option
1	d
2	a
3	b
4	d
5	a
6	c
7	c
8	d
9	d
10	b
11	d
12	a
13	c
14	a

Detailed Explanations

Solution to Question 1:

Neuropeptide Y is not an anxiogenic substance, it's an anxiolytic substance.

Anxiogenic substances provoke anxiety. Examples are:

- Carbon dioxide

- Cholecystokinin
- Flumazenil
- Caffeine
- Theophylline
- Yohimbine
- Sodium lactate
- Cocaine

Anxiolytic substances reduce anxiety. Examples are

- Benzodiazepines
- Selective Serotonin Reuptake Inhibitors
- Beta-blockers
- Neuropeptide Y
- Buspirone

Solution to Question 2:

The most likely diagnosis for this patient is panic disorder.

A panic attack is an abrupt surge of intense fear or intense discomfort. Recurrent panic attacks for more than one month is classified as panic disorder.

Panic attacks can occur in mental disorders other than panic disorder, particularly in specific phobia, social phobia, and PTSD.

Solution to Question 3:

Post-traumatic stress disorder is classified under trauma and stressor-related disorder according to DSM-5.

According to ICD-11, it is classified under disorders specifically associated with stress.

The following disorders are classified under anxiety disorders:

- Social anxiety disorder
- Specific phobia
- Agoraphobia
- Panic attacks
- Generalized anxiety disorder
- Separation anxiety disorder
- Selective mutism

- Substance/medication-induced anxiety disorder
- Anxiety disorder due to another medical condition
- Unspecified anxiety disorder

Solution to Question 4:

This clinical vignette describes a classic panic attack.

A panic attack is an abrupt surge of intense fear or intense discomfort (arises de novo without any stressor). Recurrent panic attacks are termed as panic disorder.

Panic attacks can occur in mental disorders other than panic disorder, particularly in specific phobia, social phobia, and post traumatic stress disorder (PTSD).

The differential diagnosis for panic attacks:

- Angina, MI
- Mitral valve prolapse
- Asthma
- Pulmonary embolus
- Pheochromocytoma
- Hyperthyroidism (Grave's disease)
- Epilepsy
- Amphetamine and anticholinergic drugs
- Withdrawal symptoms

Solution to Question 5:

The clinical features of recurrent panic attacks suggest a diagnosis of panic disorder. Selective serotonin reuptake inhibitors are the drug of choice in panic disorder.

Option B: Benzodiazepines are used in acute attacks of panic disorder.

Option C: Monoamine oxidase inhibitors (MAOIs) and Tricyclic antidepressants (TCAs) are second-line drugs for panic disorder.

Option D: Buspirone is a second-line drug used in generalized anxiety disorder.

Solution to Question 6:

Agoraphobia is the fear or avoidance of places from where escape would be difficult e.g., crowds, public places, or public transportation.

It is more common in women. It leads to severe restrictions on the individual's travel and daily routine.

Option A: Claustrophobia - Fear of closed spaces

Option B: Aerophobia - Fear of flying

Option D: Ailurophobia - Fear of cats

Note: Specific phobia is the most common type of phobia. Agoraphobia is not a specific phobia and is classified separately under anxiety disorders.

Solution to Question 7:

These clinical features suggest the diagnosis of agoraphobia. Behaviour therapy is the treatment of choice.

Various modalities in behavioural therapy:

- Systematic desensitization- gradual exposure to the stimuli so that the patient gets used to the situation
- Exposure and response prevention
- Relaxation technique
- Flooding

Drug therapy: SSRI

Solution to Question 8:

The given clinical scenario is suggestive of acrophobia. It is the extreme or irrational fear of heights.

Solution to Question 9:

The history suggests the presence of separation anxiety disorder in the daughter.

Patients with separation anxiety disorder suffer greatly when physically apart from figures of significant attachment (in this case, the mother). These patients keep thinking about the possibility of any harm that might occur to them or their loved ones when they are apart. This worry leads to the avoidance of separation. Even when they sleep, the individual often has nightmares regarding separation. Symptoms persist longer than 4 weeks.

Cognitive behavioral therapy + SSRI is the treatment of choice.

Solution to Question 10:

The clinical scenario is suggestive of social anxiety disorder. It is a fear of one or more social situations where in the patient is concerned about being harshly judged and evaluated for their performance or interpersonal interactions.

- There is an out-of-proportion fear that they will be shamed by the experience.
- The symptoms last longer than 6 months.
- The specific social situation(s) is avoided altogether.

CBT and SSRIs are the mainstays of treatment of social anxiety disorder.

Solution to Question 11:

The given clinical scenario is suggestive of generalised anxiety disorder.

When assessing for GAD, clinical professionals look for the following according to the DSM-5 (and ICD-11) criteria:

- The presence of excessive anxiety and worry about a variety of topics, events, or activities. Worry occurs more often than not for at least six months and is clearly excessive.
- The worry is experienced as very challenging to control. The worry in both adults and children may easily shift from one topic to another.
- The anxiety and worry are accompanied by at least three of the following physical or cognitive symptoms (In children, only one of these symptoms is necessary for a diagnosis of GAD):
 - Edginess or restlessness
 - Tiring easily; more fatigued than usual
 - Impaired concentration or feeling as though the mind goes blank
 - Irritability (which may or may not be observable to others)
 - Increased muscle aches or soreness
 - Difficulty sleeping (due to trouble falling asleep or staying asleep, restlessness at night, or unsatisfying sleep)

Solution to Question 12:

Selective serotonin reuptake inhibitors (SSRIs) like sertraline are the drug of choice in the treatment of generalised anxiety disorder. CBT is advised along with SSRIs.

Buspirone is a second-line drug used in generalized anxiety disorder.

Option C: Short-acting benzodiazepines such as alprazolam are used during acute episodes of panic disorder.

Options B, D: Tricyclic antidepressants (amitriptyline) and monoamine oxidase inhibitors (selegiline) are second-line drugs for panic disorder.

Solution to Question 13:

Selective mutism is a disorder of children wherein they are unable to speak in certain social situations.

Such children are capable of speaking normally when at home. The disorder can also be evident during interactions between the child and less-familiar adults. For diagnosis, the mutism must impact social or educational functioning for greater than one month.

CBT + SSRI is the preferred treatment modality.

Solution to Question 14:

The given clinical scenario is suggestive of panic disorder where misappraisals of body sensations trigger emotional and physiological reactions of fear and heightened arousal. Interoceptive exposure is the practice of strategically inducing the somatic symptoms associated with a threat appraisal, and encouraging the patient to maintain contact with the feared sensations.

Interoceptive exposure is a form of exposure therapy for the treatment of panic disorder and specific phobias. It is done using an activity that produces similar physiological sensations to the ones that are produced during the panic attack. The purpose is to promote the habituation of fear in response to them.

Example: Aerobic exercise to induce rapid heart rate and shortness of breath. Breathing through thin straw produces a sensation of not getting enough air.

Option B: Imaginal exposure typically involves having the patient close their eyes and imagine feared stimuli.

Option C: In vivo exposure involves helping patients directly confront feared objects, activities, and situations.

Option D: Flooding approach involves repeated and prolonged exposure to fear cues of high intensity without relaxation.

Obsessive-Compulsive and Related Disorders

Question 1:

A 32-year-old bank teller is constantly fearful of coming into contact with germs during monetary transactions. She is convinced that the bacteria on her hands may cause a fatal illness, although she is aware this is an irrational fear. Which of the following best describes this behavior?

- a) Hallucination
- b) Obsession
- c) Compulsion
- d) Delusion

Question 2:

Among the following, what is the most common symptom of adult obsessive-compulsive disorder?

- a) Aggressive symptoms
- b) Need for symmetry
- c) Pathological doubt
- d) Sexual symptoms

Question 3:

A 40-year-old male patient comes to the psychiatry OPD with complaints of repetitive thoughts that, he always feels his hands are dirty, though they are not. This gives him discomfort and hence he has to wash them again and again. This is a disorder of thought _____.

- a) Flow
- b) Form
- c) Possession
- d) Content

Question 4:

In OCD, which part of the brain fails to act as the gatekeeper to allow the motor system to perform goal-directed activities?

- a) Caudate nucleus
- b) Globus Pallidus
- c) Substantia Nigra
- d) Subthalamic nucleus

Question 5:

Which of the following is true regarding obsessive-compulsive disorders?

- a) Decreased dopamine
- b) Increased acetylcholine
- c) Decreased serotonin
- d) Decreased acetylcholine

Question 6:

Which of the following is not an OCD related disorder?

- a) Hair pulling disorder
- b) Temper tantrums
- c) Hoarding disorder
- d) Skin picking

Question 7:

A woman presented with a constant fear of sinning. She was unable to look at people for fear that she was offending them by inappropriately glancing. When people crossed their legs in front of her, she thought it was because she had been looking at their genitals. She constantly prayed for forgiveness for not being devout or moral enough. What is the treatment of choice for this disorder?

- a) Psychoanalytic psychotherapy
- b) Cognitive behavioral therapy

- c) Selective Serotonin Reuptake Inhibitors
- d) Electroconvulsive therapy

Question 8:

A distressed 22-year-old man comes to the hospital with complaints of frequent checking the doors even when they are locked. He is subsequently diagnosed to have obsessive-compulsive disorder. Which of the following statements are true?

- a) 1 and 5
- b) 1 and 3
- c) 2, 3 and 4
- d) 2, 4 and 5

Question 9:

A 40-year-old man was brought by his wife to the psychiatric OPD. She complains that he does not allow her to discard old newspapers and informs that their home is completely disorganized because of this accumulation. She also says that he fights with her if she tries to discard them. On asking the husband, he replies that he has an attachment towards them. He gets anxious by the thought of discarding the newspapers as he may lose some precious information. What is the probable diagnosis?

- a) Normal collecting
- b) Hoarding disorder
- c) Obsessive-compulsive disorder
- d) Delusional disorder

Question 10:

Domestic squalor is associated with which of the following conditions?

- a) Hoarding disorder
- b) Body dysmorphic disorder
- c) Trichotillomania
- d) Olfactory reference syndrome

Question 11:

A 78-year-old widowed man was diagnosed with carcinoma of the paranasal sinus 6 weeks ago. During a checkup, his son shared his concerns about his father's accumulation of garbage, spoilt food, and excreta at home since the diagnosis. He denies any help from his son to clean up the place. He also has poor self-care and looks filthy, but is not ashamed of this. Which of the following describes his condition?

- a) Major depression
- b) Hoarding syndrome
- c) Diogenes syndrome
- d) Obsessive compulsive disorder

Question 12:

Which of the following has a poor prognosis with exposure and response prevention in OCD?

- a) Pathological doubt
- b) Magical thinking
- c) Hoarding
- d) Contamination obsession

Question 13:

A 20-year-old lady presents with patchy hair loss, characterized by short broken strands as shown below. No abnormalities of the skin or scalp are present. Biopsy shows perifollicular haemorrhage. What is the probable diagnosis?



- a) Alopecia areata
- b) Tinea capitis
- c) Trichotillomania
- d) Anagen effluvium

Question 14:

A woman presents with severe abdominal pain and vomiting which was provisionally diagnosed as intestinal obstruction. An emergency laparotomy was done and the following specimen was removed. What is the probable diagnosis?



- a) Alopecia areata

- b) Tinea capitis
- c) Trichophagia
- d) Anagen effluvium

Question 15:

A 24-year-old man presents with skin lesions as shown below. He informs you that he has an urge to pick his skin often and gets gratification after picking. He feels guilty about this behavior but is not able to stop. Which of the following best explains his condition?



- a) Excoriation disorder
- b) Magnan syndrome
- c) Dermatitis artefacta
- d) Van Gogh syndrome

Question 16:

A 20-year-old female was worried about the shape of her nose. She feels it is not symmetrical and looks ugly. She often compares her nose with that of others to look for the flaw. She also checks her nose often in the mirror. Due to this, she sometimes avoids social gatherings. Which of the following best describes her condition?

- a) Olfactory reference syndrome
- b) Generalized anxiety disorder
- c) Body dysmorphic disorder

d) Somatoform disorder

Question 17:

A 25-year-old man reports to the psychiatry department with a fear that his penis is shrinking and retracting and will ultimately disappear into the abdomen. What is the most probable diagnosis?

- a) Dhat syndrome
- b) Koro
- c) Shubo-kyofu
- d) Latah

Answer Key

Question No.	Correct Option
1	b
2	c
3	c
4	a
5	c
6	b
7	b
8	b
9	b
10	a
11	c
12	c
13	c
14	c
15	a
16	c
17	b

Detailed Explanations

Solution to Question 1:

The given clinical scenario is suggestive of obsession, an idea that continuously intrudes the patient's consciousness. The characteristics of obsession are:

- Comprise of one's own thoughts.
- Ego-alien (ego-dystonic).
- Patients try to resist it but it leads to further anxiety and distress.
- The thought is very well known by the patient to be irrational and absurd.

Obsession eventually leads to compulsion, which is a repetitive and purposeful behaviour or activities carried out to reduce intense distress.

Note:

Ego-alien/Ego-dystonic: unwanted and unacceptable to one's own personality, causing distress.

Ego-syntonic: acceptable to one's own personality. Personality traits are usually ego-syntonic.

Solution to Question 2:

Among the above options, pathological doubt is the common symptom of adult OCD. Pathological doubt is the second most common pattern of adult obsessive-compulsive disorder (OCD), only after obsession of contamination.

Pathological doubt is an obsession with doubt, followed by a compulsion to check. The obsession often implies some danger of violence e.g., forgetting to turn off the stove or not locking a door. The checking may involve multiple trips back into the house to check the stove. These patients have obsessional self-doubt and always feel guilty about having forgotten or committed something.

The frequency of presenting patterns of OCD :

Obsession of contamination > Pathological doubt > Intrusive thoughts> Symmetry

Solution to Question 3:

The clinical history is suggestive of obsessive-compulsive disorder, which is a disorder of thought possession.

The diseases under thought possession include:

- Obsession and Compulsion
- Thought Alienation

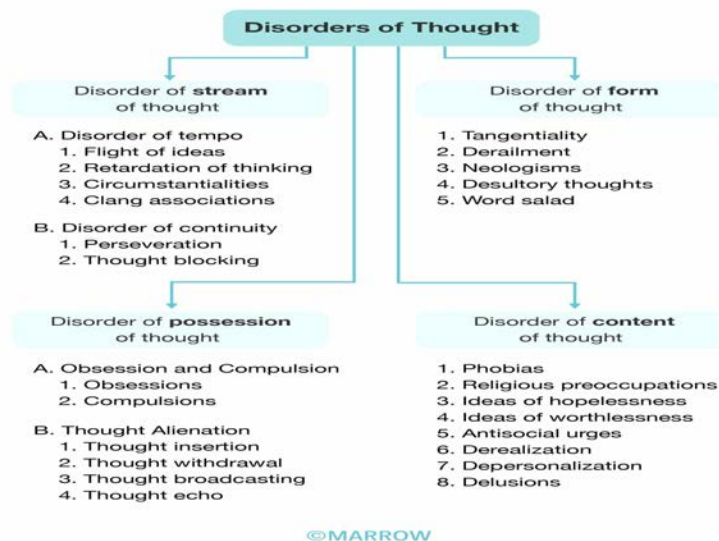
In obsessions and compulsions, although the sense of thought possession in the patient is not impaired, he/she experiences the obsessive thoughts to appear against their will. Hence, despite

the patient perceiving a loss of control over the voluntary act (compulsion), they still retain personal possession (ownership) of the act.

Obsessive-compulsive disorder is defined as the presence of obsessions and/or compulsions.

- Obsessions are recurrent and persistent ideas, thoughts, urges, or images that are experienced as intrusive and unwanted and cause anxiety or distress to the patients.
- Compulsions are the repetitive and intentional behaviors or acts performed in response to obsessions or according to certain rules that must be applied rigidly (e.g., repetitive hand washing, ritualistic checking).

In the given case, the obsessional thoughts are the repetitive, unwanted thoughts that his hands are dirty, while the compulsion is to wash his hands to neutralize the obsession.



Solution to Question 4:

The caudate nucleus normally acts as a gatekeeper thereby allowing the motor system to perform only those acts that are goal-directed.

When it fails to perform its gatekeeper function, irrelevant acts are performed, as in obsessive-compulsive disorder or tic disorders, such as Tourette's syndrome.

Solution to Question 5:

In OCD, there is a decrease in the level of serotonin and an increase in the level of dopamine. Increased dopamine leads to continued reward-seeking which again leads to compulsive behaviour and obsessive features.

Solution to Question 6:

Temper tantrums are not OCD-related.

Obsessive-compulsive or related disorders (as per ICD 11):

It refers to a group of disorders that are characterized by repetitive thoughts and behaviors that share similar etiologies and important diagnostic validators. Important features of these disorders are obsessions, intrusive thoughts, and preoccupations. It includes:

- Obsessive-compulsive disorder
- Body dysmorphic disorder
- Hypochondriasis
- Olfactory reference disorder
- Hoarding disorder
- Body focused repetitive behavior disorders (Excoriation, Trichotillomania)

Solution to Question 7:

The clinical scenario describes a woman who suffers from scrupulosity, a type of obsessive-compulsive disorder (OCD). Scrupulous individuals are overly concerned that something they thought or did might be a sin or a violation of religious or moral doctrine. The treatment of choice for OCD is cognitive behavioral therapy, especially focussing on exposure and response prevention.

Other modalities of treatment:

- Drug treatment – SSRIs are the drugs of choice because the serotonergic system is involved in the pathophysiology of OCD.
- Psychoanalytic psychotherapy
- Electroconvulsive therapy – in chronic and resistant cases.
- Surgery – stereotactic limbic leucotomy, stereotactic subcaudate tractotomy.

Solution to Question 8:

Undoing, reaction formation, and isolation are the defence mechanisms involved in OCD. Antipsychotics such as risperidone and aripiprazole can be used in SSRI-resistant cases to augment the response.

Statement 2: SSRI is the drug of choice in OCD. Clomipramine is the first FDA-approved agent for the treatment of OCD. In case of failure of 2 SSRIs, clomipramine is indicated.

Statement 4: Exposure and response prevention is the psychotherapy of choice for OCD

Statement 5: Temporal lobectomy is a common treatment option for temporal lobe epilepsy resistant to anticonvulsants (and not in OCD).

Non-pharmacological treatment for obsessive-compulsive disorder:

- Cognitive Behavioural Therapy
- Exposure and response prevention
- Desensitization
- Thought stopping
- Flooding
- Implosion therapy
- Aversive conditioning
- Psychotherapy
- Electroconvulsive therapy
- Psychosurgery
- Ablative: Cingulotomy, Subcaudate tractotomy
- Non-Ablative: Deep brain stimulation

Solution to Question 9:

The given clinical scenario is suggestive of hoarding disorder in the patient.

Hoarding disorder is characterized by the persistent and profound difficulty in discarding or parting from one's possessions. This, in turn, leads to significant congestion and clutter, and to substantial distress or impairment (this differentiates hoarding disorder from normal collecting).

Obsessive-compulsive disorder	Hoarding disorder
Here, hoarding is done because of an obsessive thought.	No obsession present
Here, hoarding is done to relieve the anxiety caused by the obsession.	Here, hoarding is done because the individual wishes to save things and feels anxious to discard the things.

Solution to Question 10:

The clinical scenario describes domestic squalor which is associated with hoarding disorder. In some individuals, living conditions become extremely unsanitary referred to as domestic squalor.

Hoarding may be associated with a broad range of sequelae:

- Health and safety problems (e.g., patients may not have sufficient space to cook or keep clean)
- Clutter avalanches may lead to falls and even mortality.

- Domestic squalor

Solution to Question 11:

The onset of extreme self-neglect and hoarding in elderly individuals after the news of a life-threatening illness is referred to as Diogenes syndrome.

The main characteristics of Diogenes syndrome are:

- Domestic squalor
- Self-neglect
- Lack of shame regarding domestic hoarding
- Refusal of help from others
- Hoarding of rotting food, excrement, or rubbish which causes feelings of disgust among family and visitors.
- There is poor insight; the individual may not report distress.

Solution to Question 12:

Hoarding behavior shows poor prognosis with exposure and response prevention.

Challenges posed by hoarding patients to typical cognitive behavior therapy (CBT) include poor insight into the behavior, low motivation, and resistance to treatment.

The most effective treatment for hoarding is a cognitive-behavioral model that includes:

- Training in decision making and categorizing
- Exposure and habituation to discarding
- Cognitive restructuring.

Solution to Question 13:

The given clinical scenario of patchy hair loss characterized by short broken strands, as shown in the image, and the biopsy showing perifollicular hemorrhage point to a probable diagnosis of trichotillomania.

Trichotillomania:

- Classified under obsessive-compulsive and related disorder
- Irresistible urge to pluck the hair
- Seen more commonly in females
- Varying lengths of hair inside the area of hair loss

- Hair is never completely lost in the patch
- Orentreich/Friar Tuck/Tonsure sign: Loss of central area (easier to pull) and sparing of margins of the scalp.
- Dermoscopy shows decreased hair density, short vellus hair, broken hair with different shaft lengths, coiled hairs, short vellus hair, trichoptilosis, and sparse yellow dots, which may contain black dots and no exclamation mark hair.
- HPE:-
- No inflammation
- Perifollicular haemorrhage - due to plucking
- intraepithelial and perifollicular haemorrhages and intrafollicular pigment casts

Solution to Question 14:

The given clinical scenario, along with the image of a trichobezoar, suggests a diagnosis of trichophagia.

Trichophagia is the compulsive eating of hair associated with trichotillomania. In trichophagia, people also ingest the hair that they pull.

Complications include:

- trichobezoars
- malnutrition
- intestinal obstruction

Solution to Question 15:

Excoriation or skin-picking disorder is characterized by the compulsive and repetitive picking of the skin.

The face is the most common site of skin-picking and it is also called as dermatillomania. Excoriation disorder can be seen associated with methamphetamine or cocaine abuse.

Option B: Magnan syndrome involves tactile hallucination due to cocaine use, which is not seen in this patient.

Option C: Dermatitis artefacta is factitious dermatitis in which skin-picking is used deliberately for producing self-inflicted injury.

Option D: Van Gogh syndrome is repetitive self-mutilation including bite, burn, ulceration.

Solution to Question 16:

The given history suggests the presence of body dysmorphic disorder (BDD) in the patient.

BDD is characterized by persistent preoccupations about one or more perceived defects or flaws in one's appearance, but the defects or flaws are negligible or not even observable to others. In response to their appearance concerns, individuals with BDD demonstrate a range of mental acts:

- Comparing themselves with others
- Checking in the mirror
- Camouflaging their perceived flaws
- Avoidance- from minor social avoidance to being housebound.

The specific focus of BDD on appearance serves to differentiate it from other conditions characterized by repetitive behaviours.

Note: Olfactory reference syndrome is characterized by repetitive concerns about having a foul odour. This leads to a range of repetitive behaviours such as washing or changing one's clothes.

Solution to Question 17:

The given clinical scenario is suggestive of Koro.

Koro is a culture-related disorder, usually occurring in epidemics in South-Eastern Asia. It consists of a fear that the penis is shrinking or retracting and will disappear into the abdomen. The fear is related to labia, nipples, or breasts in females. It is classified under "Other Specified Obsessive-Compulsive and Related Disorder" in DSM-5. Females are also affected infrequently, with a corresponding belief that their breasts (and/or vulva) are shrinking.

Option A: Dhat syndrome is a cultural condition found in the Indian subcontinent. Male patients complain of premature ejaculation or impotence and believe that they are passing semen in their urine. In their tradition, semen is described as a "vital fluid". The discharge of this "vital fluid" through sex or masturbation is associated with anxiety and dysphoria. It is characterized by the complaint of the passage of dhat (whitish discharge: semen) in urine, multiple somatic symptoms, physical/mental exhaustion, and sexual dysfunction. It is based on the belief that semen is precious and that loss of semen leads to exhaustion and weakness.

Option C: Shubo-kyofu is similar to body dysmorphic disorder and is characterized by excessive fear of having a bodily deformity.

Option D: Latah (startle reaction) is a syndrome seen in Southeast Asia and Japan. Occurring more often in women, it is typically characterized by the presence of automatic obedience, echolalia (mimicking another's speech), and echopraxia (mimicking another's movement). It is often precipitated by a sudden stimulus, such as a loud sound.

Another culture-bound syndrome:

Shenkui is native to China, and also exists globally, in which the individual suffers withdrawal-like symptoms including painful brain fog, chills, nausea, and even flu-like symptoms with anxiety, believed to be caused by a loss of semen and orgasm. The symptoms can last for weeks to months after a single orgasm.

Trauma and Stress-Related Disorders

Question 1:

While measuring the stress psychologically, which of the following life events is considered the most significant?

- a) Death of a close family member
- b) Death of a spouse
- c) Marriage
- d) Divorce

Question 2:

A 40-year-old lady met with a car accident 2 months ago, following which she complains of screaming and waking up in the night after having nightmares of the same incident over and over again. Which of the following conditions is she suffering from?

- a) Acute stress reaction
- b) Adjustment disorder
- c) Mania
- d) Post traumatic stress disorder

Question 3:

As a volunteer at a refugee camp, you come across an adolescent with complaints of difficulty in sleeping and nightmares. Having lost both his parents to cross-firing, and witnessing the arrest, torture, and eventual killing of his elder brother, he now prefers to spend most of his time alone and doesn't interact with others. This disorder is associated with the overactivity of which of the following structures?

- a) Hypothalamus
- b) Amygdala
- c) Thalamus
- d) Striatum

Question 4:

What is the minimum duration of period to diagnose post-traumatic stress disorder in a patient?

- a) 2 days to 1 month
- b) More than 1 month
- c) 3 months to 6 months
- d) More than 6 months

Question 5:

A 27-year-old army major comes to you for help at his fiancée's request, who told him that he has become reserved and quiet post his Afghan tour. He is easily startled by noise and motion and spends excessive time searching for threats that are never confirmed. He also avoids seeing friends from the Army unit because they remind him of his experiences at the base camp. Which of the following therapies can be used for him?

- a) Eye movement desensitisation and reprocessing
- b) Aversion therapy
- c) Systematic desensitisation
- d) Interpersonal psychotherapy

Question 6:

A 43-year-old man presented with complaints tracing back a year ago to a traumatic work-related event involving mutilation of his right-hand fingers. He reported having flashbacks and nightmares of the event, inability to perform everyday tasks and a depressive mood. No symptomatology was evident before the event to him or his social milieu. Which of the following is a bad prognostic sign of this disorder?

- a) Gradual onset of the symptoms
- b) Short duration of the symptoms
- c) Social support
- d) Middle age

Question 7:

A male patient who lost his job recently became irritable and had a sad mood for most of the time. Thinking about the future worried him and he felt irritation towards his family members. He occasionally went out to watch movies with his friends and was able to enjoy but on returning home he felt similar symptoms. What is the probable diagnosis?

- a) Generalised anxiety disorder
- b) Adjustment disorder
- c) Mixed anxiety with depression
- d) Moderate depression

Question 8:

Which of the following is not included in the diagnostic criteria of adjustment disorder?

- a) The onset of symptoms occur after 3 months of the stressor
- b) The symptoms do not persist if the stressor is removed
- c) The symptoms of distress are clearly in excess of the normal
- d) Both depressive and anxiety symptoms may be present

Question 9:

Two weeks after the death of her husband, a 60-year-old woman presented to your OPD with poor appetite, anger, and sadness. She also says she hears her husband's voice at times.

Which of the following is true?

- a) Normal grief
- b) Grief psychosis
- c) Depression
- d) Mania

Question 10:

Persistent complex bereavement disorder is considered when the grief reaction persists for more than _____.

- a) 2 months
- b) 3 months
- c) 6 months

d) 12 months

Question 11:

A 21-year-old woman experiences intense emotions each year on the same day of her mother's demise. This is a subtype of which of the following diagnosis?

- a) Adjustment disorder
- b) Acute stress reaction
- c) Grief reaction
- d) Post traumatic stress disorder

Question 12:

As a first-year psychiatry resident, you are counselling a 33-year-old woman who recently lost her mother to COVID-19. According to Kubler Ross, which of the following correctly lists the stages of grief she will experience?

- a) Denial - Depression - Bargaining - Anger - Acceptance
- b) Anger - Bargaining - Denial - Depression - Acceptance
- c) Denial - Anger - Depression - Bargaining - Acceptance
- d) Denial - Anger - Bargaining - Depression - Acceptance

Question 13:

A 23-year-old college dropout was referred to the inpatient psychiatry unit due to severe social withdrawal. Following the death of his father a year back, he felt isolated and around the same period, he started playing computer games for almost 10 to 12 hours each day. When not gaming, he becomes irritable, vindictive, and verbally aggressive. Which of the following is true regarding this condition?

- a) It exhibits somatisation, anxiety and sleep disturbances in the absence of depressive symptoms.
- b) WHO has classified gaming addiction as a mental health disorder in International Classification of Diseases 10.
- c) For its diagnosis, a behaviour pattern must be of sufficient severity to result in significant impairment for at least 12 months.
- d) Gaming behaviours are not seen as specific forms of maladaptive self-regulatory strategies in youths with attachment issues.

Answer Key

Question No.	Correct Option
1	b
2	d
3	b
4	b
5	a
6	a
7	b
8	a
9	a
10	d
11	c
12	d
13	c

Detailed Explanations

Solution to Question 1:

The death of a spouse is rated the most significant life event with 100 life change units. Thomas Holmes and Richard Rahe constructed a social readjustment rating scale after ranking the relative degree of adjustment required by changing life events. Each event is assigned a certain number of units.

Examples:

- The death of a spouse- 100 life-change units
- Divorce- 73 units
- Marital separations- 65 units
- The death of a close family member- 63 units
- Marriage- 50 units

Accumulation of 200 or more life-change units in a single year increases the risk of developing a psychosomatic disorder in that year.

Solution to Question 2:

The given clinical scenario is suggestive of post-traumatic stress disorder. PTSD is a psychiatric disorder occurring after a life-threatening or potentially fatal event, (e.g., war, house fire, serious accident, rape, robbery) affecting the patient or the patient's close friend or relative.

Symptoms can be divided into four types:

- Re-experiencing (e.g., intrusive memories of the event [flashbacks] and nightmares)
- Hyperarousal (e.g., anxiety, increased startle response, impaired sleep, hypervigilance)
- Negative cognition (e.g., negative beliefs, emotional numbing)
- Avoidance (e.g., avoiding stimuli associated with the traumatic event)

Psychotherapies found to be effective for PTSD include exposure therapy, trauma-focused cognitive-behavioral therapy, eye movement desensitization, and reprocessing.

Solution to Question 3:

The clinical scenario is suggestive of post-traumatic stress disorder (PTSD) and is due to abnormally high activity in the amygdala, which makes the patients relive their traumatic memories.

The amygdala is responsible for the genesis of emotion, rating the emotional importance of an experience and activating the hippocampus accordingly. Thus, an emotionally intense experience is imprinted in the memory. As a result, the traumatic memories lead to a state of constant vigilance, even in safe, familiar settings.

Solution to Question 4:

In post-traumatic stress disorder (PTSD), the symptoms persist for more than one month.

Duration	Condition
2 days to 1 month	Acute stress disorder
More than 1 month	Post-traumatic stress disorder
Symptoms occur after 6 months	Delayed Post-traumatic stress disorder

Solution to Question 5:

The clinical scenario is suggestive of post-traumatic stress disorder (PTSD). Eye movement desensitization and reprocessing is a psychotherapy for PTSD.

Eye Movement Desensitisation and Reprocessing (EMDR):

The patient focuses on the lateral movement of the clinician's finger while maintaining a mental image of the traumatic experience. The symptoms can be relieved as patients work through the traumatic event while in a state of deep relaxation.

The best treatment modality is trauma-focused cognitive behaviour therapy. Drugs like selective serotonin reuptake inhibitors, tricyclic antidepressants, benzodiazepines, propranolol, etc can be used.

Solution to Question 6:

The clinical scenario is suggestive of post-traumatic stress disorder (PTSD). Gradual onset of symptoms is a bad prognostic sign of PTSD.

A good prognosis is predicted by:

- Rapid onset of the symptoms
- Short duration of the symptoms (less than 6 months)
- Good premorbid functioning
- Strong social supports.
- Absence of other psychiatric, medical, or substance-related disorders.

In general, the very young and the very old have more difficulty with traumatic events than those in midlife.

- Young children have inadequate coping mechanisms.
- Older persons are likely to have more rigid coping mechanisms and less able to muster a flexible approach to dealing with the effects of trauma.

Solution to Question 7:

The clinical features are suggestive of an adjustment disorder.

Adjustment disorder is an emotional response to a stressful event. Stressors may be single like loss of job or divorce; multiple like the death of a parent together with loss of a job; or recurrent like seasonal business difficulties.

Diagnosing criteria for adjustment disorder:

- Development of emotional or behavioural response within 3 months of the onset of the stressor.
- The symptoms or behaviour are clinically significant, where, any one of the following are met:
- The response is out of proportion to the severity or intensity of the stressor.
- Significant impairment in social, occupational, or other areas of functioning.
- The stress-related disturbance does not meet the criteria for another mental disorder or exacerbation of pre-existing mental disorder.

- Mostly depressive but can also have anxiety symptoms.
- The symptoms disappear within 6 months if the stressor is removed.

In the given case, it has been mentioned that the patient lost his job recently. Although a time period is not mentioned in the question, the term recently can be understood as well within the 3 months duration. The patient's behaviour such as sad and irritated affected his social functioning. As he was finding joy in watching movies, depression can be ruled out.

Solution to Question 8:

Adjustment disorder is characterised by emotional or behavioural symptoms that develop within 3 months of exposure to an identifiable stressor and usually do not last more than 6 months after the stressor ends.

Common stressors leading to adjustment disorder are financial issues, illness & relationship problems.

Psychotherapy is the treatment of choice for adjustment disorder.

Solution to Question 9:

After the loss of a loved one, there is a normal grief reaction. This reaction also occurs with other losses, such as loss of a body part, miscarriage or abortion.

Normal grief (bereavement) is characterized initially by shock and denial. The typical depressive symptoms associated with bereavement include feelings of sadness, insomnia, diminished appetite, and in some cases, weight loss. It generally subsides within a year, although some features may continue longer.

Note: Transient auditory hallucinations related to the deceased person occur in certain cases of normal grief reaction and is not considered as psychosis.

Solution to Question 10:

According to DSM-5, persistent complex bereavement disorder is diagnosed only if at least 12 months have elapsed since the death of an individual having a close relationship in the case of bereaved adults and 6 months for bereaved children.

Solution to Question 11:

The given clinical scenario is suggestive of anniversary reaction which is a subtype of grief reaction.

When the trigger for an acute grief reaction is a special occasion, such as a holiday or birthday, the rekindled grief is called an anniversary reaction. This may occur each year on the same day the person died or when the bereaved individual becomes the same age the deceased person was at the time of death. These anniversary reactions tend to become relatively mild and brief overtime.

Solution to Question 12:

Denial - Anger - Bargaining - Depression - Acceptance is the correct order of stages of grief, as proposed by Kubler Ross.

Elisabeth Kubler-Ross, a psychiatrist and thanatologist, made an organization of reactions to impending death.

Solution to Question 13:

The clinical scenario is suggestive of internet gaming disorder (IGD). It involves a pattern of persistent or recurrent gaming behaviour that becomes so extensive it takes precedence over other life interests.

Abnormal gaming behaviour should be in evidence for over a period of at least 12 months for a diagnosis to be assigned but the period might be shortened if symptoms are severe. Gaming behaviours are seen as specific forms of maladaptive self-regulatory strategies in youths with attachment issues.

It has three main characteristics:

- Gaming behaviour takes precedence over other activities to the extent that other activities are pushed to the periphery.
- It leads to significant distress and impairment in personal, familial, social, educational or occupational functioning.
- It can lead to disturbed sleep patterns, diet problems and deficiency in physical activities.

Symptoms:

- Impaired control over gaming (frequency, intensity, duration)
- Increased priority is given to gaming
- Continuation or escalation of gaming despite negative consequences
- Depressive symptoms, somatisation and anxiety, including behavioural changes and sleep disturbances.

Personality Disorders

Question 1:

Which of the following is not a feature of personality disorders?

- a) Onset in early childhood
- b) They are not due to organic disease
- c) They are ego-syntonic
- d) They are fixed and inflexible

Question 2:

A 25-year-old man is described as emotionally cold and self-absorbed. He likes to stay alone, detached from social relationships, and prefers solitary activities. What type of personality disorder is this?

- a) Schizotypal
- b) Obsessive compulsive
- c) Avoidant
- d) Schizoid

Question 3:

A 25-year-old female presents to the casualty after overdosing on anti-hypertensive medication. On examination, there are multiple cuts on her wrists. On further inquiry, her father says she has marked fluctuations in her mood with a history of unstable relationships and previous suicide attempts. What is the main defense mechanism used by these patients?

- a) Displacement
- b) Repression
- c) Splitting
- d) Reaction formation

Question 4:

Micropsychotic episodes are commonly seen in which of the following patients?

- a) A 28-year-old with traits of suspicion, persistence of grudges, distrust, and hypervigilance
- b) A 18-year-old with traits of criminality, impulsivity, hostility, manipulation, and disregard for others
- c) A 22-year-old with traits of unstable mood, impulsivity, suicidality, fear of abandonment, and unstable self-image
- d) A 20-year-old with labile emotions, dramatic speech, sexually provocative and attention seeking behaviors

Question 5:

A patient is to be started on dialectical behaviour therapy. Which of the following personality disorders is this used to manage?

- a) Borderline personality disorder
- b) Avoidant personality disorder
- c) Narcissistic personality disorder
- d) Antisocial personality disorder

Question 6:

A 20-year-old man is brought by his mother who says that over the past year her son has started staying in his room all day reading about paranormal phenomena and demons. He has no hallucinations, no friends, and no interest in his college work or interacting with family members. On examination, he talks about how aliens live among us despite having never actually seen them. What is the most likely diagnosis?

- a) Schizoid personality disorder
- b) Paranoid personality disorder
- c) Borderline personality disorder
- d) Schizotypal personality disorder

Question 7:

A company's CEO has recently been trending on social media. In his interviews, he praises himself for being solely responsible for his success. He even gets angry when the interviewer asks about the employees' contributions and says that they are lucky to work for him. Which of the following best explains his behavior?

- a) Histrionic personality disorder
- b) Narcissistic personality disorder
- c) Dependent personality disorder
- d) Borderline personality disorder

Question 8:

All of the following would be consistent with a diagnosis of antisocial personality disorder except:

- a) Failure to conform to social norms
- b) Repeated lying
- c) Patient age < 12 years
- d) Lack of remorse

Question 9:

A 25-year-old female patient is lively, dramatic, and enthusiastic. She is flirtatious and is dressed in accordance with the latest fashion. She is visibly upset when the psychiatrist had to leave in between to attend an emergency case. Which among the following is the most probable diagnosis?

- a) Borderline personality disorder
- b) Anti-social personality disorder
- c) Histrionic personality disorder
- d) Schizoid personality disorder

Question 10:

An 18-year-old student presents to the clinic with symptoms suggestive of anxiety. She wants to make friends in her new class but is afraid to approach people for fear of being rejected or criticized and usually avoids any such interactions. What is the most likely personality disorder?

- a) Dependent personality disorder
- b) Schizoid personality disorder
- c) Avoidant personality disorder
- d) Antisocial personality disorder

Question 11:

A 23-year-old man presents to the clinic because he has been feeling depressed after going through a breakup. He seems to be obsessed with his ex-girlfriend and keeps ranting that he cannot live without her. He is planning to ask his mother to stay with him as he feels helpless. Which of the following best describes this condition?

- a) Anankastic personality disorder
- b) Borderline personality disorder
- c) Avoidant personality disorder
- d) Dependent personality disorder

Question 12:

You are consulting on a middle-aged man who is overly conscious about perfection in his work. He is very meticulous about following rules and becomes intolerant otherwise. Which of the following best describes this condition?

- a) Obsessive compulsive disorder
- b) Anxiety disorder
- c) Anankastic personality disorder
- d) Avoidant personality disorder

Answer Key

Question No.	Correct Option
1	a
2	d
3	c
4	c
5	a
6	d
7	b
8	c
9	c

10	c
11	d
12	c

Detailed Explanations

Solution to Question 1:

Personality disorders have an onset in adolescence or early adulthood.

It continues into late adulthood and matures.

Features of personality disorder:

- Fixed and inflexible belief
- Long-standing
- Maladaptive and pervasive
- Ego-syntonic (does not cause distress to the individual)
- Not caused due to disease or substance abuse

Solution to Question 2:

A young male who is alone by choice and emotionally cold comes under schizoid personality.

Schizoid personality is a markedly detached person, stays alone in introspection, and lives in his own fantasy world. This is associated with having a cold attitude.

Solution to Question 3:

The given history of repetitive self-destructive acts, unstable relationships and mood swings point towards a diagnosis of borderline personality disorder. The main defense mechanism such patients use is splitting i.e., distorting interpersonal relationships by considering each person to be either completely good or bad, with no middle ground.

Borderline personality disorder is classified under cluster B. It is characterized by an unstable affect, mood swings, marked impulsivity, unstable relationships, recurrent suicidal behavior, chronic feelings of emptiness or boredom, identity disturbance, and inappropriate anger. If stressed, the patient may become psychotic.

Solution to Question 4:

Micropsychotic episodes (short-lived psychotic episodes) are commonly seen in borderline personality disorder. These psychotic symptoms are almost always circumscribed, fleeting, or doubtful.

This disorder is present in people with traits of unstable mood, impulsivity, suicidality, fear of abandonment, and unstable self-image.

Option A: It describes a person with paranoid personality disorder

Option B: It describes a person with anti-social personality disorder

Option D: It describes a person with histrionic personality disorder

Solution to Question 5:

Dialectical behavior therapy (DBT), a form of psychotherapy is used in the management of borderline personality disorder.

It is the treatment of choice for borderline personality disorder and is effective, especially for those with parasuicidal behavior, such as frequent cutting.

Patients are seen weekly, to improve interpersonal skills and decrease self-destructive behavior using techniques involving advice, metaphor, storytelling, and confrontation.

DBT is influenced by the philosophical perspective of dialectics: "balancing opposites". It helps the individual to find ways to hold two seemingly opposite perspectives at once, promoting balance and avoiding the all-or-nothing style of thinking.

Other modalities of treatment include:

- Mentalization-based treatment.
- Transference-focused psychotherapy.
- Drugs – antipsychotics, antidepressants (SSRI, TCA), and mood-stabilizing drugs.

Solution to Question 6:

The given scenario of the patient's odd and eccentric beliefs and magical thinking is suggestive of Schizotypal personality disorder. Excessive social anxiety, odd speech, inappropriate affect, and lack of close friends are usually also seen.

Schizotypal personality disorder commonly progresses to schizophrenia. Some patients, however, maintain a stable schizotypal personality throughout their lives.

Solution to Question 7:

This person has a heightened sense of self-importance and grandiosity which is best explained by a narcissistic personality disorder.

Patients who have a narcissistic personality disorder consider themselves special and expect special treatment. They handle criticism poorly and may become enraged when someone dares to criticize them or appear completely indifferent to criticism. They are frequently ambitious to achieve fame and fortune. They cannot show empathy, and they feign sympathy only to achieve their selfish ends.

Solution to Question 8:

The individual should be at least 18 years old for diagnosing this disorder, though behavioral changes may start as early as 15 years old.

DSM-5 diagnostic criteria for antisocial personality disorder:

- The individual is at least 18 years of age.
- There is evidence of conduct disorder with onset before 15 years of age.
- Three or more of the following, occurring since age 15 years:
 - Failure to conform to social norms
 - Deceitfulness, like repeated lying
 - Impulsivity or failure to plan ahead
 - Irritability and aggressiveness
 - Reckless disregard for the safety of self or others
 - Consistent irresponsibility
 - Lack of remorse
- The occurrence of antisocial behavior is not exclusively during schizophrenia or bipolar disorder.

Solution to Question 9:

The given clinical features are suggestive of histrionic personality disorder.

It is classified under cluster B. It is characterized by an excitable, overly emotional, dramatic person with exaggerated behavior, who uses physical appearance to draw attention to themselves i.e., sexually seductive.

Solution to Question 10:

The given scenario is suggestive of avoidant personality disorder, as the patient has the desire to be in relationships and have social interaction but avoids these interactions due to fear of being rejected.

It is characterized by low self-esteem, and reluctance to engage in new activities. The patients are typically timid and avoid social activities and interpersonal interactions due to fear of criticism,

disapproval, or rejection. It is colloquially known as having an inferiority complex. It is equally prevalent in men and women.

Alfred Adler, the founder of individual psychology, coined the term inferiority complex.

Solution to Question 11:

The given history describes a person with a dependent personality disorder.

Persons with dependent personality disorder have difficulty in making everyday decisions without an excessive amount of advice and reassurance from others. They have difficulty initiating projects or doing things on their own.

They also have difficulty expressing disagreement with others because of fear of loss of support and can go to any extreme to obtain nurturance and support from others.

They feel uncomfortable or helpless when alone and urgently seek another relationship as a source of care or support when a close relationship ends.

They risk major depressive disorder if they lose the person on whom they depend, but with treatment, the prognosis is favorable.

Solution to Question 12:

The given scenario describes anankastic personality disorder or obsessive-compulsive personality disorder

It is characterized by emotional constriction, orderliness, perseverance, stubbornness, and indecisiveness. The essential feature of the disorder is a pervasive pattern of perfectionism and inflexibility.

Anankastic personality disorder is ego-syntonic i.e., behavior is consistent with one's own beliefs and attitudes, unlike obsessive-compulsive disorder (OCD) which is ego-dystonic and will cause distress to the patient.

Somatoform Disorders

Question 1:

Which of the following is not included in the DSM-5 group somatic symptoms and related disorders?

- a) Functional neurological symptom disorder
- b) Dissociative disorder
- c) Factitious disorder
- d) Illness anxiety disorder

Question 2:

An anxious woman presents to your OPD with complaints of abdominal pain and headache. She says she had to take extended leave from work over the past year because of this. She had visited many doctors but to no avail. On evaluation, you find no organic cause, but she is not convinced. What is the most likely diagnosis?

- a) Conversion disorder
- b) Somatic symptom disorder
- c) Munchausen syndrome
- d) Malingering

Question 3:

A 25-year-old woman comes to the psychiatric OPD, convinced that she is suffering from a brain tumor. She says she has been experiencing continuous headaches for the past 6 months. Though all investigations are normal, she continues to worry and asks the doctor to do some more tests. What is your diagnosis?

- a) Somatic symptom disorder
- b) Depersonalization disorder
- c) Functional neurological symptom disorder
- d) Illness anxiety disorder

Question 4:

A 30-year-old man is brought to the psychiatric OPD with a wildly ataxic gait and uncontrollable thrashing of his arms. He says these symptoms started after a heated quarrel with his business partner. Your senior diagnoses him to have astasia-abasia. Which of the following is associated with this condition?

- a) Conversion disorder
- b) Illness anxiety disorder
- c) Somatic symptom disorder
- d) Munchausen syndrome

Question 5:

Which of the following is not a feature of conversion disorder?

- a) Autonomic features
- b) Primary and secondary gain
- c) Temporality between stressor and symptoms
- d) La Belle indifference

Question 6:

A patient was brought to the emergency room with complaints of inability to walk or lift his left leg for the past 2 days. History and physical examination were unremarkable. However, he did not seem concerned about his condition. What is the most likely diagnosis?

- a) Illness anxiety disorder
- b) Factitious disorder
- c) Malingering
- d) Conversion disorder

Question 7:

A 35-year-old woman with a history of amenorrhea for 5 months presents to your OPD for an antenatal checkup. On examination, her breasts were enlarged and contained milk. Her abdomen was distended, but no fetal heart sounds were appreciated. Her spot UPT was negative and pelvic ultrasound, unremarkable. She tells you that she had a miscarriage five

years ago after which she struggled with depression. Under which of the following would you classify this condition?

- a) Factitious disorder
- b) Malingering
- c) Other somatic symptom and related disorders
- d) Dissociation disorder

Answer Key

Question No.	Correct Option
1	b
2	b
3	d
4	a
5	a
6	d
7	c

Detailed Explanations

Solution to Question 1:

Dissociative disorder is classified separately under DSM-5.

The somatic symptoms and related disorders group in DSM-5 includes:

- Somatic symptom disorder (somatoform disorder)
- Illness anxiety disorder (hypochondriasis)
- Functional neurological symptom disorder (conversion disorder)
- Factitious disorder (Munchausen syndrome)
- Psychological factors affecting other medical conditions
- Other specified somatic symptoms and related disorders
- Unspecified somatic symptoms and related disorder

Solution to Question 2:

In the scenario, the presence of one or more somatic symptoms for more than 6 months in the absence of an organic cause is suggestive of somatic symptom disorder.

DSM-5 criteria for the diagnosis of somatic symptom disorder:

- One or more somatic symptoms that are distressing or result in significant disruption of daily life.
- Excessive thoughts, feelings, or behaviors related to the somatic symptoms or associated health concerns as manifested by at least one of the following:
 - Disproportionate and persistent thoughts about the seriousness of one's symptoms.
 - Persistently high level of anxiety about health or symptoms.
 - Excessive time and energy are devoted to these symptoms or health concerns.
- Although a single somatic symptom may not be continuously present, the state of being symptomatic is persistent (typically more than 6 months).

Smith's consultation letter provides the primary care physicians with dos and don'ts during an encounters with patients with multiple medically unexplained physical symptoms. It suggests the following:

- Regularly scheduled appointments
- Performing brief physical examinations focusing on the area of discomfort at each visit
- Avoid unnecessary diagnostic procedures, invasive treatments, and hospitalizations
- Avoid using statements such as symptoms are all in your head
- Encourage patients to talk about stressors

Treatment is psychotherapy.

Solution to Question 3:

The given clinical history of the patient preoccupied with thoughts of suffering from a disease (brain tumor) based on her interpretation of a benign headache for 6 months is suggestive of illness anxiety disorder i.e., hypochondriasis.

DSM-5 criteria for the diagnosis of illness anxiety disorder:

- Preoccupation with having or acquiring a serious illness.
- Somatic symptoms are absent or mild in intensity. If another medical condition is present or there is a high risk for developing a medical condition (e.g., strong family history is present), the preoccupation is clearly excessive or disproportionate.
- The individual performs excessive health-related behaviors (e.g., repeatedly checks his or her body for signs of illness) or exhibits maladaptive avoidance (e.g., avoids doctor appointments and hospitals).

- Preoccupation with illness for at least 6 months, but the specific illness that is feared may change over that period of time.
- The illness-related preoccupation is not better explained by another mental disorder.

Note: In illness anxiety disorder, the patient is preoccupied with a disease whereas, in somatic symptom disorder, the patient is preoccupied with symptoms.

Solution to Question 4:

Astasia-abasia is associated with conversion disorder (functional neurological symptom disorder). It is a wildly ataxic, staggering gait accompanied by gross, irregular, jerky truncal movements and thrashing and waving arm movements. Patients with these symptoms rarely fall and even if they do, they are generally not injured.

Solution to Question 5:

Autonomic symptoms are not seen in conversion disorder (functional neurological symptom disorder).

A conversion disorder is an acute and temporary loss or alteration in motor or sensory function triggered by psychosocial stress. Most of the patients have a history of traumatic events in childhood. The symptoms or deficits of conversion disorder are not intentionally produced. There is a time difference seen between the stressors and symptoms.

The channeling or conversion of the emotional arousal to physical symptoms is primary gain, while the benefits that come out of having the physical symptoms is the secondary gain. For example, it forcing a spouse to stay in an otherwise failing marriage.

La Belle indifference (beautiful indifference) refers to the patient's blissful indifference to what appears to be a significant impairment.

Solution to Question 6:

The absence of concern towards one's problem despite an apparent severe disability is known as La-belle indifference. It is seen in conversion disorder.

Solution to Question 7:

The clinical scenario points to a diagnosis of pseudocyesis. Pseudocyesis is a false belief of being pregnant that is associated with objective signs and reported symptoms of pregnancy. It is classified under other specified somatic symptoms and related disorders.

Pseudocyesis is the development of the classic symptoms of pregnancy - amenorrhea, nausea, breast enlargement and pigmentation, abdominal distention and even labor pains, in a nonpregnant woman. It demonstrates the ability of the mind (psyche) to dominate the body (soma).

Predisposing psychological processes include:

- A pathological wish for, and fear of pregnancy
- Ambivalence or conflict regarding gender, sexuality, or childbearing
- Grief reaction to loss following a miscarriage, tubal ligation or hysterectomy

Disorders classified under other specified somatic symptoms and related disorders include:

- Brief somatic symptom disorder- duration of symptoms is less than 6 months
- Brief illness anxiety disorder- duration of symptoms is less than 6 months
- Illness anxiety disorder without excessive health-related behaviors
- Pseudocyesis

Option A: Factitious disorder (Munchausen syndrome) is the intentional production of physical symptoms to get medical attention. There is no intention to obtain a practical gain.

Option B - Malingering refers to mimicking a physical or clinical finding with an associated motive to gain benefit.

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Factitious Disorders, Malingering and Criminality

Question 1:

A 30-year-old lady presents to the OPD with headache, backache, and abdominal pain for 1 month. On examination, there are multiple scars on the abdomen. The patient is keen on knowing the diagnosis and insists on getting some more tests and procedures. The history she gave was quite long and confusing, consisting of visits to multiple doctors and numerous procedures. What is the most likely diagnosis?

- a) Hypochondriasis
- b) Malingering
- c) Factitious disorder
- d) Delusional disorder

Question 2:

Which of the following is associated with pseudologia fantastica?

- a) Multiple personality disorder
- b) Malingering
- c) Munchausen syndrome
- d) Delusional disorder

Question 3:

Which of the following is not a differential diagnosis for a patient suspected to have factitious disorder?

- a) Schizotypal personality disorder
- b) Borderline personality disorder
- c) Antisocial personality disorder
- d) Histrionic personality disorder

Question 4:

A 2-year-old boy was admitted for evaluation of fever. However, there were inconsistencies in the mother's reporting of medical information. Further exploration revealed that she had taken her child to multiple hospitals giving varying histories of lupus, asthma, etc that prompted excessive testing. Which of the following best describes this condition?

- a) Factitious disorder
- b) Somatic symptom disorder
- c) Hypochondriasis
- d) Factitious disorder by proxy

Question 5:

Peregrination to seek medical care is a feature of which of the following conditions?

- a) Munchausen syndrome
- b) Alzheimer's disease
- c) Malingering
- d) Dissociative disorder

Question 6:

An 18-year-old boy is brought to you by his concerned grandmother with a history of having experienced several episodes of jerking of the body the day before his final exam. There was no history post-ictal confusion or tongue bite and his investigations were normal. Which of the following conditions should be considered?

- a) Malingering
- b) Factitious disorder
- c) Somatisation syndrome
- d) Hypochondriasis

Question 7:

A prison inmate is escorted to the ER with complaints of sudden unbearable abdominal pain. However, on evaluation, he was found to be malingering. Presence of which of the following would help you differentiate this from factitious disorder?

- a) Goal of financial or personal gain
- b) Goal of getting medical attention

- c) Conscious production of symptoms
- d) Discrepancy between symptoms and exam findings

Answer Key

Question No.	Correct Option
1	c
2	c
3	a
4	d
5	a
6	a
7	a

Detailed Explanations

Solution to Question 1:

The given clinical scenario is suggestive of factitious disorder, also known as Munchausen syndrome.

- The patient is referred to as a professional patient wherein the person always fakes the disease/symptoms, and keep going from doctor to doctor and hospital to hospital in order to seek medical attention.
- Such patients will have extensive medical history or evidence of multiple surgeries and have a characteristic gridiron abdomen i.e., multiple scars on the abdomen.
- They distort their history and findings and make it hard to come to a diagnosis when there isn't any existing pathology.
- The Symptoms do not respond to usual treatment or medications and there will be emergence of new, unusual symptoms when other symptoms resolve.
- They will give history of multiple allergies.
- Such patients will only have few visitors while in the hospital.
- They will be reluctant to give access to collateral sources of information (for example, contact details of family)
- They will have unusual progression of symptoms or unusual response to treatment.

Delusional disorders - It is when a person exhibits nonbizarre delusions (about situations that can occur in real life, such as being followed or infected) for least 1 month, that cannot be attributed to other psychiatric disorders.

Solution to Question 2:

Patients with Munchausen syndrome (factitious disorder) demonstrate pseudologia fantastica, a specific syndrome of autobiographical lying with four features:

-

The stories are not entirely improbable and are built upon a basis of truth.

- The stories are enduring.
- They are not told purely for personal gain and have a self-aggrandizing quality.
- They are not delusions, in that the patient can admit to falsehoods when confronted with conflicting facts.

In pseudologia fantastica, limited factual material is mixed with extensive and colourful fantasies. The listener's interest pleases the patient and, thus, reinforces the symptom.

Solution to Question 3:

Persons with factitious disorder usually do not have the eccentricities of dress, thought, or communication that characterizes schizotypal personality disorder patients.

Personality disorders simulating factitious disorder:

- Antisocial personality disorder:
 - Similarities - pathological lying, lack of close relationships with others, hostile and manipulative manner, and associated substance abuse and criminal history.
 - Differences - antisocial persons, however, do not usually volunteer for invasive procedures or resort to repeated or long-term hospitalization.
- Histrionic personality disorder:
 - Similarities - attention-seeking and an occasional flair for the dramatic
 - Differences - but not all factitious disorder patients have a dramatic flair; many are withdrawn and bland.
- Borderline personality disorder:
 - Similarities - chaotic lifestyle, history of disturbed interpersonal relationships, identity crisis, substance abuse, self-damaging acts, and manipulative tactics.
 - Differences - factitious disorder patients are keen on hospital admission because of such activities.

Solution to Question 4:

In this scenario, the inaccurate histories given by the mother to prompt excessive testing on the child, point towards a diagnosis of factitious disorder by proxy (DSM-5 diagnosis of "Factitious Disorder Imposed on Another").

The most common case of factitious disorder by proxy involves a mother who deceives medical personnel into believing that her child is ill. Here, the affected person intentionally produces physical signs or symptoms in another person who is under his own care. One apparent purpose of the behavior is for the caretaker to indirectly assume the sick role.

Solution to Question 5:

Peregrination is the tendency to travel widely.

Munchausen syndrome features peregrination or frequent wide-ranging travel to seek medical care.

Solution to Question 6:

In the given scenario, absence of muscle spasm, tongue thrusting, or post-ictal confusion, and normal investigations just before the final exam (personal gain), points towards malingering.

Intentional production of symptoms to achieve some practical gain (e.g. avoidance of work, financial compensation, avoidance of criminal responsibility, or military service) is suggestive of malingering.

Factitious disorder (Munchausen syndrome) is the intentional production of physical symptoms to obtain medical attention, not a practical gain.

Solution to Question 7:

Malingering can have many underlying goals, including financial/personal gain. However, factitious disorder has only one motive - seeking and attaining medical attention.

Malingering is suspected when there is:

- Medicolegal context of presentation
- Discrepancy between the individual's claimed stress or disability and the objective findings
- Lack of cooperation during the diagnostic evaluation and in complying with the prescribed treatment regimen
- Presence of antisocial personality disorder

Malingering can be for the following reasons:

- Avoidance of criminal responsibility

- Avoidance of military service or of particularly hazardous duties
- Financial gain
- Avoidance of work, social responsibility, and social consequences.
- Facilitation of transfer from prison to hospital
- Admission to a hospital (for getting a place to stay)

The discrepancy between symptoms and examination findings, and conscious production of symptoms can be present in both disorders. In Malingering, patients can usually stop producing their signs and symptoms when they are no longer considered profitable or when they become risky.

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Dissociative Disorders

Question 1:

As per DSM-5, which of the following is not classified under dissociative disorders?

- a) Multiple identity disorder
- b) Conversion disorder
- c) Derealization disorder
- d) Depersonalisation disorder

Question 2:

Which of the following statements is false about dissociative disorders?

- a) Often preceded by psychological trauma
- b) Involves a conscious defence mechanism
- c) Associated with disruption of neurocognitive functions
- d) Experienced as inability to access information that normally is readily accessible

Question 3:

Which of the following is a negative dissociation symptom?

- a) Amnesia
- b) Fragmentation of identity
- c) Depersonalization
- d) Derealization

Question 4:

A woman brings her husband to the psychiatry OPD. She says he is usually shy and mature. The previous week, she saw him flirting with a girl. When confronted, he said he could not recall this at all. During the fight, he suddenly started talking in a child-like voice and began to cry. What is the most likely diagnosis?

- a) Dissociative fugue

- b) Bipolar disorder
- c) Dissociative identity disorder
- d) Depersonalization

Question 5:

A man was brought to the ER with severe chest pain which was proven to be due to myocardial infarction. After recovery, however, he couldn't remember his 3-year-old son but could recognize his wife who he married 4 years ago. He said he works as a software engineer but his wife reported that he quit his job 6 months ago. Interestingly, he is still able to play the violin which he learnt last year. What is the most likely diagnosis?

- a) Anterograde amnesia
- b) Localized amnesia
- c) Selective amnesia
- d) Systematized amnesia

Question 6:

A 52-year-old man is brought to the emergency department after being found in a confused state at the interstate bus station in Kerala. He is unable to recall his name, address, or any other personal information. His driving license from his wallet revealed that he is from Bangalore and that his wife had reported him missing 2 days ago. She says that he got laid off from his job, after which he did not come home. Which of the following is the most likely diagnosis for this patient's condition?

- a) Dissociative Amnesia
- b) Dissociative Fugue
- c) Dissociative Identity Disorder
- d) Depersonalization Disorder

Question 7:

During the evaluation of a patient, a temporary loss of the sense of personal identity without the replacement by an alternate identity is noted. What is the most likely cause of this patient's condition?

- a) Dissociative trance disorder

- b) Dissociative identity disorder
- c) Dissociative fugue
- d) Dissociative amnesia

Question 8:

A 27-year-old woman complained that she was feeling detached from herself. She reported that she felt unreal, empty, and perceived she was watching herself in a movie. Her family says she was raped recently and has not been herself ever since. Which of the following best describes her perception?

- a) Derealization
- b) Dissociative fugue
- c) Dissociative amnesia
- d) Depersonalization

Question 9:

Which of the following conditions are associated with wandering?

- a) 1, 2 and 4
- b) 1 and 5
- c) 2, 3 and 4
- d) 3, 4 and 5

Question 10:

Hysterical pseudodementia is a type of ____?

- a) Dementia
- b) Malingering
- c) Dissociative disorder
- d) Personality disorder

Answer Key

Question No.	Correct Option
1	b
2	b
3	a
4	c
5	c
6	b
7	a
8	d
9	d
10	c

Detailed Explanations

Solution to Question 1:

As per DSM-5, conversion disorder (functional neurological symptom disorder) is classified under somatic symptom and related disorders, and not under dissociative disorders.

DSM-5 classification of dissociative disorders includes the following:

- Dissociative identity disorder (multiple identity disorder)
- Dissociative amnesia
- Depersonalization/derealization disorder
- Other specified dissociative disorder
- Unspecified dissociative disorder

Note: Following psychological trauma, conversion disorder produces sensorimotor symptoms whereas dissociative disorders produce cognitive symptoms.

Solution to Question 2:

Dissociation, which is an unconscious defense mechanism is the underlying mechanism in all dissociative disorders.

Dissociative disorders result from the disruption of cognitive functions due to psychological trauma. They can be experienced as an inability to access information or to control mental functions that normally are readily amenable to access or control.

Solution to Question 3:

Amnesia is a negative dissociation symptom.

Positive dissociation symptoms are involuntary intrusions into awareness and behavior, with loss of continuity in subjective experience. E.g., fragmentation of identity, depersonalization, and derealization.

Negative dissociation symptoms are the inability to access information or to control mental functions that normally can be readily accessed or controlled. E.g., amnesia.

Solution to Question 4:

The given clinical scenario is suggestive of dissociative identity disorder. It is characterized by the presence of two or more distinct identities or personality states. It was previously called multiple personality disorder.

The identities or personality states are called alters, self states, or alter identities. Each has its own pattern of perceiving and thinking about the environment and self. It is strongly associated with severe experiences of early childhood trauma, usually maltreatment.

Solution to Question 5:

The patient has features of dissociative amnesia. This patient's ability to remember some, but not all, of the events occurring during a circumscribed period of time, is known as selective amnesia.

Dissociative amnesia is defined as an inability to recall important autobiographical information that is successfully stored in memory and ordinarily would be readily remembered. It is potentially reversible (unlike amnesias due to neuro-biological damage). It is further categorized into the following types:

- Selective amnesia - ability to remember some, but not all, of the events occurring during a circumscribed period of time.
- Localized amnesia - inability to recall all events related to a circumscribed period of time.
- Generalized amnesia - failure to recall one's entire life.
- Continuous amnesia - failure to recall successive events as they occur.
- Systematized amnesia - amnesia for certain categories of memory, such as all memories relating to one's family or a particular person.

Solution to Question 6:

History of sudden amnesia and wandering to the new place is suggestive of dissociative fugue.

The onset of dissociative fugue is usually sudden, often in the presence of severe stress. The termination also is abrupt and is followed by amnesia for the episode, but with the recovery of

memories of earlier life.

Solution to Question 7:

The given clinical scenario is suggestive of dissociative trance disorder. It manifests by a temporary, marked alteration in the state of consciousness or by loss of the customary sense of personal identity without the replacement by an alternate sense of identity.

This condition is characterized by the following:

- Acute narrowing or complete loss of awareness of immediate surroundings
- Profound unresponsiveness or insensitivity to environmental stimuli
- May be accompanied by minor stereotyped behaviors (e.g., finger movements) of which the individual is unaware
- Transient paralysis or loss of consciousness

Possession trance is a variant of dissociative trance. It involves single or episodic alternations in the state of consciousness, characterized by the exchange of the person's customary identity with a new identity usually attributed to a spirit, divine power, deity, or another person.

In this possessed state, the individual exhibits stereotypical and culturally determined behaviors or experiences being controlled by the possessing entity. There is always partial or full amnesia for the event.

Solution to Question 8:

The given scenario is suggestive of depersonalization. It is defined as the persistent or recurrent feeling of detachment or estrangement from one's self.

The individual may report feeling like watching himself or herself in a movie or feeling like an automaton. Experiences of unreality, detachment, or being an outside observer with respect to one's thoughts, feelings, sensations, body, or actions (e.g., perceptual alterations, distorted sense of time, unreal or absent self, emotional and physical numbing).

Derealization refers to feelings of unreality or of being detached from one's environment. The patient may describe his or her perception of the outside world as lacking lucidity and emotional coloring, as though dreaming or dead.

Solution to Question 9:

Wandering is travel away from the individual's home or customary place of daily activities and it can be seen in complex partial seizures, mania and dissociative identity disorder.

Wandering is seen in the following neuropsychiatric conditions:

- Dissociative fugue - there is purposeful wandering, usually with the individual preoccupied with a single idea that is accompanied by a wish to run away
- Dissociative amnesia
- Dissociative personality disorder
- Focal onset impaired awareness seizure (complex partial seizures) - exhibit wandering or semi purposeful behavior, or both, during seizures or in postictal states, for which subsequent amnesia occurs
- Manic phase of bipolar disorder or schizoaffective disorder
- Schizophrenia
- Malingering

Solution to Question 10:

Ganser syndrome (hysterical pseudodementia) is a type of dissociative disorder.

It is commonly found in prison inmates. The characteristic feature is vorbeireden, which is also called approximate answers. The answers are incorrect but show that the person understands the nature of the question asked. E.g., when asked about the color of an apple, the patient's answer is blue.

Sleep Disorders

Question 1:

Which stage of sleep is called paradoxical sleep?

- a) Non-rapid eye movement sleep 1 (NREM-1)
- b) Non-rapid eye movement sleep 2 (NREM-2)
- c) Non-rapid eye movement sleep 3 (NREM-3)
- d) Rapid eye movement sleep (REM)

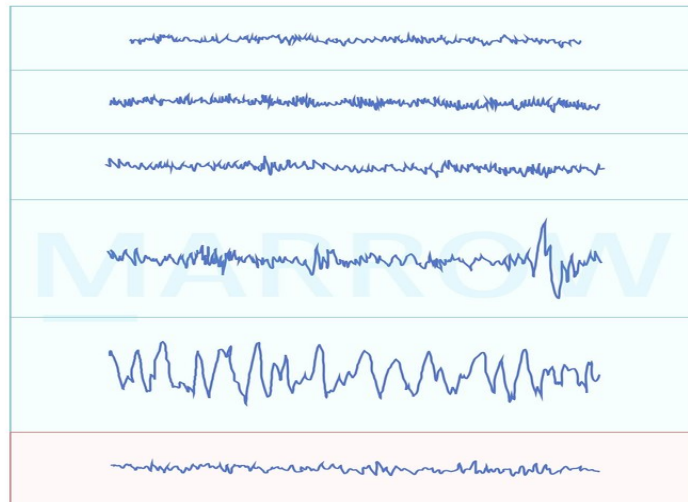
Question 2:

While performing EEG on a sleeping patient, you observe patterns on the graph. The stage with the maximum duration, will be identified by the presence of which of the following waves?

- a) Theta waves
- b) Sleep spindles
- c) Delta waves
- d) Beta waves

Question 3:

Identify the stage of sleep based on EEG finding highlighted in red.



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- a) Stage 1
- b) Stage 2
- c) Stage 3
- d) REM sleep

Question 4:

What waves can be seen on the EEG when a person is awake but their eyes are closed?

- a) Alpha waves
- b) Beta waves
- c) Theta waves
- d) Delta waves

Question 5:

During polysomnography of a patient with unexplained daytime sleepiness, sawtooth waves are being recorded on EEG. Which of the following is associated with this stage of sleep?

- a) Dreaming
- b) Decreased brain oxygen consumption
- c) Increased muscle tone
- d) Reduced pulse rate

Question 6:

Which of the following events would not occur in NREM sleep?

- a) Nightmares
- b) Night terrors
- c) Sleep walking
- d) Bruxism

Question 7:

A college student complains that she is unable to sleep properly. This is making it hard for her to concentrate on her studies and has led to a fall in her grades. She lies on her bed for at least 8-9 hours but has difficulty falling asleep. She has no history of drug abuse. For how many months should the symptoms persist before you diagnose her with insomnia disorder?

- a) 1 month
- b) 3 months
- c) 4 months
- d) 6 months

Question 8:

A 22-year-old woman complains of excessive daytime sleepiness and sudden bouts of sleep. The symptoms began at the age of 11 and have been worsening. She couldn't stay awake during her classes or exams and often dozed off standing up, while working. Eventually, she developed episodes of sudden loss of muscle tone, precipitated by strong emotions. What is most likely diagnosis?

- a) Insomnia
- b) Narcolepsy
- c) Absent seizures
- d) Somnambulism

Question 9:

A patient with narcolepsy will have which of the following characteristic changes in sleep?

- a) Increased REM latency

- b) Insomnia
- c) Decreased REM latency
- d) Increased NREM sleep

Question 10:

A worried patient presents to the OPD for a health checkup. The previous night she went on a date and was enjoying his company. Once, he made her laugh so uncontrollably that she suddenly felt a loss of strength in her body and fell to the ground. Which of the following CSF findings would be diagnostic for her condition?

- a) Decreased hypocretin levels
- b) Decreased GABA levels
- c) Increased hypocretin levels
- d) Increased GABA levels

Question 11:

A terrified computer engineer presents to the clinic with complaints of excessive daytime sleepiness and inability to move for a few seconds after waking in the morning. He has a recurring hallucination of being suffocated by a great hound just as he falls asleep, which further disturbs him. Which of the following is the drug of choice for this patient?

- a) Low dose benzodiazepines
- b) Modafinil
- c) Sertraline
- d) Amphetamines

Question 12:

What is included in Klein-Levin syndrome?

- a) Insomnia
- b) Anxiety
- c) Depression
- d) Hypersomnia

Question 13:

A scared mother brings her 6-year-old child to a psychiatrist. Her son wakes up at night screaming, sweating, and terrified. When she tries to console him, he does not respond. In the morning, he is unable to recall the episode. In which stage of sleep does this condition occur?

- a) N1
- b) N2
- c) N3
- d) REM

Question 14:

A 5-year-old boy is brought to the psychiatrist by his parents. They say he wakes up at night screaming that someone is chasing him with a blunt axe. He feels a bit relaxed after they console him, but it is difficult for him to go to sleep again. In which stage of sleep do these episodes occur?

- a) REM
- b) N1
- c) N2
- d) N3

Question 15:

A woman brings her 8-year-old son to you with complaints that the child wakes up at night and walks around the room for about 15 minutes every alternate day. Any attempt to communicate with him during the episode is unsuccessful. The child is unable to recall the episodes when he wakes up. What is the most probable diagnosis?

- a) Narcolepsy
- b) Somniloquy
- c) Somnambulism
- d) Cataplexy

Question 16:

What is the false statement regarding somnambulism?

- a) Disorder of sleep arousal
- b) Person will have full consciousness
- c) Usually, terminates in awakening followed by confusion
- d) There may be neurological condition associated

Question 17:

An irritated wife brings her husband to the clinic. She says he grinds his teeth while sleeping and feels it is impossible to lie next to him. The patient feels jaw pain and headache the day following these episodes. Which of the following is false regarding his condition?

- a) May persist throughout life
- b) Can occur during REM sleep
- c) Botox can help prevent jaw joint complications
- d) It is not precipitated by oromandibular dystonia

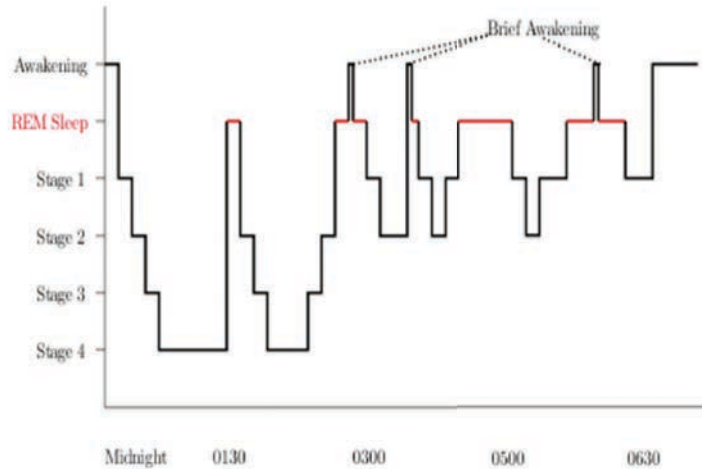
Question 18:

A 25-year-old woman complains of a creepy crawling sensation in her legs. It is more at night and prevents her from sleeping. She is relieved of these symptoms by either walking or moving her legs. Which of the following drugs is used in treating the condition?

- a) Gabapentin
- b) Pramipexole
- c) Vitamin B12
- d) Iron tablets

Question 19:

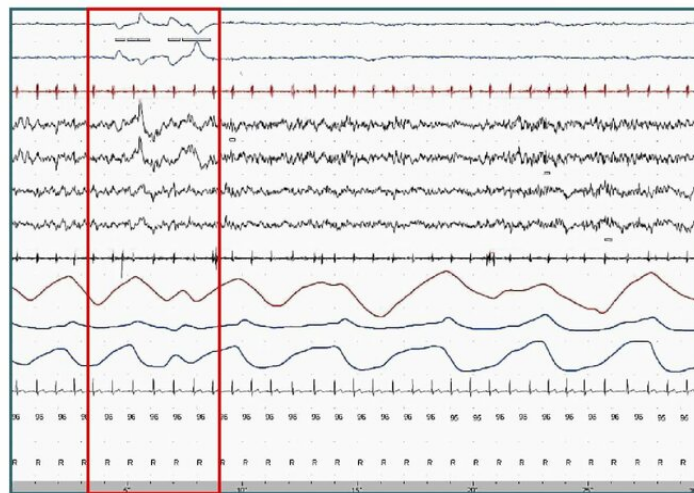
What does the given image represent?



- a) Hypnogram
- b) Electroencephalogram
- c) Polysomnogram
- d) Epworth sleep assessment

Question 20:

On performing polysomnography in a patient, the waves of EOG, EEG, and EMG respectively from above downwards are seen below. Which stage of sleep does the marked area represent?



- a) REM sleep

- b) NREM I sleep
- c) NREM II sleep
- d) NREM III sleep

Answer Key

Question No.	Correct Option
1	d
2	b
3	d
4	a
5	a
6	a
7	b
8	b
9	c
10	a
11	b
12	d
13	c
14	a
15	c
16	b
17	d
18	a
19	a
20	a

Detailed Explanations

Solution to Question 1:

REM stage of sleeping is also known as paradoxical sleep. It is characterized by a high level of brain activity and physiological activity, similar to those in wakefulness. In REM sleep,

- Pulse, respiration, and blood pressure are increased.

- Brain oxygen use increases during REM sleep.
- Thermoregulation is altered - Poikilothermia prevails during REM sleep.
- There is loss of muscle tone - body movement is absent during REM sleep.
- There is partial or full penile erection.
- Dreams are abstract and surreal.

Polygraphic measures during rapid eye movement sleep show irregular patterns, sometimes close to aroused waking patterns.

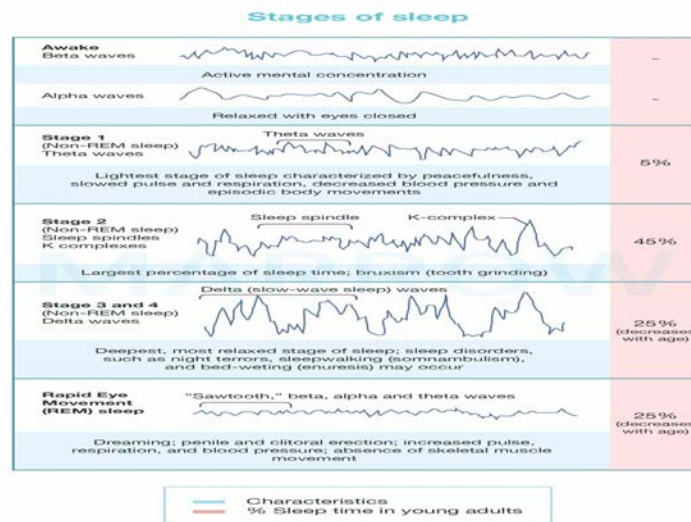
In NREM sleep, physiological functions are markedly lower than in wakefulness.

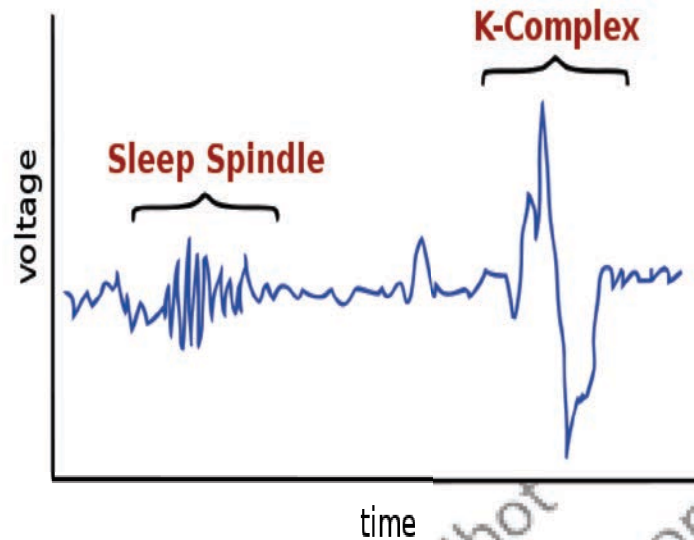
Solution to Question 2:

N2(stage 2) of NREM sleep is the longest sleep phase. It presents with sleep spindles and K-complexes.

The stages of sleep include:

- NREM (75%)
- Stage N1- 5%
- Stage N2- 45%
- Stage N3- 25%
- REM (25%)





Solution to Question 3:

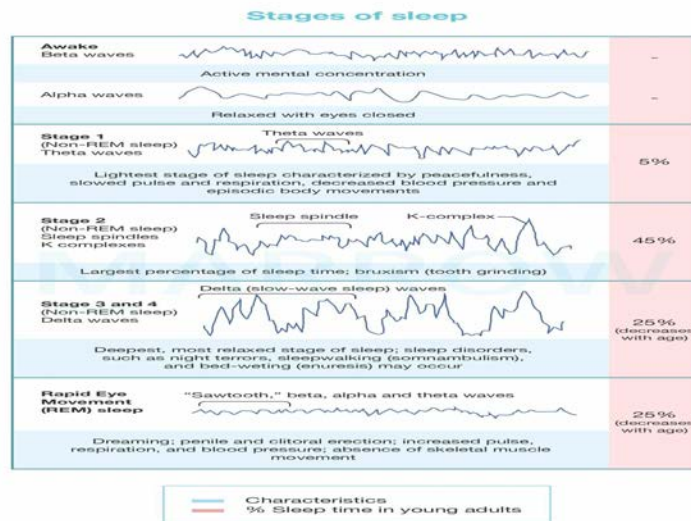
The marked area in the given EEG shows sawtooth waves that are characteristic of REM sleep.

Sleep is comprised of two distinct physiological states, non-rapid eye movement (NREM) sleep and REM sleep. Stages I to IV make up the NREM sleep with marked lower physiological functions than during wakefulness. Dreams which occur during this state are usually lucid and purposeful.

REM sleep is characterized by a high level of brain activity. The physiological activity is similar to that during wakefulness. In REM sleep,

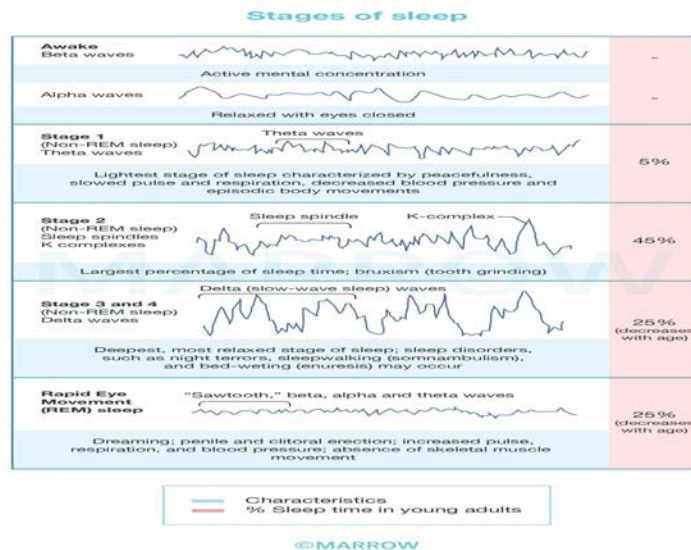
- Pulse, respiration, and blood pressure are increased.
- Brain oxygen use increases during REM sleep.
- Thermoregulation is altered - Poikilothermia prevails during REM sleep.
- There is loss of muscle tone - body movements are absent during REM sleep.
- There is partial or full penile erection - This is used to evaluate the cause for impotence.
- Dreams are abstract and surreal.

In normal adults, a REM episode has a latency of about 90 minutes during which the sleep is in the NREM stage. This latency is shortened in narcolepsy and depressive disorders.



Solution to Question 4:

Alpha waves are seen when the person is relaxed with eyes closed.



Solution to Question 5:

Sawtooth waves are seen in rapid eye movement (REM) sleep. Dreaming is associated with rapid eye movement (REM) sleep.

Other changes in REM sleep:

- Loss of muscle tone

- Partial or full penile erection
- Increased heart rate, blood pressure, respiratory rate
- Increased brain oxygen consumption

Solution to Question 6:

Nightmares are seen in REM sleep.

Solution to Question 7:

The sleep disturbance should be present for at least 3 nights per week, for at least 3 months to diagnose insomnia disorder. It is the most common sleep disorder.

DSM-5 criteria for insomnia disorder:

- A predominant complaint of dissatisfaction with sleep quantity or quality, associated with one (or more) of the following symptoms:
 - Difficulty initiating sleep
 - Difficulty maintaining sleep
 - Early-morning awakening with inability to return to sleep
- The sleep disturbance causes clinically significant distress or impairment in functioning.
- The sleep difficulty occurs at least 3 nights per week.
- The sleep difficulty is present for at least 3 months.
- The sleep difficulty occurs despite adequate opportunity for sleep.
- The insomnia is not better explained by and does not occur exclusively during the course of another sleep-wake disorder (e.g., narcolepsy, a breathing-related sleep disorder, a circadian rhythm sleep-wake disorder, a parasomnia).
-

Insomnia is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication).

- Coexisting mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia.

Treatment includes -

- Treatment of underlying conditions (anxiety, mood disorders, etc.), if any
- Sleep hygiene
- Short-term therapy with Z-drugs (zolpidem, zopiclone, zaleplon)

Solution to Question 8:

The given clinical scenario is suggestive of narcolepsy.

It is characterized by the tetrad of:

- Excessive daytime sleepiness
- Cataplexy (sudden loss of muscle tone)
- Hypnagogic/hypnopompic hallucinations
- Sleep paralysis

The hallmark of narcolepsy is decreased REM latency, i.e. decreased latent period before the first REM period occurs. Normal REM latency is 90-100 minutes. In narcolepsy, REM-sleep usually occurs within 10 minutes of the onset of sleep (sleep onset REM).

Treatment:

- Sleep hygiene
- Scheduled naps
- Avoidance of alcohol and drugs that cause drowsiness
- Drugs:
 - Modafinil (wakefulness-promoting drug) is the drug of choice.
 - Amphetamines
 - Methylphenidate

Solution to Question 9:

Narcolepsy is characterized by decreased REM latency.

It is characterized by the tetrad of:

- Excessive daytime sleepiness
- Cataplexy (sudden loss of muscle tone)
- Hypnagogic/hypnopompic hallucinations
- Sleep paralysis

The hallmark of narcolepsy is decreased REM latency, i.e. decreased latent period before the first REM period occurs. Normal REM latency is 90-100 minutes. In narcolepsy, REM-sleep usually occurs within 10 minutes of the onset of sleep (sleep-onset REM).

Solution to Question 10:

The patient experienced an episode of cataplexy, which is characterized by decreased levels of hypocretin in CSF. cataplexy is sudden loss of muscle tone, such as jaw or head drop, weakness of

the knees, or paralysis of all skeletal muscles with collapse. It is seen in narcolepsy.

Narcolepsy is the classical example of sleepiness caused due to CNS dysfunction of sleep mechanisms, mainly, a genetically triggered hypocretin deficit and dysfunction.

Levels of hypocretin receptor-I are undetectable in cerebrospinal fluid (CSF) of individuals who are HLA DQB 1*0602-positive (consistent with cataplexy-associated narcolepsy).

The classic form of narcolepsy (narcolepsy with cataplexy) is characterized by a tetrad of symptoms:

- Excessive daytime sleepiness
- Cataplexy (sudden loss of muscle tone)
- Hypnagogic/hypnopompic hallucinations
- Sleep paralysis

Symptoms commonly appear in the second decade of life. Strong emotions (such as laughter and anger) usually act as the trigger for cataplexy.

Pharmacotherapy remains the treatment of choice. Modafinil, an α 1-adrenergic receptor agonist, is used to reduce the number of sleep attacks and to improve psychomotor performance in narcolepsy. Besides this, imipramine and fluoxetine are also found effective in eliminating cataplexy.

Solution to Question 11:

The patient has sleep paralysis, excessive daytime sleepiness, and hypnagogic hallucinations, suggestive of narcolepsy. The drug of choice for narcolepsy is modafinil, an α 1-adrenergic receptor agonist, used to reduce the number of sleep attacks and to improve psychomotor performance in narcolepsy.

Narcolepsy is characterized by the tetrad of:

- Excessive daytime sleepiness
- Cataplexy (sudden loss of muscle tone)
- Hypnagogic/hypnopompic hallucinations
- Sleep paralysis

The hallmark of narcolepsy is decreased REM latency.

Treatment:

- Sleep hygiene
- Scheduled naps
- Avoidance of alcohol and drugs that cause drowsiness
- Drugs:
 - Modafinil (wakefulness-promoting drug) is the drug of choice.
 - Amphetamines

- Methylphenidate

Solution to Question 12:

Klein-Levin syndrome is one of the primary hypersomnias.

It is characterized by the following:

- Hypersomnia - always present, occurring recurrently for long periods of time (18-hour to 20-hour sleep periods)
- Hyperphagia
- Hypersexuality
- Disinhibition (aggression)

Studies show diffuse brain hypoperfusion, mostly focused on the thalamic and frontotemporal areas on SPECT scan in patients with Klein-Levin syndrome during the symptomatic period.

Solution to Question 13:

The given clinical scenario point towards a diagnosis of night terrors (pavor nocturnus). The episodes occur during delta sleep (N3).

Night terrors are characterized by the following:

- Repetitive experiences of fright in which a person screams in fear during sleep (usually normal in children)
- The person cannot be awakened
- Autonomic disturbances may be present
- The person has no memory of having a dream
- Occurs during delta sleep
- Onset in adolescence may indicate temporal lobe epilepsy

Solution to Question 14:

The given clinical scenario is suggestive of nightmares. They are seen in REM sleep.

Solution to Question 15:

The given clinical scenario points towards a diagnosis of somnambulism (sleep walking).

Sleepwalking or somnambulism is more common in children. While sleep walking the individual is in a confused state and is relatively unresponsive to efforts of others to communicate with them and can be awakened only with great difficulty. It resolves spontaneously after adolescence.

Treatment:

- Reassurance
- Patient safety has to be maintained

Somniloquy is otherwise called sleeptalking.

Solution to Question 16:

Somnambulism is characterized by sequence of behaviors without full consciousness.

Note: About 80% of sleepwalkers have a family history of sleepwalking, and an identical twin is much more likely to sleepwalk if their other twin sleepwalks.

Solution to Question 17:

The given clinical scenario is suggestive of bruxism (teeth grinding). It can be precipitated by anxiety, stress, and oromandibular dystonia.

Sleep-related bruxism is commonly seen in the 1st or 2nd decade of life and can persist lifelong.

It can be prominently noted in mainly N1 and N2 NREM sleep and sometimes in REM sleep.

It may be associated with conditions such as:

- Huntington's disease
- Cerebral palsy
- Mental retardation.

Bruxism can be precipitated by anxiety and stress. It can lead to temporomandibular joint (TMJ) syndrome. Local injections of botulinum toxins (botox) into the masseter muscles can help in the prevention of dental and TMJ problems.

Bruxism can be seen secondary to the usage of entactogen drugs (Methylenedioxyamphetamine – MDMA), amphetamine, cocaine, alcohol, and some serotonin reuptake inhibitors.

Solution to Question 18:

The history is suggestive of restless leg syndrome and gabapentin is the first-line choice of treatment for this condition.

Gabapentinoids are considered superior to dopamine agonists due to the high frequency of intermediate and long-term augmentation with dopamine agonists, as well as their risk of impulse

control disorders.

Restless legs syndrome (RLS) is an irresistible urge to move the legs when at rest or while trying to fall asleep or an uncomfortable sensation of creeping-crawling feeling. It is worse at night and moving legs or walking reduces discomfort. Uremia, neuropathies, as well as iron-deficiency and folic acid-deficiency anemias can produce secondary RLS.

In patients with restless legs syndrome, iron stores are initially repleted, and the aggravating factors are eliminated. If RLS still persists, initial therapy with a gabapentinoid (pregabalin, gabapentin, gabapentin enacarbil) is preferred, rather than a dopamine agonist (pramipexole, ropinirole, rotigotine).

FDA-approved drugs for the treatment of restless leg syndrome:

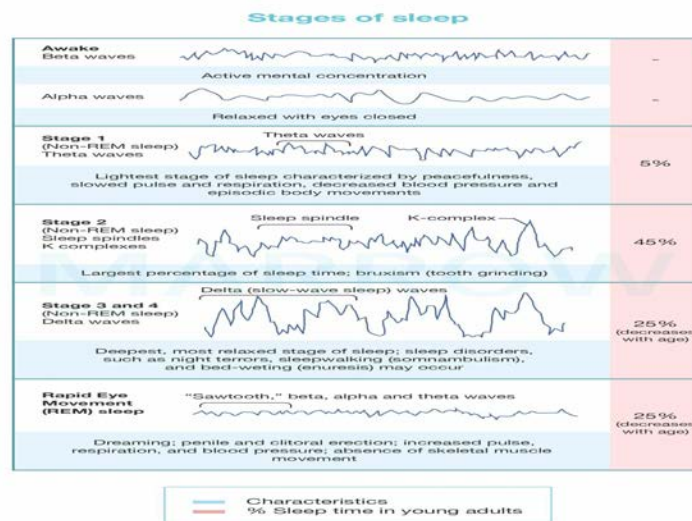
- Gabapentin
- Ropinirole
- Pramipexole
- Rotigotine

Note: A dopamine agonist is used as an alternative in patients with increased risk for side effects from gabapentinoids, such as those with obesity and its complications, a past or present history of moderate to severe depression, a disorder causing gait instability or respiratory failure, and a history of substance use disorder.

Solution to Question 19:

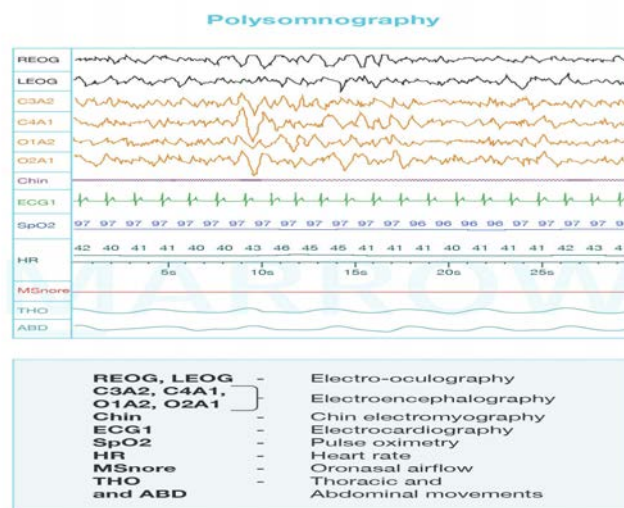
The above image represents a hypnogram. It is a graph that depicts the stages of sleep as a function of time. It provides a visual representation of sleep structure and is useful in the diagnosis of various sleep disorders.

An electroencephalogram is the depiction of the electrical activity of the surface of the brain. Different waveforms (alpha, beta, theta, delta) are produced depending on the functional status of the brain.



Polysomnography is a multi parametric test that is considered the gold standard in the diagnosis of sleep disorders. It is a continuous recording of biophysiological changes that occur during sleep. It includes,

- Continuous EEG recording, from occipital and parietal leads
- Electro-oculography- to record eye movements
- Electromyography- for muscle potential and its activities
- ECG
- Multiple sleep latency tests- repeated measures of time taken to sleep
- Nasal-oral airflow, respiratory effort, oxyhemoglobin saturation, and leg movements during sleep are measured.



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Epworth sleep assessment scale is a questionnaire used to quantify daytime sleepiness. It determines how frequently a patient is likely to doze off in 8 commonly encountered situations. It is a subjective assessment and hence less reliable.

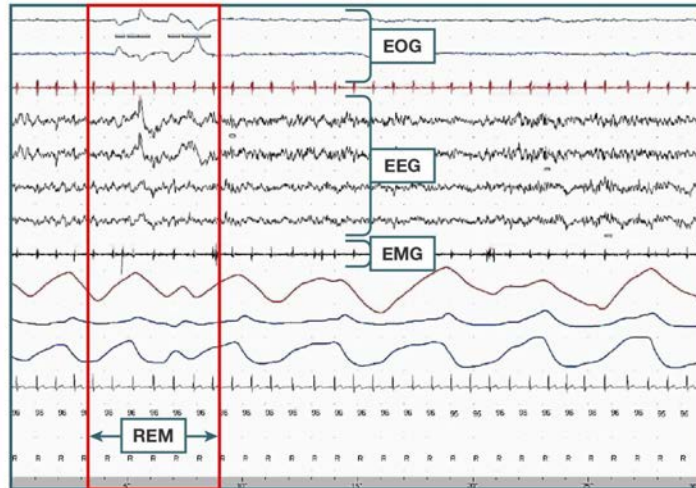
Solution to Question 20:

REM sleep is represented by the marked area in the given polysomnography.

The three zones in the given image represent EOG, EEG, and EMG, respectively. In the marked area,

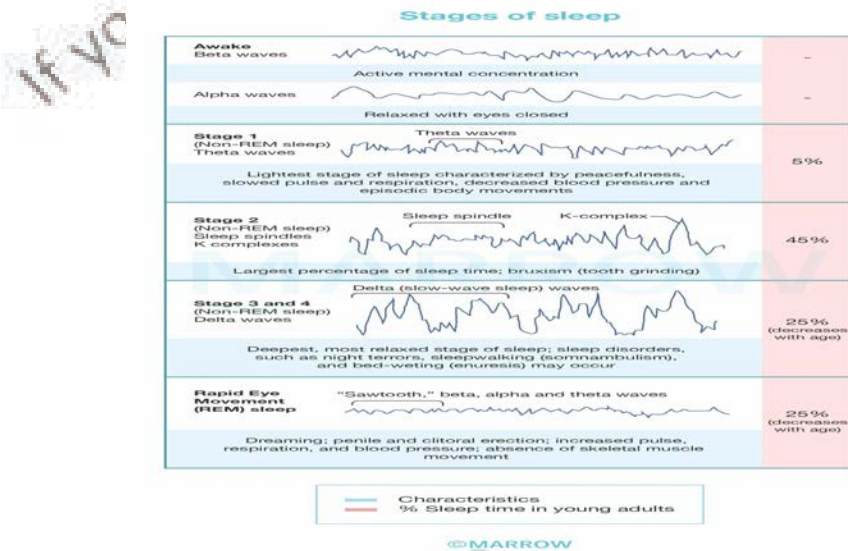
- EOG shows Positive activity
- EEG shows Mixed waves
- EMG shows Minimal activity

This is characteristic of REM sleep.



The following table helps in identifying the state of wakefulness and sleep from the polysomnograph :

	EEG	EOG	EMG
Active state	Fast	+	+
REM sleep	Mixed	+	-
NREM sleep	Slow	-	+



Eating Disorders

Question 1:

Which of the following is the most common eating disorder?

- a) Binge eating disorder
- b) Anorexia nervosa
- c) Bulimia nervosa
- d) Night eating syndrome

Question 2:

Which of the following is not a typical feature in a patient with a binge eating disorder?

- a) Eating much more rapidly than normal
- b) Resorting to excessive dieting after eating
- c) Eating large amounts of food when not feeling physically hungry
- d) Eating large amounts of food when alone

Question 3:

A concerned mother brings her 16-year-old daughter to a psychiatrist. She says her daughter has been fiercely fasting and does 2-3 hours of intense exercise every day even after repeated assurance from her that she is slim. Her periods are irregular and her BMI is 15 kg/m². The daughter explains that she doesn't want to look fat at her farewell party and hence wants to lose some more weight. Which of the following clinical features is expected to be seen in this patient?

- a) Normal appetite
- b) Tachycardia
- c) Hyperthermia
- d) Hypertension

Question 4:

A 25-year-old model who is on top of her game comes to get liposuction done. She says she is obese and would like to get rid of the "flabby tissue". On inquiry, it is revealed that she eats high-calorie food multiple times a month and regrets it afterward. She also sometimes skips meals. On examination, BMI is 23, and the finding shown below is noted. What is the likely diagnosis?



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- a) Anorexia nervosa
- b) Bulimia nervosa
- c) Binge-eating disorder
- d) Purging disorder

Question 5:

A boy with a BMI of 16.5 kg/m² is admitted to the hospital for nutritional rehabilitation for restricting-type anorexia nervosa. Which of the following is not a feature of this condition?

- a) Compulsive overactivity
- b) Self induced vomiting
- c) Highly restricted calorie intake
- d) Overuse athletic injuries

Question 6:

A student on the college dance team was brought to the casualty after she got injured doing a back-flip. While eliciting her history, she revealed that she always feels cold and has not been

getting her periods on time. On examination, she appeared pale and thin and had bilateral parotid swelling. Soft, fine hair was incidentally noted on her trunk and shoulders. Her BMI was 15. Lower limb X-ray revealed a left tibial fracture and generalized osteopenia. Further workup is likely to reveal which of the following abnormalities?

Option	Cholesterol	Potassium	Corticotropin releasing hormone	Luteinizing hormone
1	↑	↓	↓	↓
2	↓	↑	↓	↑
3	↑	↓	↑	↓
4	↓	↓	↑	↑

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- a) Option 1
- b) Option 2
- c) Option 3
- d) Option 4

Question 7:

Which of the following is the most common psychiatric comorbidity that you would expect to find in a patient with anorexia nervosa?

- a) Social phobia
- b) Depression
- c) Obsessive compulsive disorder
- d) Delusional disorder

Question 8:

A patient of anorexia nervosa was eating all her meals according to the prescribed diet chart but there is no change in her weight after 1 week. Which of the following needs to be done?

- a) Observe the patient for 2 hours post meal
- b) Ask the psychiatrist to prescribe anti-anxiety medication
- c) Increase the calories from 1500 to 2000 in her diet
- d) Increase water intake

Question 9:

A patient with a normal BMI comes with a history of binge eating followed by inappropriate compensatory behaviors. As per the DSM-5 criteria, you can make a diagnosis of bulimia nervosa if these occur, on average, for at least _____

- a) Once a week for 3 months
- b) Twice a week for 3 months
- c) Thrice a week for 3 months
- d) Throughout a week for 1 month

Question 10:

Which of the following is consistent with a diagnosis of avoidant/restrictive food intake disorder?

- a) A normal body mass index
- b) Absence of nutritional deficiency
- c) Dependence on enteral feeding or oral nutritional supplements
- d) Normal psychosocial functioning

Question 11:

An anxious lady comes with the complaint of insomnia for 4 months. On further probing, she reveals that she eats a lot of food after her evening meals. She also wakes up in between her sleep to eat. Because of this, she has less appetite when she wakes up in the morning. She is not concerned about her appearance or about gaining weight and doesn't resort to purging activities. What is the most probable diagnosis?

- a) Binge-eating disorder
- b) Bulimia nervosa
- c) Anorexia nervosa
- d) Night eating syndrome

Question 12:

A 15-year-old female with an intellectual disability presents with complaints of repeated regurgitation of food for the last 2 months. There is no history of nausea or retching. She has no history of GERD or any esophageal motility disorder. Her weight and lab investigations are normal. Which of the following conditions is associated with such a presentation?

- a) Binge eating disorder
- b) Bulimia nervosa
- c) Rumination disorder
- d) Anorexia nervosa

Question 13:

You can use the SCOFF questionnaire to screen patients for

- a) 1, 4, 5
- b) 3, 4
- c) 1, 2
- d) 2, 3

Answer Key

Question No.	Correct Option
1	a
2	b
3	a
4	b
5	b
6	c
7	b
8	a
9	a
10	c

11	d
12	c
13	d

Detailed Explanations

Solution to Question 1:

Binge eating disorder is the most common eating disorder. It is more common in females than males.

During a binge, the patient feels like she cannot control her eating and eats an abnormally large amount of food over a short time. These episodes often occur in private and generally include foods of dense caloric content.

Solution to Question 2:

Binge-eating disorder is not associated with compensatory behaviour like excessive dieting. Recurrent inappropriate compensatory behaviors such as vomiting, laxative abuse, or excessive dieting are typically associated with bulimia nervosa.

The binge-eating episodes are associated with the following:

- Eating much more rapidly than normal
- Eating until feeling uncomfortably full
- Eating large amounts of food when not feeling physically hungry
- Eating alone because of feeling embarrassed by how much one is eating
- Feeling disgusted with oneself, depressed, or very guilty afterward

Solution to Question 3:

The given clinical scenario is suggestive of anorexia nervosa. The term anorexia nervosa is a misnomer, as loss of appetite is not seen with patients. They have a normal appetite but they intentionally don't eat.

Anorexia nervosa has the following characteristics:

- Physical:
- Extreme weight loss (15% or more of normal body weight)
- Amenorrhea (three or more consecutive missed menstrual periods)
- Electrolyte disturbances

- Lanugo (neonate like body hair on the trunk)
- Osteoporosis
- Bradycardia and hypotension
- Hypothermia
- Psychological:
 - Refusal to eat despite normal appetite because of an overwhelming fear of being obese
 - The belief that one is fat when very thin
 - Interfamily conflicts
 - Excessive exercising (hyper gymnasias)

It has the following subtypes:

- Restricting (no binge-eating or purging)
- Binge-eating/purging (regularly engaged in binge-eating/purging)

Solution to Question 4:

The image shows calluses and pigmentation on knuckles, known as Russell's sign. The given clinical history of binge-eating, body-image issues, Russell's sign along with a normal BMI is suggestive of bulimia nervosa.

The calluses on hands form due to the repeated scraping of knuckles on the teeth, during self-induced vomiting.

Bulimia can be differentiated from anorexia nervosa by the following features:

- The body weight is within the normal range.
- Bulimia is seen in older age groups (late adolescents or adults).
- Any peculiar eating habit (like dividing food into small portions) is not seen.
- Amenorrhoea is not common.
- Psychiatric symptoms such as depression are more common.

Treatment of bulimia nervosa:

- Without comorbid mood disorders- fluoxetine, topiramate, CBT
- With comorbid mood disorders- carbamazepine

Solution to Question 5:

Self-induced vomiting is not a feature of restrictive-type anorexia nervosa. It is seen in the purging type.

Anorexia nervosa has been divided into two clinical subtypes:

Restricting-type	Purging-type
Food intake is highly restricted (limited calories)	Alternate attempts at rigorous dieting with intermittent binge or purge episodes
Compulsively overactive, with overuse athletic injuries	Secondary compensation by self-induced vomiting or laxative abuse
Socially isolated, depressed, and diminished sexual interest	Socially isolated, depressed, and diminished sexual interest

Solution to Question 6:

The given clinical scenario is suggestive of anorexia nervosa. These patients have increased corticotropin-releasing hormone, increased cholesterol levels, decreased potassium levels, and decreased luteinizing hormone.

Features like low BMI, fracture in a young patient after trivial trauma (suggestive of osteoporosis), soft fine hair on the trunk (lanugo hair that occurs due to starvation), amenorrhea, bilateral parotid swelling (due to purging), and decreased tolerance to cold are strongly suggestive of anorexia nervosa.

Lab findings in anorexia nervosa:

- Complete blood count- leukopenia with a relative lymphocytosis
- Serum electrolyte- hypokalemic alkalosis (purging)
- Fasting serum glucose- often low (emaciated phase)
- Serum salivary amylase- often elevated (if the patient is vomiting)
- ECG- ST-segment and T-wave changes (secondary to electrolyte disturbances)
- Hypotension and bradycardia
- Low LH and FSH
- High serum cholesterol level
- Increased GH levels
- Endocrine changes (caused by the underweight):
- Amenorrhea
- Hypothyroidism
- Hypersecretion of corticotrophin-releasing hormone

Solution to Question 7:

Depression is the most common psychiatric comorbidity seen in patients with anorexia nervosa. Overall, anorexia nervosa is associated with depression in 65% of cases, social phobia in 35% of cases, and obsessive-compulsive disorder in 25% of cases.

Solution to Question 8:

Observe the patient for 2 hours post-meal because the patient might vomit the food.

Treatment of anorexia nervosa:

- Hospitalization:
- Patients with a weight 20% less than expected weight for height should be considered for hospitalization.
- During a hospitalized treatment program, patients should be weighed daily, early in the morning after emptying the bladder.
- The daily fluid intake and urine output should be recorded.
- If vomiting is occurring, hospital staff members must monitor serum electrolyte levels regularly and watch for the development of hypokalemia.
- Because food is often regurgitated after meals, the staff may be able to control vomiting by making the bathroom inaccessible for at least 2 hours after meals or by having an attendant in the bathroom to prevent the opportunity for vomiting.
- Psychotherapy:
- Cognitive-behavioral therapy (CBT)
- Dynamic psychotherapy
- Family therapy
- Pharmacotherapy:
- Pharmacological agents are not the first-line treatment but cyproheptadine, amitriptyline, clomipramine, pimozide, and chlorpromazine show some improvement in these patients.
- Trials of fluoxetine have resulted in some reports of weight gain.

Solution to Question 9:

For diagnosing bulimia nervosa, binge eating and inappropriate compensatory behaviors should occur, at least once a week for 3 months.

DSM-5 criteria for the diagnosis of bulimia nervosa:

- Recurrent episodes of binge eating
- Eating, in a discrete period of time, an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances.

- A sense of lack of control over eating during the episode.
- Recurrent inappropriate compensatory behaviors in order to prevent weight gain.
- The binge eating and inappropriate compensatory behaviors both occur, at least once a week for 3 months.
- Self-evaluation is unduly influenced by body shape and weight.
- The disturbance does not occur exclusively during episodes of anorexia nervosa.

Solution to Question 10:

Avoidant/restrictive food intake disorder is associated with enteral feeding or oral nutritional supplements.

DSM-5 criteria for the diagnosis of avoidant/restrictive food intake disorder:

- An eating or feeding disturbance manifested as a persistent failure to meet appropriate nutritional and/or energy needs is associated with the following:
 - Significant weight loss (or failure to achieve expected weight gain or faltering growth in children)
 - Significant nutritional deficiency
 - Dependence on enteral feeding or oral nutritional supplements
 - Marked interference with psychosocial functioning
- It is not better explained by the lack of available food or by an associated culturally sanctioned practice
- It does not occur exclusively during the course of anorexia nervosa or bulimia nervosa
- It is not attributable to a concurrent medical condition or not better explained by another mental disorder

Solution to Question 11:

The given clinical scenario is suggestive of a night-eating disorder.

The characteristics of night eating disorder include the following:

- Recurrent episodes of hyperphagia at night (night eating)
- The lack of desire for food in the morning
- Insomnia

Differentiating points:

- Although night eating can be found in bulimia nervosa and binge eating disorder, it is the characteristic sign of night eating disorder.
- Also, the amount of food consumed during eating episodes is usually lower in night-eating disorder than in bulimia nervosa and binge-eating disorder.

- Unlike other eating disorders, patients with night eating syndrome are not overly concerned about body image and weight.

Solution to Question 12:

Repeated regurgitation of food is associated with rumination disorder.

Rumination disorder is typically seen in infants but is also seen in adolescents and adults with intellectual disabilities. It is characterized by repeated regurgitation of food over a period of at least 1 month. Partially digested food is brought back up to the mouth without nausea or retching. Regurgitated food may be re-chewed, re-swallowed, or spit out.

Congenital anomalies, infections, and other medical illnesses should be ruled out prior to making a diagnosis of rumination disorder.

The condition has high rates of spontaneous remission and can be managed with behavioural therapy.

Solution to Question 13:

The SCOFF (Sick, Control, One, Fat, Food) questionnaire is a screening tool for anorexia nervosa and bulimia nervosa.

It consists of 5 questions with 1 point being awarded for every positive reply.

The SCOFF questions:

- Do you make yourself Sick because you feel uncomfortably full?
- Do you worry that you have lost Control over how much you eat?
- Have you recently lost more than One stone (~6.35 kg) in a 3-month period?
- Do you believe yourself to be Fat when others say you are too thin?
- Would you say that Food dominates your life?

A score greater than 2 indicates likely anorexia or bulimia. This short questionnaire serves as a quick screening tool, similar to the CAGE questionnaire used in alcohol misuse.

Impulse-Control Disorders

Question 1:

Which of the following is not classified under impulse control disorder?

- a) Intermittent explosive disorder
- b) Pyromania
- c) Trichotillomania
- d) Kleptomania

Question 2:

Which of the following is not a typical feature seen in a patient with an impulse control disorder?

- a) Does not feel remorse about the act
- b) Gratification after completing the act
- c) Intense drive to perform a particular act
- d) Experiences mounting tension and arousal before the act

Question 3:

A 21-year-old boy is brought by his mother to the OPD. She complains that the boy recently tried to light a fire in their garage. He explains that he has a great fascination with fire and experiences pleasure while doing so. He was also involved in multiple fire episodes in his neighbourhood. Which substance abuse is most commonly associated with his condition?

- a) Cannabis
- b) Alcohol
- c) Heroin
- d) Cocaine

Question 4:

A school girl is brought to the OPD by her worried mother with complaints of an urge to steal her classmate's pens and a feeling of gratification after doing so. The school headmistress says she was caught stealing one and was found with a bag full of pens. She is otherwise a good student and performs well. Which of the following is true about this condition?

- a) Stealing is planned beforehand
- b) Stealing is not for personal gain
- c) Stealing can be explained by a conduct disorder
- d) Stealing is done for vengeance

Question 5:

What is oniomania?

- a) Compulsive eating of onions
- b) Compulsive act of masturbation
- c) Compulsive drinking of alcohol
- d) Compulsive act of buying

Question 6:

Which of the following features will be seen in a patient with intermittent explosive disorder?

- a) Single episode of losing control of aggressive impulses
- b) Remain generally angry between episodes
- c) Symptoms can develop within minutes to hours
- d) Amnesia for the episode after the episode is over

Question 7:

A woman complains to HR about her boss's attitude. She says whenever he is angry, he bangs the table and starts throwing things around. Later he apologizes for his behavior. He was asked to undergo psychiatric evaluation and was diagnosed with intermittent explosive disorder. Which of the following neurotransmitters plays a major role in this condition?

- a) Dopamine
- b) Serotonin
- c) Histamine

d) Gamma amino butyric acid

Answer Key

Question No.	Correct Option
1	c
2	a
3	b
4	b
5	d
6	c
7	b

Detailed Explanations

Solution to Question 1:

Trichotillomania is classified under obsessive-compulsive and related disorders, not under impulse-control disorders. It refers to compulsive hair pulling.

Disruptive, impulse-control, and conduct disorders are classified together in DSM- 5. The disorders included are:

- Intermittent explosive disorder
- Kleptomania
- Pyromania
- Conduct disorder
- Oppositional defiant disorder

Solution to Question 2:

Patients with impulse control disorders feel remorse and guilt about the act.

Impulse control disorders are characterized by the inability to resist an intense impulse, drive, or temptation to perform a particular act that is harmful to self or others, or both. Before the event, the individual usually experiences mounting tension and arousal, sometimes mingled with conscious anticipatory pleasure. Completing the action brings immediate gratification and relief. Afterward, the individual experiences remorse and guilt.

Solution to Question 3:

The patient's history is suggestive of pyromania. The substance abuse most commonly associated with pyromania is alcohol.

Pyromania is the deliberate setting of fires on more than one occasion.

Pyromania is significantly associated with the following:

- Substance abuse disorder (especially alcoholism)
- Affective disorders (depression or bipolar disorder)
- Other impulse control disorders, such as kleptomania in female firesetters
- Personality disturbances, such as borderline personality disorders
- Attention-deficit/hyperactivity disorder and learning disabilities in childhood pyromania

Solution to Question 4:

The given clinical scenario is suggestive of kleptomania. It is characterized by recurrent impulses to steal objects not needed for personal use or for monetary value.

DSM-5 criteria for kleptomania:

- Recurrent failure to resist impulses to steal objects that are not needed for personal use or for their monetary value
- Increasing sense of tension immediately before committing the theft
- Pleasure, gratification, or relief at the time of committing the theft
- The stealing is not committed to express anger or vengeance and is not in response to a delusion or a hallucination
- The stealing is not explained by conduct disorder, a manic episode, or antisocial personality disorder

Solution to Question 5:

Oniomania refers to compulsive buying disorder.

Persons with compulsive buying disorder are preoccupied with shopping and spending and devote significant time to these behaviors.

Onanism is the other name for masturbation.

Dipsomania refers to compulsive drinking of alcohol.

Solution to Question 6:

Intermittent explosive disorder manifests as discrete episodes of losing control of aggressive impulses. The symptoms, which patients may describe as spells or attacks, appear within minutes or hours and, regardless of duration, remit spontaneously and quickly. One discrete episode does not justify the diagnosis.

A minimum age of 6 years is required to diagnose this condition and it is more commonly seen in men than women. These episodes can result in serious assault or the destruction of property. The aggressiveness expressed is grossly out of proportion to any stressors that may have helped elicit the episodes.

After each episode, patients usually show genuine regret or self-reproach. Signs of generalized impulsivity or aggressiveness are absent between episodes.

Solution to Question 7:

Serotonin is believed to be the neurotransmitter that plays a major role in intermittent explosive disorder.

Serotonergic neurons mediate behavioral inhibition. The restoration of serotonin activity, by administering serotonin precursors such as L-tryptophan or drugs that increase synaptic serotonin levels, restores the behavioral effect of punishment and controls episodic violent tendencies.

Note: Low CSF 5-HIAA (hydroxy-indoleacetic acid) levels have been correlated with impulsive aggression.

Psychiatric Emergencies

Question 1:

What is false about the condition, that is relieved by the technique shown in the picture?



- a) Associated with carpopedal spasms
- b) Leads to paresthesias and numbness
- c) Symptoms are due to hypercapnia
- d) Presence of a frequent sighing during history taking

Question 2:

A first-year psychiatry resident gets a call regarding one of his patients who has been brought to the ER with high-grade fever and pharyngitis. The patient was started on clozapine two weeks back for treatment-resistant schizophrenia. His oral examination reveals the following picture. What would be the appropriate management?



- a) 1 and 4
- b) 2, 4 and 5
- c) 2 and 3
- d) 1, 3 and 5

Question 3:

A 44-year old businessman came to the casualty with headache, nausea, vomiting, and diaphoresis since early morning. He was diagnosed with depression 4 months back and has been on phenelzine. He gives the history of attending an office party the previous night where he consumed some red wine. On examination, his BP was 190/120. What is false about his present condition?

- a) The condition is less common with selegiline.
- b) Should be treated with phentolamine.
- c) He is suffering from serotonin syndrome.
- d) Tyramine is involved the pathogenesis of the condition.

Question 4:

A young woman with ongoing seizures and respiratory distress was rushed to the casualty by her relatives with an alleged history of attempted suicide by drug overdose. She was febrile, her heart rate was 180 bpm, BP was 70/50 mmHg. Her mouth was dry and her pupils were dilated. ABG showed a pH of 7.1, bicarbonate level was 14 mmol/L and pCO₂ was 30 mm Hg. Which of the following is the most likely agent?

- a) Fluoxetine
- b) Imipramine
- c) Lithium
- d) Clonazepam

Question 5:

Which of the following drug intoxications has been matched incorrectly?

- a) Amphetamine intoxication - treated by alkalinisation of urine
- b) Chronic amphetamine intoxication - shows phenomenon of "runs and crashes"
- c) Benzodiazapine intoxication - acute intoxication resembles alcohol intoxication
- d) Levodopa intoxication - induces rapid cycling in bipolar disorder

Question 6:

A patient with a complex psychiatric history is on a mono-amine oxidase (MAO) inhibitor. She visits her primary care physician with increasing depression. The physician adds a serotonin reuptake inhibitor (SSRI). Which of the following is she most likely to develop?

- a) Fever, rigidity, dilated pupils, and hyperreflexia
- b) Fever, rigidity, normal pupils, and hyporeflexia
- c) Fever, normotonia, dilated pupils and normal reflexes
- d) Fever, rigidity, normal pupils and reduced bowel sounds

Question 7:

A 46-year-old male patient who was treated with haloperidol for delirium, developed fever, tachycardia, increased blood pressure, muscle stiffness, and altered mental status. Investigations revealed elevated levels of creatine phosphokinase. What is the most likely diagnosis?

- a) Serotonin syndrome
- b) Tardive dyskinesia
- c) Hypersensitivity reaction to haloperidol
- d) Neuroleptic malignant syndrome

Question 8:

The table shows the examination findings of various psychiatric emergencies presenting with fever and altered sensorium. Choose the false option regarding them.

	Muscle tone	Mucosa and skin	Pupils	Bowel sounds	Reflexes
A	Rigid	Wet	Normal	Normal	Decreased
B	Rigid	Wet	Dilated	Increased	Increased
C	Normal	Dry	Dilated	Decreased	Normal
D	Rigid	Wet	Normal	Decreased	Decreased

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- a) Patient A - presents with increased CPK levels
- b) Patient B - has anticholinergic syndrome
- c) Patient C - IV physostigmine is given to counteract symptoms
- d) Patient D - dantrolene is administered for treatment

Question 9:

Select the incorrect match.

- a) Suicide survivor - someone who has experienced a close person committing suicide
- b) Suicidal ideation - nonspecific, occasional thought to end one's life
- c) Parasuicidal behaviour - self-mutilation without intent to commit suicide
- d) Deliberate self harm - wilful infliction of injuries to self, with the intent to die

Question 10:

Which of the following is the most consistent finding in patients with increased suicidal tendency?

- a) Increased GABA

- b) Decreased serotonin
- c) Increased 5-HIAA
- d) Both B and C

Question 11:

Which of the following patient groups does not have an increased risk of suicide?

- a) Patients below 30 years with mood disorders
- b) Youth with antisocial personality disorder
- c) Patients suffering from chronic illnesses
- d) Patients who have a positive family history of suicide

Question 12:

When will a psychiatrist be more concerned about a patient committing suicide?

- a) When he is in mania rather than depression
- b) When hospitalised rather than discharged
- c) Soon after he starts antidepressant medication
- d) At the peak of a depressive episode

Answer Key

Question No.	Correct Option
1	c
2	d
3	c
4	b
5	a
6	a
7	d
8	b
9	d
10	b

11	a
12	c

Detailed Explanations

Solution to Question 1:

The technique shown in the above image is of 'breathing in a bag' technique. It relieves hypocapnia in hyperventilation syndrome.

Hyperventilation syndrome is a habit of hyperventilation due to stress or any emotional upheaval.

Symptoms occur due to hypocapnia/hypocarbica due to carbon dioxide washout:

- Fatigue, dizziness, headache
- Chest pain, palpitations, sweating
- If severe - carpopedal spasms, paraesthesias, and loss of consciousness may occur. Acute hypocarbica causes respiratory alkalosis and reduced ionized calcium, resulting in hypocalcemic symptoms.

The patient has a typical history of stress followed by symptoms and frequently 'sighs' during the interview.

Treatment for hyperventilation-associated hypocapnia is breathing in a bag. The patient is told to breathe in and out of a bag so that they rebreathe the expired air. This increases the levels of arterial CO₂ and quickly reverts the symptoms.

Solution to Question 2:

The given clinical scenario of high-grade fever and pharyngitis and the simultaneous development of oral ulcers (image) in a patient on clozapine is suggestive of drug-induced agranulocytosis. The treatment is to stop clozapine immediately, administer granulocyte colony-stimulating factor (G-CSF), and start empirical antibiotics.

Agranulocytosis is a rare, but fatal complication of clozapine. It is defined as an absolute neutrophil count (ANC) $< 500/\text{mm}^3$, or white blood cell (WBC) count $< 2000/\text{mm}^3$. It can initially manifest as a local infection with high-grade fever, sore throat, oral and perianal ulcerations.

These symptoms appear rapidly within days to weeks following initiation of drug therapy.

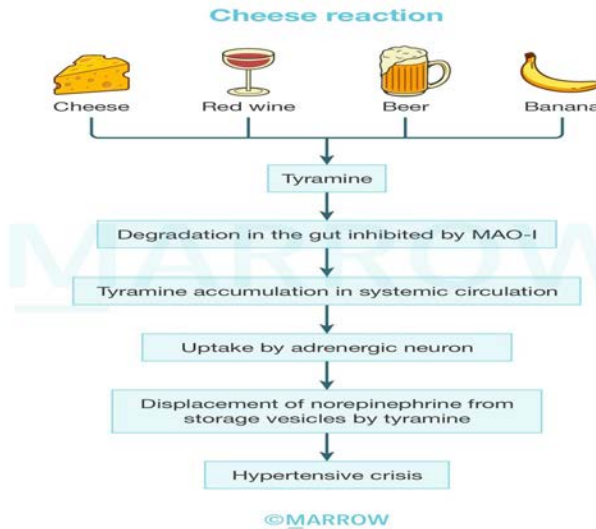
Clozapine is generally considered to be more effective than other antipsychotic drugs and is often used in treatment-resistant schizophrenia (poor treatment response to 2 or more antipsychotic drugs). Hence, a switch from clozapine to another (less effective) antipsychotic drug is not done in a patient with drug-induced agranulocytosis.

Solution to Question 3:

The given clinical scenario is suggestive of cheese reaction, not serotonin syndrome. Here, the patient on phenelzine (non-selective and irreversible MAO-inhibitor) developed the clinical features of cheese reaction on having a tyramine-rich food item (red wine, cheese, milk).

Inhibition of the MAO-A isoform prevents the metabolism of dietary tyramine in the gut, thus allowing intact tyramine to enter the systemic circulation. It is taken up by adrenergic neurons and a hypertensive crisis occurs as a result of a powerful pressor effect of tyramine.

The drug of choice to treat hypertensive crisis in cheese reaction is phentolamine.



MAO-inhibitor with SSRI causes serotonin syndrome. Symptoms are fever, altered mental status, rigidity, hyperreflexia, and autonomic dysfunction.

Selegiline and rasagiline do not functionally inhibit MAO-A. They do not cause cheese reaction with doses used in clinical practice.

Solution to Question 4:

The clinical picture is suggestive of tricyclic antidepressant (TCA) poisoning i.e metabolic acidosis, tachycardia, hypotension, and pupillary dilatation. Imipramine is a TCA.

Tricyclic antidepressant overdose:

Clinical features:

- CNS- seizures, respiratory depression, drowsiness, delirium.
- CVS - sinus tachycardia, hypotension, prolonged PR/QRS/QT interval, arrhythmias (ventricular tachycardia, fibrillation)
- Anticholinergic - dilated pupils, dry mouth, urinary retention, hyperthermia

Treatment:

- Oxygen supplementation and IV fluids
- Activated charcoal if the patient is brought within two hours of ingestion (unless ileus present)
- IV sodium bicarbonate (attenuates the TCA-induced cardiotoxicity and metabolic acidosis)

Note: Dialysis is not very helpful in the management of TCA overdose.

Solution to Question 5:

Amphetamine intoxication is treated by acidification of urine, not alkalization.

Drug	Intoxication signs and symptoms	Treatment
Levodopa	Mania, depression, rapid cycling in bipolar disorder.	Lower dosage, or discontinue the drug.
Lithium toxicity	Vomiting, abdominal pain, diarrhea, ataxia, tremors, dysarthria, seizures	Lavage with wide bore tube, osmotic diuresis
Benzodiazepine intoxication	Behavioral inhibition, blackouts, impulsivity, memory loss, mood alterations, derealization	Flumazenil, to antagonise benzodiazepine and supportive measures.
Amphetamine intoxication	Paranoid hallucinations (but no thought disorder and there is appropriate affect), tachycardia, hypertension, seizures, tremors. Chronic intoxication - a cycle of heavy use for a few days (runs) followed by stopping the drug (crashes), tactile hallucinations, compulsive craving.	Symptomatic measures like cold sponging, diazepam for seizures, antihypertensives. Acidification of urine with oral Ammonium chloride, 500 mg every 4 hours, facilitates the elimination of amphetamines. Psychosis resolves within 7 days of urinary clearance.

Solution to Question 6:

This patient, who is on MAO inhibitor + SSRI can develop serotonin syndrome, characterized by fever, rigidity, hyperreflexia, and dilated pupils.

Option B: This is seen in neuroleptic malignant syndrome, which occurs due to certain antipsychotics.

Option C: This is seen in anticholinergic toxicity.

Option D: This is seen in malignant hyperthermia.

Solution to Question 7:

The clinical features in a patient who has been administered haloperidol, are most likely suggestive of the neuroleptic malignant syndrome.

Neuroleptic malignant syndrome (NMS) is a life-threatening complication that can occur anytime during antipsychotic treatment. Haloperidol poses the highest risk for causing NMS. The condition may occur within 24-72 hrs after initiation of the treatment, and if untreated, may last for 10 to 14 days.

Option A: Serotonin syndrome occurs due to an increase of plasma serotonin to toxic levels, due to concurrent administration of SSRI and an MAO inhibitor, L-tryptophan or lithium.

It is characterized by 3 A's:

- Neuromuscular hyperactivity - clonus, hyperreflexia, hypertonia, tremor, and seizure
- Autonomic stimulation - hyperthermia, diaphoresis, diarrhoea
- Agitation.

In severe cases, there may be delirium, coma, status epilepticus, and death.

Option B: Tardive dyskinesia is characterized by abnormal, irregular, involuntary choreoathetoid movements of the muscles of the head, limbs, and trunk. Perioral movement is most common. The condition usually develops as a delayed response to antipsychotics, about 6 months after treatment.

Option C: Hypersensitivity reaction to haloperidol may include anaphylactic reaction, angioedema, facial and laryngeal oedema, rash, urticaria, bronchospasm, and laryngospasm.

Solution to Question 8:

Patient B has serotonin (not anticholinergic) syndrome.

The above table represents the following psychiatric emergencies:

- A - Neuroleptic malignant syndrome.
- B - Serotonin syndrome.
- C - Anticholinergic syndrome.
- D - Malignant hyperthermia.

Solution to Question 9:

Deliberate self-harm is the wilful self-infliction of painful and destructive acts, without the intent to die.

Terms associated with suicide:

- Suicide survivor - Someone who has experienced a close person committing suicide.

- Suicidal ideation - Nonspecific, occasional thought to end one's life
- Parasuicidal behaviour - Self-mutilation without intent to commit suicide, more common in females than males - 3:1. Wrists, arms, thighs, and legs are most commonly cut.
- Suicidal intent - Intense and persistent thought to serve as the agent of one's own death, but without a plan in mind.
- Suicidal plan- Making a plan to commit suicide
- Suicidal behaviour - Taking steps to execute the plan

Note: In the general population, men are three times more likely than women to complete suicide. Women, however, were found to attempt suicide four times more often than men.

Solution to Question 10:

Decreased levels of serotonin is associated with an increased risk of suicide.

The genetic and hormonal theory of suicide:

- Decreased levels of serotonin
- Decreased levels of 5-Hydroxy Indole Acetic Acid (5-HIAA), a primary metabolite of serotonin, in CSF

The average suicide rate in India is 12.7 per 1 lakh population

- Most common psychiatric illness leading to suicide - major depression
- Most common mode of suicide in India - hanging & consumption of poison
- Most common mode of suicide attempt in India - consumption of poison & hanging
- Most common cause of suicide in India - family problems & illness

Solution to Question 11:

Diagnoses of mood disorders and cognitive disorders are more commonly seen among suicides above the age of 30 years.

Amongst suicides below the age of 30 years, the diagnoses of substance abuse and antisocial personality disorder are higher. Amongst mental illnesses overall, mood disorders and depression have the highest risk of suicide.

Risk factors for suicide include:

- Male & female, but females attempt more. The higher numbers are in the male because of the difference in the methods of attempting suicide.
- Age: 30-45 years
- Previous attempts - the risk of a second attempt is highest within three months of the first attempt.

- Family history
- Physical or mental illnesses:
 - Depression/mood disorders
 - Antisocial personality disorder
 - Borderline personality disorder
 - Chronic illnesses
 - Alcohol or drug dependence
 - Suicidal preoccupation
- A recent loss, unemployment
- Social isolation, being single (unmarried, divorced, or widowed)
- Amongst immature defence mechanisms, repression has the highest risk
- Genetic - 18% concordance rate for monozygotic twins, and low levels of serotonin

Solution to Question 12:

Patients are more likely to commit suicide soon after they are started on antidepressant medication.

Somatic symptoms of depression improve faster than psychological symptoms when a patient is started on antidepressant medication and hence patients have the energy to act on their thoughts of deliberate self-harm and suicide (paradoxical suicide).

Option A: For bipolar disorder, the suicidal risk is higher in the depressive phase than the manic phase.

Option B: The highest risk of suicide is within a period of 6 months after discharge from a psychiatric facility than when admitted.

Option D: During the peak of the depressive episode though the desire to die is intense, the energy level is low to execute the plan. The risk of suicide is higher at the onset and the end of the depressive episode.

Normal Sexuality and Sexual Dysfunction

Question 1:

The acts that a person says or does to disclose himself as having the status of boy or man is called _____.

- a) Sexual identity
- b) Gender role
- c) Sexual orientation
- d) Gender identity

Question 2:

What term is used to describe an individual's sense of maleness or femaleness?

- a) Gender role
- b) Sexual identity
- c) Gender identity
- d) Sexual orientation

Question 3:

A young woman presents to the psychiatry OPD. She says that she has an intense sexual desire but her husband is unable to fulfill her increasing needs, because of which she seeks extramarital affairs. What is the diagnosis?

- a) Nymphomania
- b) Satyriasis
- c) Voyeurism
- d) Troilism

Question 4:

Arrange the following disorders according to the sequence of the normal sexual response cycle?

- a) 3 - 4 - 1 - 2
- b) 1 - 4 - 3 - 2
- c) 1 - 3 - 4 - 2
- d) 3 - 1 - 2 - 4

Question 5:

Which of the following is not a feature of a patient with hypoactive sexual desire disorder?

- a) Severe marital problems may be the cause
- b) Symptoms cause significant distress
- c) Symptoms last for at least 6 months episodically
- d) No history of substance abuse

Question 6:

A 30-year-old woman persuaded her husband to attend couples therapy. She says that her husband cheated on her, to which he replies that his wife is never ready to put an effort into their relationship. The distressed wife then explains that since last year, she has lost interest in sexual intercourse and does not feel aroused anymore. Which of the following drugs would you prescribe her?

- a) Sildenafil
- b) Fluoxetine
- c) Flibanserin
- d) Flunitrazepam

Question 7:

A 40-year-old man comes to your clinic. He reports that sexual desire is present but he is unable to achieve and maintain an erection. He has avoided physical relations with his wife in order to avoid the embarrassment of not being able to perform. He often falls asleep early to avoid sex. Which of the following is the most common cause this condition in his age group?

- a) Diabetes mellitus
- b) Hypertension
- c) Psychogenic
- d) Atherosclerosis

Question 8:

A patient is being evaluated for erectile dysfunction. Which of the following will help differentiate a psychological cause from an organic one?

- a) Decreased vibratory perception in the penis
- b) Absence of erection with any partner
- c) Presence of nocturnal penile tumescence
- d) No good erection during masturbation

Question 9:

Premature ejaculation is a disorder of which phase of the normal sexual cycle?

- a) Desire
- b) Arousal
- c) Orgasm
- d) Pain

Question 10:

Within how many minutes of vaginal penetration should ejaculation regularly occur to diagnose a patient with premature ejaculation?

- a) 1 minute
- b) 2 minutes
- c) 3 minutes
- d) 4 minutes

Question 11:

Seman's technique is used for which of the following conditions?

- a) Retrograde ejaculation
- b) Erectile dysfunction
- c) Premature ejaculation

d) Anorgasmia

Answer Key

Question No.	Correct Option
1	b
2	c
3	a
4	c
5	a
6	c
7	c
8	c
9	c
10	a
11	c

Detailed Explanations

Solution to Question 1:

Acts that a person says or does to disclose himself or herself as having the status of boy or man, girl or woman is called gender role.

Gender role is not established at birth. It is built up through experiences, instruction, and inculcation from parents and others. Based on this, a person usually acquires the role considered appropriate for the person's sex.

Solution to Question 2:

Gender identity is an individual's sense of maleness or femaleness.

It results from the clues derived from experience with family, peers, and culture e.g., physique, body shape, different ways of handling male and female infants by parents. It is established by the age of 2 or 3 years.

Solution to Question 3:

In the scenario, the female patient has an excessive desire for sexual intercourse i.e., hypersexuality. This is called nymphomania. It is sometimes classified as a form of sex addiction.

Satyriasis is uncontrollable or excessive sexual desire (hypersexuality) in males. In some men, sexual activity is a means to mask their deep feelings of inferiority. Some have unconscious homosexual impulses, which they deny by compulsive sexual contact with women. Many of them are no longer interested in women after sex. It is also known as Don Juanism. Don Juan is a legendary, fictional libertine who devoted his life to seducing women.

Voyeurism/Peeping Tom/scopophilia is sexual gratification by secretly watching others getting undressed, taking bath, having sexual intercourse, etc.

Troilism is getting sexual gratification by watching his own wife performing sexual intercourse with another man.

Solution to Question 4:

The sequence of the normal sexual response cycle is Desire - Excitement - Orgasm - Resolution.

The given sexual disorders correspond to:

- A patient with sexual aversion - desire
- A patient having post-coital headache - resolution
- A patient with erectile dysfunction - excitement
- A patient with complaints of premature ejaculation - orgasm

Hence, the correct sequence of the given disorders according to the normal sexual response cycle is 1 - 3 - 4 - 2.

Sexual response is a true psycho-physiological experience. Normally, men and women experience a sequence of physiological responses to sexual stimulation.

- Desire phase - consists of sex fantasies and the desire to have sex.
- Excitement/Arousal phase - heightened excitement before orgasm (longest phase)
- Orgasmic phase - a subjective perception of a peak physical reaction and release occurs, along with a feeling of well-being (shortest phase)
- Resolution phase - return to the baseline

Following orgasm, men experience a refractory period during which they cannot be restimulated to further arousal. Women do not have a refractory period and can experience multiple, successive orgasms.

Solution to Question 5:

For the diagnosis of male hypoactive sexual desire disorder, the reduced desire for sexual activity should not be explained by severe relationship distress, a non-sexual mental disorder, substance, medication, or another medical condition.

According to DSM-5 and ICD-11, the diagnostic criteria for male hypoactive sexual desire disorder are:

- Persistently or recurrently deficient (or absent) sexual thoughts or desire for sexual activity
- The minimum duration of approximately 6 months - episodically or persistently
- Cause clinically significant distress in the individual
- The sexual dysfunction in the patient is not explained by:
 - A non-sexual mental disorder
 - Severe relationship distress
 - Substance abuse
 - Medication
 - Another medical condition.

Solution to Question 6:

The wife has hypoactive sexual desire disorder. Flibanserin (a partial 5-HT_{1A}-agonist) is the first FDA-approved drug for the treatment of hypoactive sexual desire disorder (HSDD) in pre-menopausal women.

The following must be excluded before use:

- A co-existing medical or psychiatric condition,
- Other problems within the relationship, or
- The effects of a medication or other drug substance.

Note: In 2019, the US-FDA approved Bremelanotide, a melanocortin receptor agonist approved for hypoactive sexual desire disorder (HSDD) in pre-menopausal women. It is given as a subcutaneous injection.

Solution to Question 7:

The patient in this scenario has erectile dysfunction. In young and middle-aged men, the most common cause of erectile dysfunction is usually psychological.

The most common causes of erectile dysfunction in:

- Young and middle-aged men - psychological
- Older men - organic (atherosclerosis)
- Overall - organic (atherosclerosis)

Solution to Question 8:

The presence of nocturnal penile tumescence almost rules out organic causes of erectile dysfunction.

Organic causes are considered negligible in the following:

- Spontaneous erections at times when he does not plan to have intercourse.
- Having morning erections or nocturnal penile tumescence (erection during REM sleep).
- Only sporadic erectile dysfunction.
- Having good erections with masturbation.
- Having a good erection with partners other than his usual one.

Organic (non-psychogenic) causes of erectile dysfunction:

- Vasculogenic - arterial insufficiency, venous leak
- Endocrinologic - hypogonadism, hyperprolactinemia
- Neurogenic
- Iatrogenic

Solution to Question 9:

Premature ejaculation is a disorder of the orgasm phase of the normal sexual cycle.

Premature ejaculation is when ejaculation occurs before the completion of satisfactory sexual activity. In severe cases, it is characterized by ejaculation either before penile entry into the vagina or soon after penetration. The causes can be biological or psychological, like performance anxiety.

Solution to Question 10:

Premature (early) ejaculation is diagnosed when the patient regularly ejaculates within 1 minute of vaginal penetration. A common reason for this disorder is performance anxiety leading to sympathetic arousal.

Such men persistently or recurrently achieve orgasm and ejaculation before they wish to.

Can be classified as:

Management:

- Pharmacological: SSRI- Paroxetine and Dapoxetine (cause delayed ejaculation)
- Non-pharmacological: using techniques such as Squeeze technique, Start-stop technique and sensate focusing

Note: DSM-5 refers only to vaginal penetration in its diagnostic criteria, whereas ICD-11 includes other relevant sexual stimulation also.

Mild	30 sec to 1 min
Mode rate	15 sec to 30 sec
Severe	<15 sec

Solution to Question 11:

Seman's stop-start technique is used for premature ejaculation, to prolong the time period until ejaculation.

Seman's technique (stop-start technique): A man approaches the point close to climax and then stops and relaxes before starting again. This method prolongs the time before ejaculation by relying on behaviour modification.

Other treatments for premature ejaculation:

- Squeeze technique (by Master and Johnson's)- as a man approaches a climax, he squeezes the tip of the penis just below the head of the penis. The pressure is held there until the sensation of impending orgasm diminishes. The process can then be started over again so that over time a man prolongs the time period until he reaches ejaculation.
- Sensate focusing - refocussing on the non-coital aspects of sexual activity.
- Selective serotonin reuptake inhibitors (SSRIs) - delays ejaculation. e.g.- dapoxetine, paroxetine.

Sexual Disorders and Sexual Abuse

Question 1:

Crossing over from one behavior to another is a feature of which of the following?

- a) Paraphilia
- b) Gender dysphoria
- c) Satyriasis
- d) Nymphomania

Question 2:

Which of the following is not a paraphilia?

- a) Voyeurism
- b) Sexual sadism
- c) Homosexuality
- d) Pedophilia

Question 3:

A 23-year-old man who says he always felt like a woman, got his genitals surgically modified corresponding to female anatomy. What is this called?

- a) Transvestism
- b) Body dysmorphic disorder
- c) Gender incongruence
- d) Gender-queer

Question 4:

Which of the following is false regarding exhibitionistic disorder?

- a) Punishable with imprisonment up to 3 months
- b) Diagnosed if persisting for a period of at least 3 months

- c) Causes significant distress or social impairment
- d) More common in males

Question 5:

What should be the minimum age to diagnose a patient with pedophilic disorder?

- a) 14 years old
- b) 16 years old
- c) 18 years old
- d) No minimum age

Question 6:

A 24-year-old, who was assigned as female at birth, presented with a history of strong desire to be a male right from her childhood. She has always dressed like a boy and constantly feels that she is trapped in the wrong body. She is now in a relationship with a girl, which she considers to be a heterosexual relationship. What is the likely diagnosis?

- a) Hermaphroditism
- b) Transvestism
- c) Body dysmorphic disorder
- d) Gender dysphoria

Question 7:

A man is arrested by the police after multiple FIRs were registered against him for rubbing his genitals against women inappropriately in public transport. On questioning, the man says that he gets sexual gratification this way. Which of the following paraphilias describes this behavior?

- a) Voyeurism
- b) Fetishism
- c) Frotteurism
- d) Exhibitionism

Question 8:

A man who was caught peeking into his neighbor's intimate moments was served a restraining order. On evaluation, he is found to be a case of scopophilia. According to DSM-5, what is the minimum age at which this condition can be diagnosed?

- a) 14 years
- b) 16 years
- c) 18 years
- d) No age limit

Question 9:

A 28-year-old man is brought to the sexual wellness clinic by his wife. She complains that he acts like a woman during sexual intercourse. On questioning, he admits that though he identifies himself as a male, he is sexually aroused with the fantasies of being a woman. Identify the condition.

- a) Transvestism
- b) Transsexualism
- c) Androphilia
- d) Autogynephilia

Answer Key

Question No.	Correct Option
1	a
2	c
3	c
4	b
5	b
6	d
7	c
8	c
9	d

Detailed Explanations

Solution to Question 1:

Crossing over from one behavior to another is seen in paraphilia. For example, paraphilic persons primarily involved with actual touching of victims (frottage, rape, and pedophilia) had previously been involved in paraphilic acts not involving touching of the victim (voyeurism and exhibitionism).

Paraphiliacs tend to cross over between touching and nontouching of their victims, between family and nonfamily members, between female and male victims, and to victims of various ages.

Gender incongruence is characterized by a marked and persistent incongruence between an individual's experienced gender and the assigned sex. This often leads to a desire to undergo hormonal treatment, surgery, or other health care services to make the individual's body align with the experienced gender.

Satyriasis is a sexual paraphilia where a male is affected with insatiable sexual desire. The same, when seen in a female, is called nymphomania.

Solution to Question 2:

The term paraphilia does not include homosexuality. It is considered to be a normal variant of human sexuality.

Paraphilia is defined as any intense and persistent sexual interest other than genital stimulation or fondling with normal, physically mature, consenting human partners.

Solution to Question 3:

Gender Incongruence of Adolescence and Adulthood (ICD-11) is characterized by a marked and persistent incongruence between an individual's experienced gender and the assigned sex. This often leads to a desire to 'transition' through hormonal treatment, surgery, or other health care services to make the individual's body align with the experienced gender.

The diagnosis cannot be assigned prior to the onset of puberty.

Option A: Transvestism is described as fantasies and sexual urges to dress in opposite gender clothing as a means of arousal and as an adjunct to masturbation or coitus.

Option B: Body dysmorphic disorder - persons wish to alter or remove a specific body part that they perceive to be unattractive.

Option D: Gender-queer - people who feel they are in between two genders, or of neither gender.

Note: The diagnosis of transsexualism was renamed in ICD-11 as gender incongruence, and moved from the chapter on Mental and Behavioral Disorders to the Conditions Related to Sexual Health. According to DSM-5 it has now been replaced with the term gender dysphoria.

Solution to Question 4:

Exhibitionistic disorder, also known as flashing or indecent exposure, is diagnosed when such behaviors last for a period of 6 months or more.

In exhibitionistic disorder, there is recurrent and intense sexual arousal from the exposure of one's genitals to an unsuspecting individual in public places. This can also cause clinically significant distress or impairment of the person's social or occupational functioning. It is more common in males and the peak age of onset is in the 20s.

This is a punishable offence (Section 294 IPC/ Section 296 BNS) with imprisonment up to 3 months or fine.

Solution to Question 5:

The individual should be at least 16 years of age to diagnose the pedophilic disorder.

DSM-5 and ICD-11 criteria for pedophilic disorder:

- Recurrent, intense sexually arousing fantasies, or behaviors involving sexual activity with a prepubescent child or children (generally age 13 years or younger)
- The individual is at least 16 years of age and at least 5 years older than the child or children.
- Persists over a period of at least 6 months.
- The individual must have acted on these thoughts, fantasies, or urges or be markedly distressed by them.

Solution to Question 6:

In the scenario, the patient has a marked incongruence between the experienced gender and natal gender (gender assigned at birth). This is called gender dysphoria in adolescents and adults (as per DSM-5) and is manifested by:

- Unhappiness or a sense of inappropriateness with one's natal sex
- Strong desire to get rid of the natal gender's primary and/or secondary sex characteristics
- Strong desire for primary and/or secondary sex characteristics of the other gender
- Strong feeling that one's feelings and reactions are more typical of the other gender
- Desire to be treated by others as a member of the opposite gender

Note: ICD-11 uses the term gender incongruence to describe gender dysphoria (DSM-5).

Solution to Question 7:

The given scenario is suggestive of frotteurism. It refers to the sexual gratification obtained by touching or rubbing against a non-consenting person.

This behavior often occurs in busy, crowded places, such as on busy streets or on crowded buses or subways. It is predominantly described in men. A frotteur may fantasize that the woman he is rubbing up against is mutually aroused by the behavior.

Solution to Question 8:

The given scenario is scopophilia, also known as voyeuristic disorder. The individual must be at least 18 years old for making this diagnosis.

Criteria for the diagnosis of voyeuristic disorder (scopophilia) according to DSM-5:

- Sexual gratification from observing an individual who is undressing, naked, or engaging in sexual activity
- Persisting for at least 6-months
- At least 18 years old
- Significant distress or impairment in functioning

Solution to Question 9:

A natal male gaining sexual arousal by the fantasy of being a woman is called autogynephilia. They are also attracted to women but these individuals are often aroused at the fantasy of having sex or actually engaging in sex with men who treat them like women.

Option A: Transvestism is described as fantasies and sexual urges to dress in opposite gender clothing as a means of arousal and as an adjunct to masturbation or coitus.

Option B: Transsexualism is a person having a strong desire to assume the physical characteristics and gender role of the opposite sex. It is an outdated term, and is referred to as gender dysphoria (DSM-5).

Option C: Androphilia means sexual attraction to men or masculinism.

Intellectual Disability & Specific Learning Disorders

Question 1:

What is 'mental retardation' now called according to the American Psychiatric Association in its revision of DSM-5?

- a) Feeble mindedness
- b) Mental subnormality
- c) Intellectual disability
- d) Intellectually challenged

Question 2:

A psychiatry resident is counseling the parents of a teenager with Fragile X syndrome. On evaluation, the boy has an IQ of 40. Which of the following is true?

- a) He will be classified as having mild intellectual disability
- b) His mental age is between 6-8 years
- c) He will require continuous supervision and care
- d) He will be able to study till about 4th grade

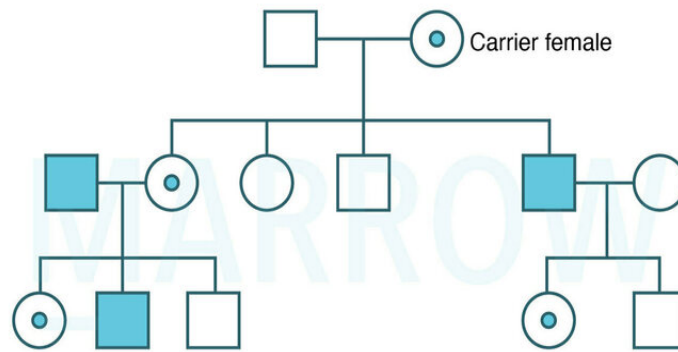
Question 3:

According to DSM-5, which of the following is not true about intellectual disability?

- a) Limitation in intellectual functioning
- b) Limitation in adaptive behaviour
- c) Has to have onset in the developmental period
- d) Classification of severity based on IQ scores

Question 4:

A child with intellectual disability was found to have the following pedigree chart. Which of the following disorders is this child most likely to be suffering from?



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- a) Klinefelter's syndrome
- b) Fragile-X syndrome
- c) Lesch-Nyhan syndrome
- d) Hurler's syndrome

Question 5:

A 2-year-old child with a history of developmental delay is referred for assessment of her cognitive skills. Which of the following intelligence tests will you use in this situation?

- a) Wechsler Intelligence Test for Children
- b) Stanford-Binet Intelligence Scale
- c) Wechsler Preschool and Primary Scale of Intelligence-Revised
- d) Kaufman Assessment Battery for Children

Question 6:

In a child with intellectual disability, which of the following therapies can be used to teach daily and basic activities?

- a) Cognitive behavioural therapy
- b) Punishment or re-enforcement
- c) Psychodynamic therapy
- d) Contingency management

Question 7:

An 8-year-old boy is brought to OPD with complaints of difficulty in understanding written language, making frequent spelling mistakes and poor academic performance. Which of the following is the diagnosis?

- a) ADHD
- b) Heller's syndrome
- c) Autism
- d) Learning disability

Question 8:

Which of the following is not included under specific learning disorder?

- a) Reading disorder
- b) Expressive speech disorder
- c) Disorder of written expression
- d) Mathematics disorder

Question 9:

A child in third grade was brought to the clinic with complaints of poor performance at school. On evaluation, the child was curious and bright and had a large oral vocabulary, but struggled to write even his name without reversing some of the letters. He wrote 'luc' for lunch, and 'sak' for snack. He also found it extremely difficult to read simple passages and to pronounce multi-syllable words. What is the most likely diagnosis?

- a) Dysphonia
- b) Dyscalculia
- c) Dyslexia
- d) Dysmetria

Answer Key

Question No.	Correct Option
1	c
2	b
3	d
4	c
5	b
6	d
7	d
8	b
9	c

Detailed Explanations

Solution to Question 1:

Mental retardation is now known as Intellectual Disability, according to the revised DSM-5, by the American Psychiatric Association.

Solution to Question 2:

A person with an IQ of 40 will have a mental age of 6-8 years.

Intellectual disability (ID) is said to be present when $IQ < 70$ and is classified as -

- Mild Intellectual disability (50-69)
 - Are educable
 - Can study till 6th grade
 - They are successful and independent
 - They can do unskilled and semi-skilled work without supervision
- Moderate Intellectual disability (35-49)
 - Trainable
 - Can study up to 2nd class
 - Have a mental age of 6-8 years
 - They can do unskilled and semiskilled work under supervision
- Severe Intellectual disability (20-34)
 - They are dependent
 - Cannot be educated

- Have a mental age of 3-6 years
- They can do simple tasks under supervision
- Profound Intellectual disability (<20)
- Require continuous supervision and care
- Have a mental age of 3 years

Previously, IQ range of 70–90 was called "Borderline intellectual functioning". But DSM-5 has eliminated this term. Contrary to earlier versions, IQ boundaries are no longer part of the classification of ID in DSM-5.

$$\text{IQ (intelligence quotient)} = \frac{\text{Mental age}}{\text{Chronological age}} \times 100$$

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Solution to Question 3:

According to DSM-5, the classification of severity of intellectual disability (ID) is assessed by deficits in adaptive functioning (not IQ scores).

The 3 diagnostic criteria of ID include:

- Significant deficits in intellectual functioning (reasoning, learning, and problem-solving)
- Significant deficits in adaptive behavior (conceptual, social, and practical skills)
- Age at onset in the developmental period

Solution to Question 4:

The given pedigree describes an X-linked recessive disorder. The genetic disorder associated with intellectual disability that follows the given pattern of inheritance is Lesch-Nyhan syndrome.

The disorder results from mutations in the gene coding for the enzyme hypoxanthine-guanine phosphoribosyltransferase (HPRT), leading to deficient enzyme activity. This defect results in

increased uric acid production and hyperuricemia.

Mode of inheritance of diseases causing intellectual disability:

- Autosomal dominant: Apert syndrome, Tuberous sclerosis, Neurofibromatosis
- Autosomal recessive: Galactosemia, Phenylketonuria, Homocystinuria, Hurler's syndrome, Tay-Sachs disease
- X-linked recessive: Lesch Nyhan syndrome, Hunter's syndrome.

Note: Fragile X syndrome is an X-linked disease. It has atypical pedigree features of an X-linked recessive pattern. For instance, 30-50% of female carriers are affected by intellectual disability and have other features.

Solution to Question 5:

The Stanford-Binet Intelligence Scale, Fourth Edition has the advantage that it can be administered to younger children, even starting at age 2 years.

Intelligence test	Age (range)
The Stanford-Binet Intelligence Scale, Fourth Edition	From 2 years
The Kaufman Assessment Battery for Children	2.5 to 12.5 years
Wechsler Preschool and Primary Scale of Intelligence-Revised	3 to 6 years
Wechsler Intelligence Test for Children	6 to 16 years
Kaufman Adolescent and Adult Intelligence Test	11 to 85 years

Solution to Question 6:

Contingency management is used in children with intellectual disabilities to teach daily and basic activities.

Contingency management is based on the notion that if any action is rewarded or appreciated then it is more likely to occur in the future. This kind of intervention which aims at reinforcement is used to modify the behavior of children with intellectual disability. Punishment is not used.

Cognitive behavioural therapy includes education, relaxation exercises, coping skills training, stress management, or assertiveness training. It is an evidence-based treatment for psychiatric disorders including:

- Depression

- Generalized anxiety disorder
- Post-traumatic stress disorder
- Panic disorder
- Eating disorders
- Obsessive-compulsive disorder.

Psychodynamic therapy primarily relies on developing patient insight. It is based on the idea that childhood experiences, past unresolved conflicts, and previous relationships significantly influence an individual's current situation in life. It is usually used for the treatment of neurotic disorders and personality disorders.

Solution to Question 7:

The given clinical history of difficulty understanding written language, frequent spelling mistakes, and poor academic performance in an 8-year-old child is suggestive of a learning disability.

Learning disability is a condition wherein the child presents with difficulty in learning academic skills despite a good education system.

According to ICD-11, this can be classified as developmental learning disorders with:

- Impairment in reading - Dyslexia is the most common type, characterized by difficulty in the domains of reading fluency, word recognition, poor decoding, and spelling abilities.
- Impairment in written expression - Dysgraphia
- Impairment in mathematics - Dyscalculia

Heller's syndrome or disintegrative psychosis is typically seen in the age group of 3 to 5 years. This neurodegenerative disease is characterized by a rapid downhill course, leading to deterioration and development of neurological deficits.

Solution to Question 8:

Specific learning disorder does not include expressive speech disorder.

Expressive speech disorder is classified under communication disorders.

DSM-4 previously stated the diagnoses of:

- Reading disorder
- Mathematics disorder
- Disorder of written expression
- Learning disorder not otherwise specified

According to DSM-5, these have been combined into a single diagnosis called specific learning disorder. According to ICD-11, these are classified under developmental learning disorders.

Solution to Question 9:

The given clinical scenario is suggestive of dyslexia. It is characterized by a pattern of learning difficulties, including deficits in accuracy or fluency of word recognition, poor decoding, and poor spelling skills.

Option A: Dysphonia is difficulty in speaking due to a physical disorder of the mouth, tongue, throat or vocal cords.

Option B: Dyscalculia is a pattern of deficits related to learning arithmetic facts, processing numerical information, and performing accurate calculations.

Option D: Dysmetria refers to the lack of coordination of movements.

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Autism Spectrum Disorder

Question 1:

Which of the following statements is not true regarding autism?

- a) Language impairment is a usual feature
- b) It is never associated with intellectual disability
- c) Symptoms present in the early developmental period
- d) Patients may show an inflexible adherence to routines

Question 2:

A 5-year-old boy is brought to the clinic by his parents for behavioral issues at home and school. Which of the following features in this child satisfies the core diagnostic criteria for autism spectrum disorder?

- a) 1, 3 and 4
- b) 1, 2 and 3
- c) 2, 4 and 5
- d) 1, 2, 3, 4 and 5

Question 3:

Which of the following is not associated with autism spectrum disorder?

- a) Early development of handedness
- b) Precocious skills
- c) Abnormal dermatoglyphics
- d) Insomnia

Question 4:

A 3-year-old girl is brought to the OPD with features of hand wringing stereotyped movements, breath-holding spells and deceleration of head growth after 6 months of age. She was also noted to have impaired language and social development. Which of the following

genes is associated with the above disease?

- a) AST-1 gene
- b) MRCP-9 gene
- c) MECP-2 gene
- d) RET- 2 gene

Question 5:

A 4-year-old boy was brought to the clinic by anxious parents. The child was completely normal until a year ago when the parents started noticing a gradual deterioration in his cognition and social interactions. He also started showing repetitive behaviors. On examination, the boy was not saying any word and was barely maintaining eye contact. What is the most likely diagnosis?

- a) Asperger's disorder
- b) Rett syndrome
- c) Autism
- d) Childhood Disintegrative Disorder

Question 6:

A first-standard child was referred for evaluation of suspected autism. According to his parents, he has trouble with social interactions and also has certain abnormal repetitive behaviors. He does not have any language deficits or intellectual disabilities. Which of the following is the most likely diagnosis?

- a) Rett syndrome
- b) Asperger's disorder
- c) Pervasive developmental disorder, not otherwise specified
- d) Childhood disintegrative disorder

Answer Key

Question No.	Correct Option
1	b

2	b
3	a
4	c
5	d
6	b

Detailed Explanations

Solution to Question 1:

Intellectual disability is seen in about 30% of patients with autism.

Autism or autistic disorder is a pervasive developmental disorder. Features usually start before 3 years of age and is more common in boys. Autism is characterized by the 2 core features of autism spectrum disorder: deficits in social communication and restricted, repetitive patterns of behavior, interests, or activities.

In addition, autism is also usually marked by language impairment, which occurs early in the developmental period. However this is not a core feature.

Below-normal intelligence is seen in about 30% of children with autistic disorder. However, some autistic children have unusual abilities in some areas (e.g., exceptional memory or calculation skills). These are referred to as savant skills.

Solution to Question 2:

Aberrant language development and intellectual disability are not part of the core diagnostic criteria for autism spectrum disorder, according to the DSM-5 update.

Core diagnostic impairments in autism spectrum disorders according to DSM-5 are collapsed into two domains:

1. Persistent deficits in social communication and social interaction across multiple contexts:

- Deficits in social-emotional reciprocity
- Deficits in nonverbal communicative behaviors (e.g. eye contact, body language, use of gestures, and facial expressions)
- Deficits in developing, maintaining, and understanding relationships (e.g. difficulties in sharing, imaginative play, or in making friends)

2. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following:

- Stereotyped or repetitive motor movements, use of objects, or speech (e.g. simple motor stereotypies, lining up toys or flipping objects, echolalia)

- Inflexible adherence to routines, or ritualized patterns and behavior (e.g. extreme distress at small changes, difficulties with transitions, rigid thinking patterns)
- Highly restricted, fixated interests that are abnormal in intensity or focus (e.g, strong preoccupation with unusual objects)
- Hyper- or hypo-reactivity to sensory input (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

Solution to Question 3:

Children with autism spectrum disorder do not show early handedness and lateralization and remain ambidextrous at an age when cerebral dominance is established in most children.

Other findings that may be present in autism spectrum disorders (not core diagnostic criteria) include:

- Higher incidence of abnormal dermatoglyphics (e.g., fingerprints)
- Deficits in language development
- Intellectual disability
- Hypo/hyper-response to sensory stimuli (e.g., no response to loud sound/ keen response to ticking of a watch)
- Hyperactivity and inattention
- Precocious skills (e.g., prodigious route memories or calculating abilities)
- Insomnia

Solution to Question 4:

The given clinical scenario of a 3-year-old female with normal psychomotor development until 6 months followed by regression in development, stereotyped movements, and microcephaly is suggestive of Rett syndrome. The gene associated with Rett syndrome is the MECP-2 gene.

It is an X-linked dominant condition. It is caused by mutations in the methyl-CpG binding protein 2 or MECP2. This condition is extremely rare in males.

Features of Rett Syndrome:

- Apparently normal prenatal and perinatal period and apparently normal psychomotor development through the first 5 months and normal head circumference at birth.
- Deceleration of head growth between 5 months and 4 years and loss of acquired purposeful hand skills between 5 and 30 months of age.
- Severe impairment of expressive and receptive language, together with severe psychomotor retardation.

- Stereotyped midline hand movements (such as hand-wringing or "hand-washing") with an onset at or after the time when purposeful hand movements are lost.

Solution to Question 5:

Sudden developmental regression in a 4-year-old boy with impairment in the social, language and cognitive domains is suggestive of childhood disintegrative disorder (CDD).

CDD is also called Heller's syndrome or disintegrative psychosis. It is characterized by a significant developmental regression resulting in deterioration in behavioral and adaptive functioning including self-help skills with loss of language and social skills after a period of normal development for at least two years. It is also associated with features of dementia and significant intellectual disability.

It is now included under autism spectrum disorder in the DSM-5 manual, and ICD-11 also.

Solution to Question 6:

In Asperger's disorder, there are no significant delays in language or cognitive development.

Features of Asperger's disorder:

- Impairment in social interaction and development
- Markedly abnormal nonverbal communicative gestures
- Failure to develop peer relationships at the expected level
- They do not manifest with mental retardation
- Restricted interests and patterns of behaviour
- No significant delay in language

Attention-Deficit Disorders and Disruptive Behaviour

Question 1:

Which of these disorders was earlier known as minimal brain dysfunction?

- a) Dyslexia
- b) Attention deficit/hyperactivity disorder
- c) Mental subnormality
- d) Oligophrenia

Question 2:

Which of the following is the most common symptom of ADHD?

- a) Attention deficit
- b) Hyperactivity
- c) Impulsivity
- d) Specific learning disabilities

Question 3:

A 10-year-old girl with academic and behavioral problems at school over the past year was diagnosed with attention-deficit hyperactivity disorder. On neuroimaging, which of the following is most likely to be seen?

- a) Pathologic alterations in the frontal lobe
- b) Structural anomalies in the frontal lobe
- c) Hypometabolism in the frontal lobe
- d) Lesion in the Ascending Reticular Activating System

Question 4:

During a parent-teacher meeting, the teacher informs the parents that she is unable to manage their child's impulsive and inattentive behaviors in the classroom. Which of the

following is not a sign of inattention in the child?

- a) Easy distraction by extraneous stimuli
- b) Does not seem to listen when spoken to directly
- c) Often leaving his seat in situations when remaining seated is expected
- d) Frequent forgetfulness in daily activities

Question 5:

According to DSM-5, which of the following is not a type of presentation of attention deficit hyperactivity disorder?

- a) Predominantly inattentive
- b) Predominantly hyperactive
- c) Fluctuating presentation
- d) Combined presentation

Question 6:

A 9-year-old child does not follow instructions, is disruptive, interferes when two people are talking, and cannot wait for his turn while playing a game. His teacher also complains that he is excessively talkative, disturbs other students, and is inattentive in class. Which of the following is the drug of choice for the treatment of this condition?

- a) Modafinil
- b) Atomoxetine
- c) Amitryptiline
- d) Methylphenidate

Question 7:

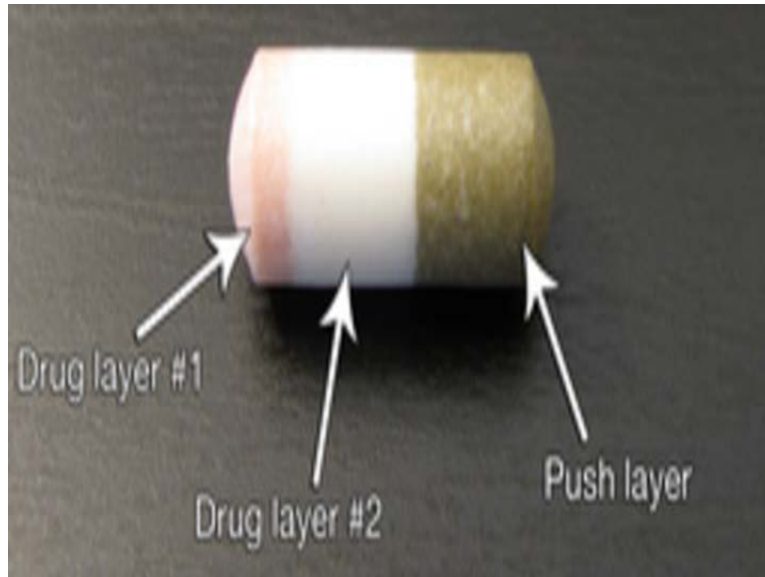
A 6-year-old boy is referred to your OPD for psychiatric evaluation. He is constantly on the move and appears to be driven by a motor. During the evaluation, he has difficulty staying focused on the questions. His mother complains that he never seems to pay attention. Which of the following selective norepinephrine reuptake inhibitors would you prescribe for him?

- a) Levomilnacipran
- b) Duloxetine

- c) Venlafaxine
- d) Atomoxetine

Question 8:

A child with ADHD was started on a drug that could be delivered using an osmotic-controlled release oral delivery system to avoid multiple dosings and for better compliance. Identify the prescribed drug.



- a) Modafinil
- b) Atomoxetine
- c) Amphetamine
- d) Methylphenidate

Question 9:

A child with disruptive behaviour is diagnosed with attention-deficit hyperactivity disorder. As the child grows which of his following symptoms is first to remit?

- a) Decreased attention span
- b) Impulsivity
- c) Distractibility
- d) Overactivity

Question 10:

A 13-year-old boy was brought to your clinic by his worried mother. He had been suspended twice from his school for bullying, assaulting his classmates and stealing from them. He would sometimes stay out all night despite his parents telling him not to, and he was recently warned by the local police for vandalism. What is the most likely diagnosis?

- a) Oppositional defiant disorder
- b) Conduct disorder
- c) Anti-social personality disorder
- d) Disruptive mood dysregulation disorder

Answer Key

Question No.	Correct Option
1	b
2	b
3	c
4	c
5	c
6	d
7	d
8	d
9	d
10	b

Detailed Explanations

Solution to Question 1:

Attention deficit/hyperactivity disorder (ADHD) was known as minimal brain dysfunction earlier.

Solution to Question 2:

The most common symptom of ADHD is hyperactivity.

The most cited characteristics of children with attention-deficit/hyperactivity disorder (ADHD), in order of frequency, are as follows:

- Hyperactivity (fidgety, unable to sit still, as though driven by a motor, hyper-talkative, interrupts, blurts out answers)
- Attention deficit (short attention span, distractibility, perseveration, failure to finish tasks, inattention, poor concentration)
- Impulsivity (action before thought, abrupt shifts in activity, lack of organization, jumping up in class)
- Memory and thinking deficits. Intellectual disability is not seen in ADHD.
- Specific learning disabilities
- Speech and hearing deficits

Solution to Question 3:

Functional neuroimaging studies show frontal lobe hypometabolism in patients with ADHD.

The frontal lobe maintains attention, arousal, or the establishment and maintenance of an awake state. This appears to require at least three brain regions:

- Ascending reticular activating system (ARAS)
- Intralaminar nuclei of the thalamus
- Frontal lobes

In ADHD, although no specific pathological lesions are found in the ARAS, thalamic or cortical level, functional neuroimaging indicates frontal lobe hypometabolism.

Solution to Question 4:

Often leaving the seat in situations when remaining seated is expected, is not a sign of inattention but a sign of hyperactivity and impulsivity.

Signs of inattention:

- Fails to give close attention to details or makes careless mistakes.
- Has difficulty sustaining attention in tasks or play activities.
- Does not seem to listen when spoken to directly.
- Does not follow through on instructions.
- Has difficulty organizing tasks and activities.
- Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.
- Loses things necessary for tasks or activities.
- Is easily distracted by extraneous stimuli.

- Often forgetful in daily activities.

Signs of Hyperactivity and impulsivity:

- Fidgets with or taps hands or feet or squirms in seat.
- Leaves seat in situations when remaining seated is expected.
- Runs about or climbs in situations where it is inappropriate.
- Unable to play or engage in leisure activities quietly.
- Often on the go, acting as if driven by a motor.
- Often talks excessively.
- Often blurts out an answer before a question has been completed.
- Has difficulty waiting his or her turn.
- Often interrupts or intrudes on others.

Solution to Question 5:

According to the DSM-V, attention deficit and hyperactivity disorder (ADHD) is diagnosed with one of three specifiers – predominantly inattentive, predominantly hyperactive/impulsive, or combined presentation with features of both.

For a diagnosis of ADHD, the following criteria have to be satisfied:

- 6 out of 9 symptoms of inattention and/or hyperactivity with impulsivity have to be present for at least 6 months.
- Symptoms should have started before the age of 12 years.
- Symptoms must be present at least in two settings, such as home, school, work, etc.
- Symptoms must have a negative impact on social and academic/occupational functioning.
- Symptoms don't occur exclusively during the course of a psychotic disorder and aren't explained by any other mental disorder.

Note: For adults and adolescents aged 17 or older, 5 out of 9 symptoms are adequate for diagnosis.

Solution to Question 6:

According to the given clinical scenario, the child has ADHD. Methylphenidate is the drug of choice for the treatment of ADHD in children.

Treatment of ADHD:

- Stimulants (first-line medications) - Methylphenidate (drug of choice), amphetamines. These drugs have a rapid onset of action and are well tolerated. The most common adverse effect is decreased appetite.
- Non-stimulants - atomoxetine (norepinephrine reuptake inhibitor), alpha-2 adrenergic agonists.

- Behavioral therapy

Solution to Question 7:

The clinical scenario describes a case of Attention Deficit Hyperactivity Disorder (ADHD). Atomoxetine is a selective norepinephrine reuptake inhibitor approved by the FDA for the treatment of ADHD in children aged 6 years and older.

Solution to Question 8:

Methylphenidate is delivered using an osmotic-controlled release oral delivery system (OROS), for the treatment of ADHD.

OROS is an advanced drug delivery technology that uses osmotic pressure as the driving force to deliver pharmacotherapy, usually once-daily, in several therapeutic areas.

Concerta, the 10 to 12 hour extended release OROS form of methylphenidate, is administered once daily in the mornings.

Solution to Question 9:

During the course of attention deficit hyperactivity disorder (ADHD), overactivity is the first symptom to remit, i.e., become less severe.

The course of ADHD is variable. A vast majority of cases persist into adult life. In the cases that remit at puberty or in early adulthood, overactivity is usually the first symptom to remit but the decreased attention span and impulse-control problems persist.

Solution to Question 10:

A 13-year-old boy with a history of aggression towards people within the past 6 months, destruction of property, and theft for the last couple of years points towards a diagnosis of conduct disorder. If it persists beyond 18 years of age it is referred to as anti-social personality disorder.

Conduct disorder is diagnosed when at least 3 behaviors have been present within the previous 12 months, with at least 1 present in the past 6 months.

Conduct disorder can be classified based on onset as:

- Childhood-onset type: Individuals show at least one symptom characteristic of conduct disorder before the age of 10 years.
- Adolescent-onset type: Individuals do not show features of conduct disorder before the age of 10 years.

- Unspecified onset: Criteria for a diagnosis of conduct disorder are met, but there is not enough information available to determine whether the onset of the first symptom was before or after the age of 10 years.

Oppositional defiant disorder (ODD):

- A persistent pattern of negativistic, hostile, and defiant attitude/behavior towards adults.
- Seen in children less than 10 years of age.
- The symptoms must be present at least 6 months, during which 4 or more of the following have to be present:
 - Argues with others
 - Loses temper
 - Blames others
 - Easily annoyed
 - Refuses and defies to listening to adults
 - Annoys other people quite often

Unlike conduct disorder, children with ODD do not indulge in destructive and physically harmful activities.

Disruptive mood dysregulation disorder: Onset before age 10. Severe, recurrent temper outbursts out of proportion to the situation. Child is constantly angry and irritable between outbreaks.

DSM-5 criteria for Conduct Disorder	
Aggression towards people and animals	Initiating physical fights, bullying, threatening, or intimidating others Using a weapon to cause serious harm to others Being physically cruel to people Being physically cruel to animals Stealing while confronting a victim Forcing someone into sexual activity
Destruction of property	Setting fires Intentionally destroying the property of others
Serious violation of rules	Running away overnight at least twice or once without returning for a lengthy period. Being truant from school often starting before age 13. Frequently staying out at night despite parental prohibitions starting before age 13

DSM-5 criteria for Conduct Disorder

Deceitfulness or theft

Frequently lying to obtain goods or favors
Breaking into a car or building
Stealing items of nontrivial value without confronting a victim

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Neurodevelopmental Motor Disorders

Question 1:

A worried mother brought her son to the OPD due to poor performance in sports as he struggles to perform activities such as jumping, running, or catching a ball. He also exhibits difficulty in assembling jigsaw pieces, using scissors or drawing. What is the most likely diagnosis in this child?

- a) Tic disorder
- b) Attention deficit hyperactivity disorder
- c) Cerebral palsy
- d) Developmental coordination disorder

Question 2:

Which of the following is true regarding stereotypic movement disorder?

- a) The movements are typically non-rhythmic.
- b) The movements often appear to be self-soothing.
- c) They are associated with purposeful movements.
- d) These movements don't interfere with social activities.

Question 3:

A 9-year-old boy is brought to the OPD with complaints of repeated shoulder-shrugging movements. His mother says she first observed this behaviour 1 year back and the symptoms have been occurring on and off over the year. On questioning, the boy said he feels an urge to move his shoulder and experience uneasiness if he doesn't move his shoulder often. The boy is otherwise healthy, playful and has attained all milestones for his age. What is the most probable diagnosis?

- a) Juvenile myoclonus
- b) Tourette's syndrome
- c) Persistent motor tic disorder
- d) Late onset autism

Question 4:

Palilalia is a type of which of the following tics?

- a) Simple motor tic
- b) Simple vocal tic
- c) Complex motor tic
- d) Complex vocal tic

Question 5:

A 7-year-old boy is sent to the principal's office for shouting and speaking obscene words abruptly in front of the class during a puppet show. On informing his parents, the child's concerned mother brings him to the psychiatry OPD for a consult. These symptoms are associated with which of the following disorders?

- a) Stereotypic movement disorder
- b) Tourette's disorder
- c) Avoidant personality disorder
- d) Conduct disorder

Question 6:

Which of the following is not a characteristic feature of a patient with Tourette's syndrome?

- a) Onset before 18 years
- b) Persistence of tics for at least 6 months
- c) Severity peaks between 10 and 12 years
- d) Presence of at least one vocal tic

Question 7:

A 16-year-old boy presented to the psychiatric outpatient department with a 2-year history of repetitive involuntary blinking, shoulder shrugging, sniffing, vocalization, and whistling. Which of the following drugs is not used in the treatment of this disorder?

- a) Risperidone
- b) Clozapine

- c) Clonidine
- d) Pimozide

Question 8:

A 10-year-old boy, came to the clinic for an evaluation of tics in the head and neck, occasional coughing and grunting, and a new symptom of throat-clearing several times per day. Which of the following is used in the treatment of this disorder?

- a) Systemic desensitization
- b) Habit reversal training
- c) Flooding
- d) Aversion therapy

Answer Key

Question No.	Correct Option
1	d
2	b
3	c
4	d
5	b
6	b
7	b
8	b

Detailed Explanations

Solution to Question 1:

Based on the clinical features mentioned above, the diagnosis is developmental coordination disorder.

Developmental coordination disorder is a neurodevelopmental disorder in which a child's fine and/or gross motor coordination is slower, less accurate, and more variable than in peers of the same age, which cannot be correlated with any specific neurological disorder or damage.

Diagnosis of developmental coordination disorder is based on the following:

- A history of the child's delay in achieving early motor milestones.
- Association with below-normal scores on performance subtests of standardized intelligence tests and normal or above-normal scores on verbal subtests.

These children struggle to perform accurately the gross motor activities of daily life, such as jumping, hopping, running, or catching a ball. They also exhibit difficulty in fine motor skills like assembling jigsaw pieces, using scissors, drawing, or tracing. This results in poor performance in sports and even in academic achievement because of poor writing skills. Yet, they excel at verbal skills.

Three general areas of deficits contribute to the disorder:

- Poor predictive control of motor movements
- Deficits in rhythmic coordination and timing
- Deficits in executive functions, including working memory, inhibition, and attention.

Solution to Question 2:

Stereotypic movements often appear to be self-soothing or self-stimulating; however, they can result in self-injury in some cases.

According to DSM-5, stereotypic movement disorder is characterized by repetitive, seemingly driven, apparently purposeless motor behaviour, that interferes with social, academic, or other activities and may result in self-harm.

These movements are typically rhythmic, such as hand-flapping, body-rocking, hand-waving, hair-twirling, lip-licking, skin-picking, or self-hitting.

Solution to Question 3:

The given clinical scenario is suggestive of persistent motor tic disorder which is characterized by motor tics persisting for more than 1 year.

Persistent/chronic motor tic disorder:

- Presence of motor tics in the absence of vocal tics for more than 1 year
- Tics may wax and wane over the course of illness
- School-age boys are at the highest risk
- Generally follows a benign course with symptoms remitting by adolescence

Option A: Juvenile myoclonus is not characterized by an urge to move and it generally follows a progressive course.

Option B: Tourette's syndrome will have both motor and vocal tics.

Option C: Normal social milestones rule out autism.

Solution to Question 4:

Palilalia is a type of complex vocal tic.

Tics are semi-voluntary neuropsychiatric events characterized by brief rapid motor movements or vocalizations. These are typically performed in response to irresistible premonitory urges.

Motor and vocal tics are divided into simple and complex types.

Simple motor tics	Complex motor tics
Composed of repetitive, rapid contractions of functionally similar muscle groups.	More purposeful and ritualistic than simple tics.
Examples: Eye-blinking Neck-jerking Shoulder-shrugging Facial-grimacing Head shaking	Examples: Grooming behaviors The smelling of objects Jumping Touching behaviors Echo praxia (imitation of observed behavior) Copropraxia (display of obscene gestures)

Simple vocal tics	Complex vocal tics
It consists of sounds that do not form words.	Repeating words or phrases out of context.
Examples: Coughing Throat-clearing Grunting Sniffing Snorting Barking	Examples: Coprolalia (use of obscene words or phrases) Palilalia (a person's repeating his or her words) Echolalia (repetition of the last-heard words of others)

Solution to Question 5:

The given history is suggestive of coprolalia, a symptom involving shouting or speaking socially unacceptable or obscene words, occurring in patients with Tourette's disorder.

Mental coprolalia, in which a patient experiences a sudden, intrusive, socially unacceptable thought or obscene word, occurs more often than coprolalia.

Solution to Question 6:

Tourette's syndrome is diagnosed when there is a persistence of tics for at least 1 year.

According to DSM-5 criteria, a diagnosis of Tourette's disorder depends on:

- A history of multiple motor tics and the emergence of at least one vocal tic at some point.
- Tics may wax and wane in frequency but must have persisted for more than a year.
- The average age of onset of tics is between 4 years and 6 years of age, although the peak age for the severity of tics is between 10 and 12 years.
- The onset of symptoms must occur before the age of 18 years. No tic-free period of more than three consecutive months in 1 year.

Solution to Question 7:

The given history is suggestive of Tourette's syndrome. Clozapine, contrary to many other atypical antipsychotics, has not been found to be useful in the treatment of tics (including Tourette's syndrome).

Treatment modalities used for Tourette's syndrome (in order of preference):

- Detection and treatment of co-morbidities like OCD, ADHD, depression, and anxiety.
- Education and behavioral treatments - habit reversal, exposure, and response prevention are the behavioral treatments of choice.
- Adrenergic alpha-2 agonists (always to be tried first before starting antipsychotics) - clonidine and guanfacine are found to be effective.
- Antipsychotics - aripiprazole and risperidone are effective and preferred over typical antipsychotics. Pimozide and haloperidol may be more efficient but are often poorly tolerated and need constant monitoring.

Note: Botulinum toxin has been used to treat painful focal motor tics affecting the neck muscles.

Solution to Question 8:

The given clinical scenario points to a diagnosis of Tourette's syndrome. Habit reversal training is used in the treatment of tic disorders like Tourette's.

The components of habit reversal training are:

- Awareness training in which the patient is taught self-monitoring to enhance awareness of tic behaviours and urges or sensations indicating that a tic is about to occur.
- Competing-response training in which the patient is taught to voluntarily perform a behaviour that is physically incompatible with the tic.

Options A and C: Systemic desensitization and flooding are used in the treatment of phobias.

Option D: Aversion therapy is used in the treatment of alcohol abuse, impulsive behaviours, etc.

Special Areas of Childhood Mental Health

Question 1:

A 4-year-old orphan child does not seem to seek comfort during times of distress. Even when comforted, the child doesn't seem to be interested in it. This behaviour has been present for more than a year noticed by caregivers when he was shifted between multiple foster homes. What is the most probable diagnosis?

- a) Disinhibited social engagement disorder
- b) Autism spectrum disorder
- c) Reactive attachment disorder
- d) Intellectual disability

Question 2:

Which of the following is false about pica?

- a) 2 years is the minimum age for diagnosis
- b) More common among children with autism
- c) Associated with lead intoxication
- d) It is not seen in adults

Question 3:

A 7-year-old girl actively approaches and interacts with unfamiliar adults despite multiple attempts of telling her otherwise. Both her parents are working professionals and are scared that this behaviour could lead to her falling prey to abduction. What is this pattern of behaviour in the child known as?

- a) Reactive attachment disorder
- b) Attention deficit hyperactivity disorder
- c) Social anxiety disorder
- d) Disinhibited social engagement disorder

Question 4:

What is the most prevalent form of child maltreatment?

- a) Child physical abuse
- b) Child sexual abuse
- c) Child neglect
- d) Child psychological abuse

Question 5:

Which of the following is not a phase of child sexual abuse?

- a) Engagement
- b) Sexual interaction
- c) Bargaining
- d) Secrecy

Question 6:

A 6-year-old child was brought with complaints of bedwetting at night. There is no history of bedwetting during the afternoon nap. His urine examination was normal. Specific gravity was 1.020. What would be your advice?

- a) Consult a child psychologist
- b) USG abdomen
- c) Give desmopressin 0.2 mg orally
- d) CT-KUB and pelvis

Question 7:

As a first-year psychiatry resident, you see a case of a child with a history of repeated passage of faeces at inappropriate places. To make a diagnosis of encopresis, what should be the minimum age of this child?

- a) 3 years
- b) 4 years
- c) 5 years
- d) 6 years

Question 8:

A 7-year-old child presented with complaints of bed-wetting almost twice a week for the past 1 year. A detailed investigation was done to rule out the organic cause. What should be the treatment plan for this child?

- a) Pharmacotherapy with imipramine
- b) Psychodynamic psychotherapy
- c) Bladder training, with reward for delaying micturition during daytime
- d) Bell and pad based classical conditioning

Question 9:

A 10-year-old child is suffering from selective mutism. He is most probably suffering from?

- a) Childhood depression
- b) Childhood psychosis
- c) Childhood anxiety disorder
- d) Hyperkinetic disorder

Answer Key

Question No.	Correct Option
1	c
2	d
3	d
4	c
5	c
6	a
7	b
8	d
9	c

Detailed Explanations

Solution to Question 1:

The given clinical scenario suggests reactive attachment disorder.

Reactive attachment disorder is characterized by the following:

- A pattern of inhibited, emotionally withdrawn behavior toward adult caregivers manifested as:
 - The child rarely or minimally seeks comfort when distressed.
 - The child rarely or minimally responds to comfort when distressed.
- A persistent social and emotional disturbance involving any two of the following:
 - Minimal social and emotional responsiveness to others.
 - Limited positive affect.
 - Episodes of unexplained irritability, sadness, or fearfulness are evident even during nonthreatening interactions with adult caregivers.
- The child has experienced a pattern of extremes of insufficient care (evident by early separation, frequent change in caregivers, institutionalization or neglect)
- The disturbance is evident before 5 years of age and the developmental age of the child is at least 9 months.

Option A - Disinhibited social engagement disorder is a condition where the child approaches and interacts with unfamiliar adults in either overly familiar behavior, has diminished checking back with caregiver after venturing away (even in unfamiliar settings), with the willingness to go off with an unfamiliar adult.

Option B - Autism spectrum disorder is characterized by deficits in social communication and interaction across multiple contexts as manifested by deficits in socio-emotional reciprocity, difficulty in developing, maintaining and understanding relationships, and deficits in non verbal communicative behaviors.

Option D - Children with intellectual disabilities have deficits in adaptive functioning which, without support, limit functioning in activities of daily life (communication, social participation, independent living) across multiple environments. They are also characterized by having deficits in intellectual functions (reasoning, problem solving, planning, abstract thinking, judgment etc.)

Solution to Question 2:

Pica is defined as the persistent eating of nonnutritive substances. It can emerge in children, adolescents, or adults (usually pregnant women).

A minimum of 2 years of age is suggested by DSM-5 for the diagnosis of pica.

Pica is more common among children and adolescents with autism spectrum disorder and intellectual disability.

The clinical implications can be benign or life-threatening, depending on the objects ingested. Among the most serious complications are:

- Lead poisoning - usually after ingestion of lead-based paint

- Intestinal parasites - after ingestion of soil or feces
- Anemia and zinc deficiency - after ingestion of clay
- Intestinal obstruction - from the ingestion of hairballs, stones, or gravel.

No definitive treatment exists for pica. Most treatment is aimed at education and behavior modification. Medical complications that develop secondarily to the pica must be treated.

Solution to Question 3:

The given clinical scenario suggests a diagnosis of disinhibited social engagement disorder.

Disinhibited social engagement disorder is characterized by the following:

- A pattern of behavior in which a child actively approaches and interacts with unfamiliar adults.
- The behaviors are not limited to impulsivity (as in attention-deficit/hyperactivity disorder) but include socially disinhibited behavior.
- The child has experienced a pattern of extremes of insufficient care (pathogenic care).

Solution to Question 4:

Child neglect is the most prevalent form of child maltreatment.

It is the failure to provide adequate care and protection for children. Children can be harmed by malicious or ignorant withholding of physical, emotional, and educational necessities.

Solution to Question 5:

Bargaining is not a phase of child sexual abuse. It is one of the stages of grief.

Sexual abuse of a child that occurs over a period of time evolves through the following five phases:

- Engagement- The perpetrator induces the child into a special relationship.
- Sexual interaction- The sexual behaviors progress from less to more intrusive forms of abuse.
- Secrecy- The perpetrator threatens the victim not to tell.
- Disclosure- The abuse is discovered accidentally (when another person walks into the room and sees it) or through the child's reporting it to a responsible adult or via medical attention.
- Suppression- The child often retracts the statements of the disclosure because of family pressure or because of the child's own mental processes.

Solution to Question 6:

According to the given history, the child has nocturnal enuresis, and hence consulting a child psychologist is the most appropriate option.

Nocturnal enuresis refers to the occurrence of involuntary voiding at night after 5 years of age.

If there are no daytime symptoms and physical and urine examinations are normal, then further evaluation for urinary tract pathology is not warranted. USG is done in an older child (usually >7 years) with enuresis or in those who do not respond to therapy.

Active treatment should be avoided in children younger than 6 years of age. Treatment includes the following:

- Psychological therapy includes motivational therapy (star charts), conditioning therapies like auditory or vibratory alarms (most effective).
- Pharmacological therapy (imipramine and desmopressin) is intended to treat the symptoms of enuresis and thus is regarded as second-line and is not curative.

Solution to Question 7:

The diagnosis of encopresis is not made until the child crosses 4 years of age. It is an elimination disorder.

Elimination disorders described in DSM-5 and ICD-11:

- Encopresis- repeated passage of faeces at inappropriate places.
- Enuresis- repeated urination into bed or clothes. It is diagnosed after the age of 5 years.

Solution to Question 8:

The clinical features are suggestive of nocturnal enuresis. Bell and pad based classical conditioning is the most effective treatment.

Nocturnal enuresis refers to the occurrence of involuntary urination at night after 5 years of age. It may be a normal phenomenon in children up to 5 years of age.

Treatment for nocturnal enuresis may include:

Behavioural therapy:

- Classic conditioning with the bell (or buzzer) and pad (alarm) apparatus is the most effective treatment for enuresis.
- Dryness is achieved in 50% of the cases.
- Bladder training with encouragement or reward for delaying micturition for increasing times during waking hours is useful but considered inferior to bell and pad.

Pharmacotherapy:

- Medications should be considered if behavioural therapy has failed, and if enuresis is causing impairment in social, family, and school function.

- Desmopressin (an antidiuretic) and Reboxetine (norepinephrine reuptake inhibitor) are commonly used drugs. Reboxetine is considered as a safer alternative to imipramine.

Psychotherapy:

- It is indicated in cases with chronic enuresis, to deal with any coexisting psychiatric problems and emotional and family difficulties.

Solution to Question 9:

The child is most likely suffering from a childhood anxiety disorder.

Selective mutism refers to the lack of speaking (being mute) in one or more specific social situations, commonly in school, but speaking well in other situations, commonly at home. The child may be either completely silent at school or maybe just whispering. Rarely, a child may be silent at home but communicating normally at school.

The disorder may develop in children between 4 to 8 years of age and is associated with a social anxiety disorder. They may have symptoms of separation anxiety disorder, school refusal, and delayed language acquisition.

The first-line treatment includes cognitive behavioural therapy.

Option A and B: selective mutism is not commonly associated with childhood depression or psychosis

Option D: Hyperkinetic disorder is associated with overfamiliarity.

Forensic Psychiatry

Question 1:

Under the Mental Health Care Act 2017, a patient has the right to choose his or her caretaker and future course of action in treatment. What is this provision known as?

- a) Treatment directive
- b) Mental will
- c) Future directive
- d) Advance directive

Question 2:

Which of the following conditions are included under the Rights of Persons With Disabilities Act, 2016?

- a) Specific learning disability
- b) Mental illness
- c) Parkinson's disease
- d) All the above

Question 3:

A crime must include:

- a) 1, 2, 3, 4 and 5
- b) 3, 4 and 5
- c) 1, 2 and 5
- d) 1, 3 and 4

Question 4:

Which of the following mentally ill persons will be exempted from all charges under Sec 84?

- a) 1, 2 and 3
- b) 2, 3 and 4

- c) 3, 4 and 5
- d) 1, 2 and 5

Question 5:

A person suffering from which of the following conditions is criminally responsible?

- a) Kleptomania
- b) Somnambulism
- c) Oneroid state
- d) Delirium tremens

Question 6:

Which of the following is false?

- a) A person suffering from a somatic delusion has testamentary capacity
- b) A mentally ill person can give evidence during lucid interval
- c) A mentally ill person is not criminally responsible during lucid interval
- d) A person suffering from delusions of grandiosity cannot make a will

Question 7:

In which of the following situations, can a marriage be declared null and void?

- a) If the partner's mental illness developed 6 months after marriage
- b) If the partner's mental illness was present only before the time of marriage
- c) If the partner's mental illness was present at the time of marriage
- d) All of the above

Question 8:

A 37-year-old patient was admitted to a hospital independently for the treatment of depression. During the stay, the patient attempted to hurt themselves. According to the Mental Health Care Act, 2017, within how many hours should a repeat mental health assessment be carried out to reclassify the admission as a supported admission?

- a) 48 hours

- b) 72 hours
- c) 24 hours
- d) 36 hours

Answer Key

Question No.	Correct Option
1	d
2	d
3	c
4	c
5	a
6	c
7	c
8	c

Detailed Explanations

Solution to Question 1:

The provision by which a patient has the right to choose his caretaker and future course of action in treatment because of illness or incapacity is known as an advance directive. It is also known as a living will, personal directive, or medical directive.

Solution to Question 2:

All of the above are considered for provisions under the Rights of Persons with Disabilities Act. There are 21 disabilities included:

- Specific learning disability
- Mental illness
- Parkinson's disease
- Intellectual disability
- Autism spectrum
- Acid attack victims

- Blindness
- Low-vision
- Leprosy cured person
- Hearing impairment (deaf and hard of hearing)
- Locomotor disability
- Dwarfism
- Cerebral Palsy
- Muscular Dystrophy
- Chronic neurological conditions
- Multiple Sclerosis
- Speech and language disability
- Thalassemia
- Hemophilia
- Sickle cell disease
- Multiple disabilities including deaf-blindness

The Indian disability evaluation and assessment scale (IDEAS) is used for measuring and quantifying disability in mental illnesses.

Solution to Question 3:

A crime should include both a guilty mind (aka intent) and an illegal act.

A person is responsible for a crime when there are two components involved:

- Mens rea: A guilty mind aka intent.
- Actus rea: An illegal act.

Both these components must be present. The act alone is not enough to be considered guilty.

A crime may or may not have a motive (statement 3) or a plan of action (statement 4).

Solution to Question 4:

The mentally ill in cases 3, 4, and 5 will be exempted according to M'Naghten's rule.

In a court of law to prove criminal liability against an accused with mental illness both mens rea (a guilty mind) and actus rea (an illegal act) at the point of time should be present when the crime was committed.

Case 3: The accused does not know the nature of his act and absence of motive or secrecy and shows unsoundness of mind in this case. Hence he is exempted.

Case 4: The delusion is judged as if it is real. The accused thought he was doing his job legally as the state executioner. Hence he is exempted.

Case 5: Epilepsy, schizophrenia, and paranoia are exempted in the court of law from criminal liability. In this case, the patient was probably in post-ictal state, and mens rea was absent.

Thus, in cases 3, 4, and 5, the accused are medically insane and legally insane.

Case 1: The accused killed his children out of severe disturbance. However, as per the law, the disturbance is not considered to impair his thinking capacity. There was also no need for self-defense. Hence he would not be exempted.

Case 2: The delusion is judged as if it is unreal (i.e., there is no delusion), because the patient was deluded that the victim had killed his wife, but the motive to attempt the murder was out of revenge which is illegal and hence, the person is not exempted.

Thus, in cases 1 and 2, the people are medically insane, but not legally insane.

Solution to Question 5:

A kleptomaniac is fully responsible for his crimes and is not exempted based on sec 84 IPC (McNaughten's rule), as McNaughten's rule in India considers only a defect of mind, reason, and intellectual capability. However, it does not consider emotions and control of impulses. Thus, a kleptomaniac is only mentally ill but not legally insane.

The punishment for a kleptomaniac is given under the Doctrine of diminished responsibility. This absolves an accused person of part of the liability for his criminal act, as their mental functions were "diminished" or impaired at that time.

A person is not criminally responsible during states where mens rea (guilty mind) is absent due to the unsoundness of the mind. The conditions for which this is applicable are:

- Post-traumatic automatism
- Somnambulism
- Twilight state: Disordered consciousness during which actions may be performed unconsciously.
- Oneroid State: dream-like disturbances of one's consciousness by hallucinations, accompanied by catatonic symptoms (either catatonic stupor or excitement) and delusions.
- Delirium tremens

Solution to Question 6:

A mentally ill person is indeed criminally responsible during the lucid interval.

Lucid interval: The period of sanity or consciousness between two periods of insanity or unconsciousness. Seen in states like mania, melancholia, extradural hemorrhage.

During this period, a mentally ill person:

- Can give evidence.

- Is criminally responsible.
- Has testamentary capacity.

Testamentary capacity is the mental ability of a person to make a will. A person of a sound disposing mind at the time of making the will (not necessarily always) can make a will. A person suffering from an insane delusion can make a will if the delusion is not related in any way by the disposal of property or the persons affected. For example:

- Delusion of grandeur: cannot make a will, as they believe they possess more than they actually do.
- Delusion of persecution: might not be allowed to make a will, because it will affect who they distribute their property to.
- Somatic delusions: can make a will. Only has delusions of physical symptoms, who they distribute their property to is not affected.

Solution to Question 7:

If either person in the marriage is suffering from a mental illness at the time of marriage, only then can the marriage be declared null and void. The mental condition of both the parties at the time of marriage is taken for deciding nullification.

Solution to Question 8:

According to the Mental Health Care Act of 2017, the patient should be re-examined within 24 hours to re-classify the admission as supported admission.

Mental Health Care Act 2017 classifies admissions as independent and supported.

- Independent admissions refers to the admission of a person with mental illness, to a mental health establishment, who can make mental healthcare and treatment decisions or requires minimal support in making decisions.
- Supported admissions refer to the admission and treatment of persons with mental illness, with high support needs, in mental health establishments.

The medical officer or mental health professional must discharge any independently admitted patient immediately upon their request. However, under certain conditions, the discharge can be delayed for 24 hours to allow for an assessment necessary to reclassify the patient under the supported category. These conditions are:

- (a) the person is unable to understand the nature and purpose of their decisions and requires substantial or very high support from their nominated representative; or
- (b) the person has recently threatened or attempted or is threatening or attempting, to cause bodily harm to themselves; or
- (c) the person has recently behaved, or is behaving, violently towards another person or is causing another person to fear bodily harm; or

(d) the person has recently shown or is showing, an inability to care for themselves to a degree that places them at risk of harm.

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