

**1. True about euthanasia are all,
except:
PGI 14**

a) Passive euthanasia is legal in India

b) Active euthanasia is allowed in the UK

c) Physician assisted suicide is legal in some States of the US

d) Active euthanasia is legal in Netherlands and Belgium

e) None

Correct Answer - B

Ans. (B) Active euthanasia is allowed in the UK

2. Number of permanent teeth at 8 years:

a) 6

b) 8

c) 12

d) 16

e) None

Correct Answer - C

Ans. C. 12

Tooth

	Eruption
Lateral incisor (upper)	7 to 9 months
Lateral incisor (lower)	10-12 months
First molar	12 to 14 months
Canine	17 to 18 months
Second molar	20 to 30 months

Tooth **Eruption**

First molar	6 to 7 years
Central incisor	6 to 8 years
Lateral incisor	7 to 9 years
First bicuspid	9 to 11 years
Second bicuspid	10 to 12 years
Canine	11 to 12 years
Second molar	12 to 14 years

Third molar 17 to 25 years (17-
21 *in Parikh 6th/2. 7*)

**3. True about rigor mortis are all,
except:
FMGE 08**

a) Seen immediately after death

b) It last 18-36 h in summer

c) It disappears in the sequence as it appears

d) It last 24-48 h in winter

e) None

Correct Answer - A

Ans. Seen immediately after death

4. Dirt collar or grease collar is seen in: **NEET 13**

a) Punctured wound by sharp weapon

b) Lacerated wound

c) Firearm entry wound

d) Stab wound

e) None

Correct Answer - C

Ans. Firearm entry wound

Smudge ring/Lead ring/Grease collar/Dirt collar

- This is due to the wipe of the soft metal of the bullet, or dirt present on it, or grease carried from the barrel & is deposited round the entrance wound internal to the abraded collar
- The smudge ring may therefore be absent when the jacketed bullet has passed through clothing
- The smudging in case of lead shot orunjacketed bullets can be detected microchemically on the target (skin/cloth)
- The forensic value of bullet wipe is to establish a hole as a bullet hole, to determine the entry site, & on occasion the sequence of shots or bullet's passage through multiple objects.

5. Doctors role in noting dying declaration is to ?

a) Ascertain compos mentis

b) Call the magistrate

c) Elicit information by leading questions

d) Ask the investigating medical officer to be there

e) None

Correct Answer - A

Ans. is 'a' i.e., Ascertain compos mentis

Dying declaration

- It is the written or verbal statement made by a person likely to die because of some unnatural act done on his body, narrating the circumstances or the conditions responsible for his present state of health or the cause and manner of likely unnatural death.
- Ideally dying declaration should be recorded by executive or honorary magistrate, but can also be recorded by doctor, village head man, police or any other person, if there is no time to call a magistrate. Doctor has to certify the patient to be compos mentis (sound mind). It is recorded in presence of two disinterested witnesses. Relatives and police officers are not allowed to be present. No oath is administered.
- It carries less weight than dying deposition as no cross-examination is possible. If the patient does not die after the recording of declaration, the dying declaration loses its importance since now he can be called to the court and his evidence can be recorded after cross-examination.

6. Punishment for insulting the modesty of a woman comes under?

a) IPC 354

b) IPC 375

c) IPC 376

d) IPC 506

e) IPC 509

Correct Answer - A:E

Ans. is 'a' i.e.,IPC 354 & 'e' i.e.,IPC 509 [Ref Reddy 30/e p. 377; <https://indiankanoon.org>]

- IPC 354. Assault or criminal force to woman with intent to outrage her modesty.—Whoever assaults or uses criminal force to any woman, intending to outrage or knowing it to be likely that he will thereby outrage her modesty, shall be punished with imprisonment of either description for a term which may extend to two years, or with fine, or with both.
- IPC 509: Word, gesture or act intended to insult the modesty of a woman.—Whoever, intending to insult the modesty of any woman, utters any word, makes any sound or gesture, or exhibits any object, intending that such word or sound shall be heard, **or** that such gesture or object shall be seen, by such woman, or intrudes upon the privacy of such woman, shall be punished with simple imprisonment for a term which may extend to three year, or with fine, or with both.
- IPC 504. Intentional insult with intent to provoke breach of the peace.

- IPC 506. Punishment for criminal intimidation/

7. True about pugilistic attitude?

a) Indicate only antimortem burn

b) Indicate only postmortem burn

c) Cannot differentiate between antemortem & postmortem burn

d) Occur due to intense heat

e) Indicate defence by victim during antemortem death

Correct Answer - C:D

Ans. is 'c' i.e., Cannot differentiate between antemortem & postmortem burn & 'd' i.e., Occur due to intense heat [Ref Parikh 6thle p. 4.156-4.157; Reddy 32ndle p. 307]

- In body exposed to extensive heat (> 650 C), there results stiffening and flexion of all joints and clawing of fingers, known as 'Pugilistic or boxer's or defense posture', due to denaturation and coagulation of proteins.
- Contraction of paranasal sinuses causes marked ophisthotonus.
- However, heat stiffening is permanent (unlike rigor mortis which passes off after few hours)
- It is indicative of exposure to intense heat.
- It can be mistaken for a pre-death attempt to shield oneself attacker.
- This phenomenon occurs both in antemortem and postmortem burns. So difficult to differentiate between the two.

8. BAL is used as an antidote in the poisoning of?

a) Arsenic

b) Cadmium

c) Mercury

d) Lead

e) Iron

Correct Answer - A:C:D

Ans. is 'a' i.e., Arsenic ; 'c' i.e., Mercury & 'd' i.e., Lead [Ref: KDT 7thie p. 395; Katzung 12th/e p. 398, 1033]

- **Chelating agents** are used in heavy metal poisoning. They form complex with metal which is more soluble in water than the metal itself, resulting in higher renal excretion of complex.
- **Dimercaprol (BAL)** is used in poisoning by gold (Au), copper (Cu), bismuth (Bi), nickel (Ni), arsenic (As), antimony (Sb) and mercury (Hg).
- It is used as adjuvant to calcium disodium edetate in lead poisoning and adjuvant to penicillamine in copper poisoning (**or** wilson's disease).
- **Penicillamine** is the drug of choice for copper poisoning and wilson's disease. It is also used as an adjuvant to CaNa₂, EDTA in lead poisoning and to BAL in mercury poisoning.

9. Sin needle used to kill animals is made of?

a) Dhatura seeds

b) Ratti seeds

c) Lead peroxide

d) Arsenic

e) Strychnine

Correct Answer - B

Ans. is 'b' i.e., Ratti seeds [Ref Internet]

- In the folk medicine, seeds are ground in to paste and made into needles which are inserted under the skin of the animal. Thus the animal will be poisoned for obtaining the skin.
- Similar needles have also been used to produce criminal abortion"
- Abrus precatorius, known as Indian licorice, ratti or gunja is a slender, twining, climbing plant, woody at base and is found all over the India. All the parts of this plant are poisonous.
- Seeds were used only after they have been boiled in cow's milk for 3 hours. The herb was used for sciatica, stiffness of shoulder joint, for baldness, dandruff and other hair diseases, for erysipelas and obstinate skin diseases.

10. Miosis is caused by?

a) Carbamates

b) Organophosphorus

c) Aconite

d) Dhatura

e) Cyanide

Correct Answer - A:B

Ans. is 'a' i.e., Carbamates & 'b' i.e., Organophosphorus [Ref: *Essentials of forensic medicine-786; Reddy 33'e p. 619*]

- Poisoning causing miosis (constriction of pupil) : Carbolic acid (phenol), chloral hydrate, chloroform, *barbiturates (slightly contracted and reacting to light)*, *organophosphates*, *carbamates*, opioids (morphine), mushroom poisoning, nitrobenzene.
- Poisoning causing mydriasis (dilatation of pupil) : *Dhatura (atropine or belladonna)*, alcohol (Ma Ewan's sign), *aconite*, nux vomica, ether, viper venom, *cyanide*, cocaine, chloroform, calatropis, pethidine and barium carbonate

11. Bolam test is related to?

a) Medical negligence

b) Contributory negligence

c) Privileged communication

d) Negligence by patient

e) Professional misconduct

Correct Answer - A

Ans. is 'a' i.e., Medical negligence [Ref <http://medind.nic.in/jalt07/0/jalt07i1p7.pdf>]

- The judgment given by Mr. Justice Mc Nair in Bolam vs. Frien hos ,ital management committee (19511 IS a landmark decision in deciding cases of medical negligence and is known as the "Bolam test.
- Actions of doctors are to be judged by actions of other doctors skilled in that particular art under similar circumstances and at a material time.

12. A patient with a recent history of convulsions, presented to emergency in subconscious state with blood pressure 60/90 mm/Hg, bradycardia & slow gasping respiration. There is increased lacrimation, salivation & sweating. On examination there is pin point pupil. Which of the following poisoning should be suspected?

a) Opioids

b) Phenobarbitone

c) Organophosphorus

d) Dhatura

e) Strychnine

Correct Answer - C

Ans. is 'c' i.e., Organophosphorus [Ref Parikh 6Th /e p. 10.43; Reddy 33rd p. 5231

- Organophosphorus poisoning compounds are irreversible inhibitors of enzyme cholinesterase, an enzyme which hydrolyzes acetylcholine.
- Thus organophosphates inhibit cholinesterase and protect acetylcholine from hydrolysis. This results in increased concentration of acetylcholine and excessive cholinergic activity.

- They inhibit cholinesterase by phosphorylating the catalytic site of enzyme. Less than 50% of cholinesterase activity is indicative of poisoning.
- Clinical features of poisoning are due to excessive cholinergic activity. Local muscarinic manifestations at the site of exposure (skin, eye, GIT) occur immediately and are followed by complex, systemic effects due to muscarinic, nicotinic and central actions

13. Which of the following is NOT correct about postmortem changes?

a) Post-mortem lividity fixes at 6-8 hours

b) Rigor mortis occurs when ATPs decrease upto 85% of normal

c) Rigor mortis is delayed in cholera and strychnine poisoning

d) Cadaveric spasm is instantaneous at the time of death

e) Postmortem calorificity occurs after 5-6 hours of death

Correct Answer - C:E

Ans. is 'c' i.e., Rigor mortis is delayed in cholera and strychnine poisoning & 'e' i.e., Postmortem calorificity occurs after 5-6 hours of death [Ref Reddy 30th/e p. 137 -148]

- Postmortem calorificity:- Normally, temperature falls after death. But in some situations, for initial 2-3 hours the dead body may gain heat, i.e. postmortem calorificity
- After 6-12 hours, lividity is fully developed and fixed (unchangeable), i.e. primary lividity. It ends when putrefication sets in. Fixation of lividity is due to stagnation of blood in distended capillaries and venules (not due to coagulation of blood)
- Rigor mortis occurs when there is decrease in ATP upto 15% (or 85% of normal) .
- **Cadaveric spasm (instantaneous rigor or cataleptic rigidity)**
- Instantaneous rigor is defined as the condition wherein a group of muscles, which were in contracted state at the time of death, continue to be in spasm after death, without the stage of primary relaxation. Therefore, this stage preserves the attitude of the person at the time of death.

14. Cephalic index in Indian population is?

a) 60-70

b) 70-75

c) 75-80

d) 80-85

e) 85-90

Correct Answer - B

Ans. is 'b' i.e., 70-75 [Ref Reddy 30th/e p. 52]

- Cephalic index is defined as the index of breadth of skull
 - Cephalic index = (Maximum breadth of skull/Maximum length of skull) x 100
 - Based on cephalic index races are classified into following three
1. Dolichocephalic (long headed) : Cephalic index is 70-75 and is a feature of Caucasians, Pure Aryan (Indians), Aborigines, and Negroes.
 2. Mesaticephalic (medium headed) : Cephalic index is 75-80 and is a feature of Europeans, and Chinese.
 3. Brachycephalic (short headed) : Cephalic index is more than 80 and is a feature of **Mongolian**.

15. Which of the following fracture is specific for indicating child abuse?

a) Posterior rib fracture

b) Scapula fracture

c) Mandibular fracture

d) Variable fractures at multiple sites

e) Pelvic fracture

Correct Answer - A:B:D

Ans is 'a' i.e., Posterior rib fracture, 'b' i.e., Scapula fracture & 'd' i.e., Variable fractures at multiple sites
[Ref:<http://pediatrics.aappublications.org/content/133/2/e477#T1>]

High specificity	Medium specificity	Low specificity
<ul style="list-style-type: none">• Metaphyseal lesion ("bucket handle" or "corner")• Posterior rib fracture• Scapular fracture• Spinous process fracture• Sternal fracture	<ul style="list-style-type: none">• Multiple fractures in various stages of healing, especially bilateral• Fractures of different ages• Epiphyseal separation• Vertebral body fracture/subluxation• Digital fracture• Complex skull fracture	<ul style="list-style-type: none">• Clavicular fracture• Long-bone shaft fracture• Linear skull fracture

16. According to the "Treatment of terminally-ill patients bill, 2016", incompetent patient is below the age of?

a) 12 years

b) 16 years

c) 18 years

d) 20 years

e) 24 years

Correct Answer - B

Ans is 'b' i.e., 16 years [Ref-

<http://www.prsindia.org/uploads/media/draft/Draft%20Passive%201.pdf>]

- "Incompetent patient" means a patient who is a minor below the age of sixteen years or a person of unsound mind or a patient who is unable to
 1. Understand the information relevant to an informed decision about his medical treatment;
 2. Retain that information;
 3. Use or weigh that information as part of the process of making his informed decision;
 4. Make an informed decision because of impairment of or a disturbance in the functioning of his mind or brain; or
 5. Communicate his informed decision (whether by speech, language or any other mode) as to medical treatment

17. Which of the Following are the grounds for divorce for females in India

a) Impotence of male partner

b) Extramarital affair of male aptner

c) Infertility of female

d) Unemployment of male partner

e) If she was married before the age of fifteen and she want to renounces the marriage before she attains eighteen years of age

Correct Answer - A:B:E

Answer: (a) Impotence of male partner, (b) Extramarital affair of male aptner, (e) If she was married before the age of fifteen... (Ref: <http://www.indidivorce.com/grounds-for-divorce-in-india.html>: Parikh 7^h/367, 386.6`h/5.1.5.24]

- Adultery is considered as an offence against marriage by both the Penal law and the Matrimonial law in India and anyone committing an adulterous act can be punished under law"
- Impotency and infertility are completely distinct terms. Unlike impotency, infertility cannot be grounds for divorce, the Bombay high court (HC) ruled on Monday.Jul 24, 2012.
- Hindu Marriage Act, 1955 · Adultery, Cruelty, Desertion, Mental disorder ,Leprosy, Venereal Disease, if husband has indulged in rape, bestiality and sodomy, if she was married before the age of fifteen and renounces the marriage before she attains eighteen years of age.
- Sterile female is not a ground for divorce (Premature ejaculation, if

leads to impotency then ground for divorce, otherwise not ground for divorce.

- Impotency is a ground for annulling marriage

18. Bite mark may aid in:,

a) Assessment of age

b) Identification of accused

c) Assessment of height

d) Assessment of type of teeth

e) Collection of DNA sample

Correct Answer - B:C:E

Answer:(B,Identification of accused D,Assessment of type of teeth & E, Collection of... [Ref: Ready 33°/98-100: Parikh 7`h/83-84]

- **Bite marks can permit precise identification** because the alignment of teeth is **peculiar to each individual**.
- The first step in analyzing the bite is to identify it as human. Animal teeth are very different from humans' teeth, so they leave very different bite-mark patterns. Next, **the bite is swabbed for DNA**, which may **have been left in the saliva of the biter**. The dentist must also determine whether the bite was self-inflicted.

19. Feature of gunshot injury is/are:

a) Gutter injury

b) Grease collar

c) Radiating wound

d) Tissue opening on opposite end

e) all of the above

Correct Answer - E

Answer- E,all of the above [Ref: Reddy 33rd/ 224,32nd/205,235; Parikh 7th/249-53, 6th/ 4.43-44; Forensic Anthropology by Steven Byers 4th/256]

- The impact of bullets on bone may cause fracture lines to form. The two type of fracture lines are distinguishable on cranial vault: radiating and concentric.
- Radiating fracture lines originate from the site of impact where they move outward in any direction(this is especially seen in entrance wound).
- Smudge Ring/Lead Ring/Grease Collar!Dirt Collar is due to the wipe of the soft metal of the bullet, or dirt present on it, or grease carried from the barrel and is deposited round the entrance wound internal to the abraded collar.
- Gutter fracture: They are formed when part of the thickness of the bone is removed so as to form a gutter, e.g., in oblique bullet wound"
- Bullet wound: In exit wound, size is bigger than bullet.

20. Which is not method of crime scene examination:

a) Grid

b) Strip

c) Wheel

d) Composite

e) Point to point

Correct Answer - D:E

Ans. (d) Composite and(e) Point to point

[www.universalclass.com/articles/law/processing-a-crime-scene.]

- Six basic crime scene search patterns- Strip method, Wheel method, Spiral method, Zone method, Grid method and Line method.
- The use of any or a number of these search methods will be determined by the location and size of the particular crime scene.

21. Which of the following is NOT rape:

- a) Sexual intercourse with wife, of age below 15 year, with consent
- b) Sexual intercourse with wife, of age 16 year, with consent
- c) Sexual intercourse with a girl below 18 years of age, with consent
- d) Sexual intercourse with a girl of 18 year with consent
- e) Sexual intercourse with wife who is living separately from him under a decree of separation, or any custom or usage with her consent

Correct Answer - B:D:E

Ans: b. Sexual intercourse with..., d. Sexual intercourse with a girl..., e. Sexual intercourse with wife who is living [Ref Reddy 32nd/ 392-95; Parikh 7th/389-911

Rape: The Criminal Law (Amendment) Bill, 2013 (5.375, I.P.C)

- Acc to Gazette Notification of GOI regarding Criminal Law (amendment) Act, 2013 released on 2 april, 2013, It is age 15 year .
- **Exception to S. 375, I.P.C: Sexual intercourse or sexual acts by a man with his own wife, the wife not being under 15 years.**
- There is controversial reference regarding age of wife, either 16 or 15 year in Reddy (old & new ed.) & Parikh.
- *With her consent, when the man knows that he is not her husband and that her consent is given because she believes that he is another man to whom she is or believes herself to be lawfully married.*
- *With her consent when, at the time of giving such consent, by*

reason of unsoundness of mind or intoxication or the administration by him personally or through another of any stupefying or unwholesome Substance, she is unable to understand the nature and consequences of that to which she gives consent.

- *With or without her consent, when she is under eighteen years of age.*
- *When she is unable to communicate consent*

22. Cause(s) of Opisthotonus is/are:

a) Cocaine

b) Strychnos Nux Vomica seed

c) Strychnine

d) Codeine

e) Curare

Correct Answer - B:C

Ans: B. Strychnos Nux Vomica seed C. Strychnine

- **Strychnine** (alkaloid from seeds of strychnosnux-vomica) cause opisthotonus (Parikh 7th/639-40)
- "**Strychnine** : The convulsions are most marked in antigravity muscles, so that the body typically arches in hyperextension (opisthotonus)" (Reddy 32nd/581)
- **Causes of Opisthotonus:** Arnold-Chiari syndrome, Meningitis, Brain tumor, Gaucher disease, Growth hormone deficiency (occasionally), Glutaricaciduria and organic acidemias (forms of chemical poisoning).

23. True about cadaveric spasm:

a) Same mechanism as rigor mortis

b) Mechanism is unknown

c) Also k/a instantaneous rigor

d) Occur only in cold environment

e) Can be seen in some drowning case

Correct Answer - B:C:E

Ans: b. Mechanism..., c. Also 1c/a..., e. Can be seen....

- Cadaveric Spasm (Cataleptic Rigidity or Instantaneous Rigor) is a rare condition. In this, the muscles that were contracted during life become stiff and rigid *immediately after death* without passing into the stage of primary relaxation, and its Mechanism is unknown
- It occurs especially in *cases of sudden death, excitement, fear, severe pain, exhaustion, cerebral haemorrhage, injury to the nervous system, firearm wound of the head, drowning, convulsant poisons (such as strychnine)* .

24. Which of the following is true statement(s) about exhumation?

a) Police can order for exhumation

b) Executive magistrate can order for exhumation

c) Postmortem can not be done on exhumated body

d) Cr PC 176(4) is related to enquiry of exhumated body

e) CrPC 174 is related to enquiry of exhumated body

Correct Answer - B:D

Ans: b. Executive magistrate..., d. Cr PC 176 (4) is related...
[Ref Reddy 32nd/ 128-29; Parikh 7th/133-34]

- It is digging out of an already buried body legally from the grave
- There is no time limit for exhumation in India
- Autopsies are performed on exhumed bodies:
 - (1) In criminal cases, such as homicide, suspected homicide disguised as suicide or other types of death, suspicious poisoning, death as a result of criminal abortion & criminal negligence;
 - (2) In civil cases, such as accidental death claim, insurance, workmen's compensation claim, liability for professional negligence, survivorship & inheritance claims or disputed identity
- Authorisation: The body is exhumated only when, there is a written order from the executive magistrate. The body can be exhumated by any government doctor
- The body is exhumated under the supervision of a medical officer & magistrate in the presence of a police officer
- Whenever practicable, the magistrate should inform the relatives of the deceased & allow them to remain present at the enquiry (176 (4))

Cr. P. C)

25. Which of the following is/are feature(s) of human hair:

a) Medullary index: <0.3

b) Cortex is thin

c) Cortex is thick

d) Medulla-narrow

e) Medulla-wider

Correct Answer - A:C:D

Ans: a. Medullary index..., c. Cortex is thick..., d. Medullanar....

[Ref Reddy 32nd/91; Parikh 7th/ 499]

Trait	Human Hair	Animal hair
Character	Fine & thin	Coarse & thick
Cuticle	Cuticular scales are short, broad, thin & irregularly annular	Cuticular scales are very large & have step-like or wavy projections
Cortex	Thick, well -striated & 4 to 10 times as broad as medulla	Thin, rarely more than twice as broad as medulla
Medulla	Varies considerably, usually narrow, discontinuous, fragmented or entirely absent	Continuous & wider
Pigment	Evenly distributed	Mostly present in the medulla

Precipitin	Specific for human	Specific for different animals
Medullary index (Diameter of medulla/ Diameter of shaft)	Below 0.3	Above 0.5

26. Which of the following joint is best predictor of age of 16-17 year by X-ray:

a) Knee

b) Elbow

c) Hip

d) Wrist

e) Ankle

Correct Answer - D:E

Ans: (D) Wrist (E) Ankle [Ref Reddy 32nd/78, 77, 74; Parikh 7th/61-63]

For estimation of age: Take X-ray

- **6-12 years** Elbow joint, Wrist joint, 6 yr- center for lower end of ulna (A); medial epicondyle of the humerus (A)
- **9 years:** Olecranon (A)
- **9 to 11 years:** Trochlea of humerus (A)
- **10th to 11th year:** Pisiform (A)
- **11th year:** Lateral epicondyle of humerus (A)
- **13 to 16 years:** X-ray of pelvis elbow joint & pelvis (13thyr -separate centers in triradiate cartilage of acetabulum (A)
- **12 to 14 years:** Lesser trochanter of femur (A)
- **14th year:** Crest of ilium (A), fusion of medial epicondyle of humerus, lateral epicondyle with trochlea
- **15th year:** fusion of triradiate cartilage of acetabulum
- **16-17 year:** wrist
- **Crest of ilium: 18-19.**
- **Ischeal tuberostty, clavicle(inner end): 21-22(F), 23-24(M)**

27. Which of the following is/are paraphilia:

a) Pedophilia

b) Sodomy

c) Frotteurism

d) Voyeurism

e) Exhibitionism

Correct Answer - A:C:D:E

Ans: A. Pedophilia C.Frotteurism D. Voyeurism E. Exhibitionism

[Ref Synopsis of Psychiatry by Kaplon dr Saddock 11th/593-97;
Reddy 32nd/ 411; Neeraj Ahuja 7th/124-26; Parikh 7th/ 411-12J

- Paraphilias or perversions are sexual stimuli or acts that are deviations from normal sexual behaviors, but are necessary for some persons to experience arousal and orgasm.
- According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), the term paraphilic disorder is reserved for those cases in which a sexually deviant fantasy or impulse has been expressed behaviorally.
- Individuals with paraphilic interests can experience sexual pleasure, but they are inhibited from responding to stimuli that are normally considered erotic. The paraphiliac person's sexuality is mainly restricted to specific deviant stimuli or acts.
- DSM-5 lists pedophilia, frotteurism, voyeurism, exhibitionism, sexual sadism, sexual masochism, fetishism, and transvestism with explicit diagnostic criteria because of their threat to others and/or because they are **relatively common paraphilias**. There are many other paraphilias that may be diagnosed

28. Which of the following is/are feature of drowning?

a) Oedema aquosum in lung

b) Emphysema aquosum is presumptive evidence of death from drowning

c) altauf s haemorrhages is seen subpleural

d) Gettler's test is used to test chloride content of blood from both sides of the heart

e) Lung is ballooned and light in sea water drowning

Correct Answer - A:B:C:D

Ans. is 'a' i.e., Oedema aquosum in lung; 'b' i.e., Emphysema aquosum is presumptive evidence of death from drowning; 'c' i.e., Paltauf s haemorrhages is seen subpleurally; & 'd' i.e., Gettler's test is used to test chloride content of blood from both sides of the heart [Rep Reddy 33^d/e p. 369-70; Parikh 7^{"/e p. 192-93]}

- The eyes are half opened with dilated pupil, congested conjunctiva and almost nil petechial hamorrhage.
- Cutis anserina (goose skin), i.e. granular appearance of skin with erect hair due to contraction of erector pili.
- Washer woman hand and feed, i.e. bleached and corrugated appearance of palm and soles.
- **White, fine, lathery, abundant and tenacious (sticky) froth of nose and mouth.** Froth increases in amount on compression of the chest. Froth in the nose and mouth is also seen in certain poisoning, e.g. cocaine, organophosphorus, morphine (opioids) and

barbiturates. But the froth is neither so fine nor so copious and persistent in these poisonings.

- Weeds, grass, plants, mud or stones in tightly clenched hand. It is due to cadaveric spasm and **strongly suggest that the person was alive when drowned**, as it indicates the struggle of person for life. Abraded tips of fingers and toes, and sand under damaged nails have same significance.
- Emphysema aquosum is seen in wet drowning. In this condition, the lungs are characterized by rupture of alveolar spaces with accumulation of hemolyzed blood with water and small amount of air. This condition results from violent respiratory efforts when the victim is submerged in conscious state.
- Oedema aquosum is a condition of lung characterized by oedematous change due accumulation of some water in lung. This condition results due to passive entrance of water in the lungs when the victim is submerged in unconscious state having no violent effort for respiration. It is seen in submersion of unconscious

29. Test used for blood stains detection is/are all except

a) Barberio's test

b) Kastle-meyer test

c) Benzidine test

d) Acid phosphatase test

e) Takayama test

Correct Answer - A:D

Ans. is 'a' i.e., Barberio's test; & 'd' i.e., Acid phosphatase test [Ref Reddy 33' p. 450-51, 435-36; Parikh 7th/e p. 492-93, 484-86]

these tests are based on H₂O₂ and peroxidase enzyme. Tests are :

- Benzidine test : Greenish blue colour.
- Phenolphthalein test (kastle meyer test) : Deep permanganate colour.
- Leucomalachite green test : Bluish green or peacock blue colour.
- Guaiacum test : Blue colour.
- Orthotoludine test (kohn test) : Blue or green colour.
- Amidopyrine test : Purple colour.
- Teichmann's haemin crystal test.
- Takayama hemochromogen crystal test

30. Saturated NaCl is a not used in preservation of viscera in which of the following poisoning?

a) Sodium hydroxide

b) Aconite

c) Carbolic acid

d) Sulphuric acid

e) None

Correct Answer - A:B:D

Ans. is 'a' i.e., Sodium hydroxide; 'b' i.e., Aconite; & 'd' i.e., Sulphuric acid [Ref Reddy 33rd Ye p. 124; Parikh 7th Ve p. 108-09]

1. Saturated sodium chloride: In all cases of poisoning excluding corrosive acids except carbolic acids (phenol), alkalis, corrosive sublimate and aconite.
2. 30 mg potassium oxalate (anticoagulant) and 10 ml sodium fluoride (enzyme inhibitor) : Blood in suspected poisoning including alcohol but excluding oxalic acid, ethylene glycol, fluoride, carbon monoxide.
3. Rectified spirit : All except in cases of poisoning by : (i) phenol, phosphorus, paraldehyde, (ii) kerosene, (iii) formaldehyde, formic acid, (iv) alcohol, acetic acid (v) chloroform, chloral hydrate, (vi) ether.
4. 10 mg/ml Na/K. fluoride and 3 mg K-oxalate : For preserving blood; fluoride is also added to CSF, vitreous humor; and urine if alcohol estimation is required; and also in analysis of cocaine, cyanide and carbon monoxide.

31. Which of the following is/are dangerous injury in forensic science ?

a) Injury causing endanger to life if not treated timely

b) Hearing loss

c) Loss of 2-3 teeth

d) Synonymous with grievous injury

e) Emasculation

Correct Answer - A

Ans. is 'a' i.e., Injury causing endanger to life if not treated timely [Ref Reddy 33rd/e p. 293; Parikh 7^m/e p. 263]

- Injuries can be divided into (i) Simple (ii) Grievous and (iii) dangerous.
- A simple injury is one which is neither extensive nor serious, and which would heal rapidly without leaving any permanent deformity or disfiguration.
- A grievous injury is one (i) Which is extensive or serious (ii) Which does not heal rapidly, and (iii) Which leaves a permanent deformity or disfiguration.
- .. Emasculation (cutting of the penis, castration; or causing loss of power of erection due to spinal injury).
- 2. Permanent privation of the sight of either eye.
- 3. Permanent privation of the hearing of either ear .
- 4. Privation of any member (part, organ, limb) or joint.
- 5. Destruction or permanent impairing of powers of any member or joint.
- 6. Permanent disfiguration of head or face.

7. Fracture or dislocation of a bone or a tooth.
3. Any hurt which endangers life or which causes the sufferer to be, during the space of twenty days in severe bodily pain, or unable to follow his daily routine.
3. Section 319 IPC defines hurt as bodily pain, disease, or infirmity, caused to any person.

32. Which of the following features(s) is/are more common in strangulation rather than hanging -

a) Pale face

b) Fractures of trachea and larynx

c) Congested faces

d) Transverse ligature

e) Bruises at edges of the ligature mark

Correct Answer - B:C:D:E

Ans. is 'b' i.e., Fractures of trachea and larynx; 'c' i.e., Congested faces; 'd' i.e., Transverse ligature; & 'e' i.e., Bruises at edges of the ligature mark [Ref Reddy 33rd ed p. 351]

	Hanging	Strangulation
1.	There is suspension of body.	1. No suspension
2.	Compression on neck is by a ligature	2. Compression on neck is by a ligature, hands, sticks, elbow, knee or foot.
3.	Force of compression is the weight of body (endogenous force)	3. It is outside force applied (exogenous force).
4.	Ligature mark is above the thyroid is oblique, symmetrical and incomplete.	4. Mark is on or below the thyroid. Is horizontal, complete and continuous (in absence of ligature mark
5.	Knot usually present.	there are other injuries on neck depending upon type of
5.	Usually no mark at site of knot : In fixed knot, mark is inverted 'V' shaped.	

- | | |
|---|---|
| 7. Mark usually single. | strangulation). |
| 3. Surface of mark abraded or contused. | 5. Knot Usually absent. |
| 3. Surface may show pattern of ligature used. | 6. Mark is horizontal, complete and continuous. |
| 3. Surface hard. Mark-yellowish brown in colour | 7. Usually multiple marks. |
| | 8. Usually lacerated. |
| | 9. Pattern not seen |
| | 10. Soft, due to frank bleeding. Black. |

33. Which of the following is/ are true regarding Perjury:

a) Wilfully giving false statement under he/she either knows or believes to be false or does not believe to be true

b) S. 190 IPC deals with perjury

c) Voluntarily giving false evidence under oath which he/she either knows or believes to be false or does not believe to be true

d) The witness is liable to be prosecuted for perjury

e) None

Correct Answer - A:C:D

Ans. (A) Wilfully giving false statement under he/she either knows or believes to be false or does not believe to be true
(C) Voluntarily giving false evidence under oath which he/she either knows or believes to be false or does not believe to be true
(D) The witness is liable to be prosecuted for perjury

34. True about Corpus delicti :

a) Medical negligence

b) Body of offence

c) It includes body of the victim and other facts which are conclusive of death by foul play

d) The essence **of crime**

e) None

Correct Answer - B:C:D

Ans. (B) Body of offence (C) It includes body of the victim and other facts which are conclusive of death by foul play (D) The essence of crime

35. Gustafson's method is used for -

a) Age determination

b) Sex determination

c) Race determination

d) Teeth attrition

e) Teeth resorption

Correct Answer - A:D:E

Ans. is 'a' i.e., Age determination; 'd' i.e., Teeth attrition; 'e' i.e., Teeth resorption [Ref Parikh 6th/e p. 2.8]

- Gustafson's method : Useful only in persons older than 21 years of age, depending on the physiological changes in each of the dental tissues
- 1. Attrition - due to wear and tear from mastication, upper surface of teeth destroyed gradually, first involving the enamel → dentine → pulp (depending on the functional use of teeth and hardness of enamel). AO - no change. A - minimum change (enamel), A2 - moderate change (dentine), A3 - maximum change (pulp).
- 2. Parodontosis - recession of gums and periodontal tissue surrounding the teeth, exposing the neck and adjacent part of root → teeth fall off (poor hygiene increases parodontosis).
- 3. Secondary dentine formation - develop within the pulp cavity and decrease size of the cavity, start from base - apex, obliterate the cavity, increase with age, caries and parodontosis.
- 4. Cementum apposition - near the end of root, increase cementum, increase thickness, deposited throughout life, and form incremental lines (devised by Boyde).
- 5. Root resorption - because of cementum and dentine, absorption of

root start at apex and extend upward (may be pathological).

- 3). Transparency of the root - seen after 30 years of age, canal in the dentine at first widen, increase with age because of deposition of minerals. They become invisible and dentine becomes transparent (Most reliable of all the criteria).

36.

Unnatural Sexual offences are defined by section ?

a) 375 IPC

b) 320 IPC

c) 377 IPC

d) 302 IPC

e) None

Correct Answer - C

Ans is 'c' i.e., 377 IPC [Ref Parikh Ole p. 3-68] IPC retated to sexual offences]

- **228 IPC** : Prohibits disclosure of identity of rape victim.
- 375 IPC : Defining rape.
- 376 IPC : Punishment for rape (7 years to life imprisonment \pm fine).
- 376-A IPC : Punishment for marital rape (2 years imprisonment \pm fine).
- 377 IPC : Unnatural sexual offences (10 years to life imprisonment \pm fine).
- 354 IPC : Assault or criminal force to woman with intent to outrage her modesty.
- 366-A IPC : Procurement of minor girl for illicit intercourse.
- 351 IPC : **Defines assault.**
- 352-358 IPC : Punishment for causing assault.
- 509 IPC : **Word, gesture or act intended to insult the modesty of a women.**

37.

Sodomy is punishable under section IPC ?

a) 354

b) 375

c) 377

d) 378

e) None

Correct Answer - C

Ans is 'c' i.e., 377 [Ref Parikh 6thVe p. 3.68]

- Section 377 IPC defines all unnatural sexual offences (including sodomy).
- **Section 377 IPC** defines **unnatural sexual sexual offences** as sexual intercourse against the order of nature with any man, woman or animal and lays down punishment for same. These offences are **sodomy, buccal coitus, tribadism (lesbianism), and bestiality.**

38. Spalding sign is a feature of -

a) Drowning

b) Intrauterine death

c) Maceration

d) Rigor mortis

e) Aseptic autolysis

Correct Answer - B:C:E

Ans is 'b' i.e., Intrauterine death; 'c' i.e., Maceration; 'e' i.e., Aseptic autolysis [Ref Parikh 6thie p. 5-75, 5-76]

Maceration:

- Maceration is a process of aseptic autolysis. It occurs when a dead fetus remains in the uterus for 3-4 days surrounded by liquor amnii but with exclusion of air.
- Skin slippage is the earliest sign (occurs within 12 hours).
- There is gas in the great vessels and chambers of heart (Robert's sign). Except for lung and uterus, which remain unchanged for a long time, all other organs become soft, oedematous and lose their morphology.
- The one important radiological sign suggestive of maceration is 'Spaulding's sign' i.e. skull bones overlap each other. The smell is somewhat rancid.

Rigor mortis:Rigor mortis may occur in dead fetus before birth or at birth.

Putrefaction (decomposition) :If the membranes are ruptured after death of fetus and air gains entry into liquor amnii, fetus undergoes putrefaction instead of maceration. Body is greenish, foul smelling and bloated



39. Extent of Burn is calculated by ?

a) Rule of 9

b) Wallace's formula

c) Lund and Browder chart

d) Henery's formula

e) None

Correct Answer - A:B:C

Ans. is 'a' i.e., Rule of 9, 'b' i.e., Wallace's formula; 'c' i.e., Lund and Browder chart [Ref Parikh &le p. 4-152-4-156]

In adults surface area is calculated by :

1. 9% for the head and neck.
 2. 9% for each upper limb.
 3. 9% for the front of each lower limb.
 4. 9% for the back of each lower limb.
 5. 9% for the front of the chest.
 6. 9% for the back of the chest.
 7. 9% for the front of the abdomen.
 8. 9% for the back of the abdomen.
 9. 1% for the genitalia.
- Area of palm (palmar surface), as a general rule, constitutes about 1% of surface area both in adult and children.
 - In burnt area >15% in adults and >10% in a child, the loss of circulatory blood volume must be replaced, otherwise it will cause irreversible shock.
 - Burns on head, neck, trunk and genitals are said to be more dangerous than on other parts of the body.
 - Infants, young children and elderly are particularly vulnerable to

initial shock and subsequent complications.

40. True statement(s) regarding the power of chief judicial magistrate:

a) Can give imprisonment of <3 year only

b) Can give imprisonment of any duration

c) Can give imprisonment up to 5 year

d) Can give imprisonment up to 7 year

e) Can impose unlimited fine

Correct Answer - D:E

Ans: d. Can give imprisonment up to 7 year e. Can impose unlimited fine [Ref Reddy 32nd/6; Reddy 27th/6 indiankanoon.org]

- The Court of a Chief Judicial Magistrate may pass any sentence authorised by law except a sentence of death or of imprisonment for life or of imprisonment for a term exceeding seven years.
- The Court of a Magistrate of the first class may pass a sentence of imprisonment for a term not exceeding three years, or of fine not exceeding five thousand rupees, or of both.
- The Court of a Magistrate of the second class may pass a sentence of imprisonment for a term not exceeding one year, or of fine not exceeding one thousand rupees, or of both.
- The Court of a Chief Metropolitan Magistrate shall have the powers of the Court of a Chief Judicial Magistrate and that of a Metropolitan Magistrate, the powers of the Court of a Magistrate of the first class.

41. Which of the following feature is/are related to mandible of male in comparison to female:

a) Ascending ramus- smaller breadth

b) Angle of ramus- More obtuse

c) Larger condyle

d) Mental tubercles- larger & prominent

e) Symphyseal height more

Correct Answer - C:D:E

Ans: c. Larger condyle d. Mental tubercles- larger & prominent e. Symphyseal height more[Ref. Reddy 32nd/60; Parikh 7th/ 79]

Symphyseal height is more in males (Parikh 7th/79)

Trait	General size	Male	Female
		Larger & thicker	Smaller & thinner
Chin		Square(U-shaped)	Rounded
Body height		At symphysis greater	At symphysis smaller
Ascending ramus		Greater breadth	Smaller breadth
Angle of body & ,amus (Gonion)		Less obtuse(under 1250); Prominent & Everted	More obtuse & not prominent
Condyles		Larger	Smaller
Mental tubercles		Large & prominent	Insignificant

42. Which of the following statement is/are true about carbamate poisoning:

a) Cause pinpoint pupil

b) Atropine is antidote

c) Adrenergic action

d) Spontaneously hydrolyses from the cholinesterase enzymatic site

e) CNS toxicity is more as compared to organophosphorus

Correct Answer - B:D

Ans: b. Atropine is antidote d. Spontaneously hydrolyses from the cholinesterase enzymatic site[*Ref Reddy 32nd/495-98; Parikh 7th/625-28; Ger G I lth/210;KDT 7th/111 ; Katzung 13th/979-80 ; Pharmacology by Satoskar 24th/297*

- It differs toxicologically from organophosphate: They will spontaneously hydrolyse from the cholinesterase enzymatic site within 24 to 48 hours, whereas organophosphates will not.
- They do not effectively penetrate into the CNS, & as such CNS toxicity is limited.
- Treatment: Atropine is the specific antidote. Pralidoxime may diminish the severity of symptoms & help prevent some morbidity.

43. Post-mortem calorificity is/are seen in all except:

a) Strychnine poisoning

b) Septicaemic condition

c) Cholera

d) Barbiturate poisoning

e) Tetanus

Correct Answer - D

Ans: d. Barbiturate poisoning[Ref Reddy 33rd/155, 32rd/149; Parikh 7th/143,6th/ 3.8-3.9]

- Post-Mortem Caloricity¹. Reddy 33rd/155- In this condition, the temperature of the body remains raised for the first two hours or so after death.
- When the regulation of heat production has been severely disturbed before death, as in sunstroke & in some nervous disorder
- When there has been a great increase in heat production in the muscle due to convulsions, as in tetanus & strychnine poisoning etc
- Post-Mortem Caloricity: Seen I Parikh th/ 3.8-3.9, Pontine haemorrhage & sunstroke, Tetanus & strychnine poisoning., acute viral or viral infections such as lobar pneumonia, typhoid fever, encephalitis & encephalomyelitis

44. Treatment of carbolic acid poisoning includes:

a) Repeated lavage should be done

b) Intubation may be required in case of respiratory compromise

c) Emetics is very beneficial

d) Saline containing sodium carbonate is given

e) None

Correct Answer - A:B:D

Ans: a. Repeated lavage should be done b. Intubation may be required in case of respiratory compromise d. Saline containing sodium carbonate is given [Ref Reddy 32nd/507 ; Parikh 7th/535-37]

- An emetic often fails due to the anaesthetic effect
- Lavage: The stomach should be washed repeatedly, carefully with plenty of lukewarm water containing activated charcoal, olive oil, castor oil etc. Washing continued until the washings are clear & odourless
- When lavage is completed, 30 gram of magnesium sulphate or a quantity of medicinal liquid paraffin should left in the stomach
- Saline containing sodium carbonate is given i.v to combat circulatory depression, to dilute carbolic acid content of blood & to encourage excretion by producing diuresis, Haemodialysis, if there is renal failure
- Carbolic acid management: Evaluate and support airway, breathing, and circulation. Children may be more vulnerable to corrosive agents than adults because of the relatively smaller diameter of their

airways.

- In cases of respiratory compromise secure airway and respiration via endotracheal intubation. If not possible, surgically create an airway.

45. Death in hanging occurs due to all except:

a) Asphyxia

b) vagal inhibition

c) Vagal stimulation

d) Cerebral ischemia

e) Venous congestion

Correct Answer - C

Ans: c. Vagal stimulation [Ref Reddy 33rd/339; Parikh 6th/3.40

Hanging: Causes of Death:

1. Asphyxia: A tension of 15 kg on ligature blocks the trachea
2. Venous congestion: The jugular veins are blocked by a tension in the rope of 2 kg
3. Combined asphyxia & venous congestion: Commonest cause
4. Cerebral anaemia: A tension Of 4-5 kg on ligature blocks carotid arteries & the 20 kg, the vertebral arteries
5. Reflex vagal inhibition
6. Fracture of dislocation of the cervical vertebrae (injury to spinal cord)

Strangulation: Causes of death (Reddy 33rd/347)

1. Asphyxia
2. Cerebral anaemia or Venous congestion
3. Combined asphyxia & venous congestion
4. Reflex vagal inhibition
5. Fracture of dislocation of the cervical vertebrae (rare)

46. Which of the following is/are type of abrasion:

a) Pattern

b) Imprint

c) Graze

d) Stretch

e) Scratch

Correct Answer - A:B:C:E

Ans: a. Pattern , b. Imprint , c. Graze & e. Scratch

- Abrasions or Gravel Rash: It is a destruction of the skin, which usually involves the superficial layers of the epidermis only. They are caused by friction against a rough surface or by compression. Some pressure & movement by agent on the surface of the skin is essential.
- Scratches (linear abrasions): It is an abrasion with length but no significant width. Subtype-point scratch & fingernail abrasions
- Grazes (sliding, scraping or grinding abrasion): They are the most common type. They occur when there is movement b/w the skin & some rough surface in contact with it. Subtype-brush burn, friction burn etc.
- Pressure abrasion (crushing or friction abrasions): e.g., ligature mark in case of hanging & strangulation & the teeth bite marks, Impact abrasion (contact or imprint abrasion): caused by a rough object at or near right angle to the skin surface. Pattern abrasion: Impact abrasion & pressure abrasion

47. Which of the following toxic agent is removed by hemodialysis, but not by gut detoxication through activated charcoal:

a) Theophylline

b) Benzodiazepines

c) Phenobarbitone

d) Ethylene glycol

e) Ethanol

Correct Answer - E

Ans: e. Ethanol [Ref Reddy 33rd/155; Parikh 6th/3. 8-3. 9]

- When there has been excessive bacterial activity, as in septicaemic condition, cholera other fevers, the temperature of the body remains raised for the first two hours or so after death.
- Theophylline, ethylene glycol & phenobarbitone (barbiturates) are cleared by both, activated charcoal or haemodialysis, Benzodiazepines are cleared only by activated charcoal, Ethanol is removed only by haemodialysis not by activated charcoal (so obviously the answer)
- Hemodialysis: It is very useful for removing ethanol, methanol, ethylene glycol, chloral hydrate, lithium, trivalent arsenic, acetaminophen, bromide, Phenobarbital, salicylate, fluoride, sodium chlorate, digitalis, methaqualone, boric acid & thiocyanate
- Haemodialysis has been employed for removing barbiturates, boric acid, glutethimide, methyl alcohol, salicylates and thiocyanates from the blood. Haemoperfusion is superior to haemodialysis for removal of lipid soluble drugs. Exchange transfusion is only feasible

with small children and has been applied to poisonings by salicylates, barbiturates, iron salts, carbon monoxide, etc. All toxic substances, including nondialysable ones, are removed by this technique" (Parikh 6th/8.17) "Ethylene glycol poisoning treatment: Activated charcoal, gastric lavage or haemodialysis" (Reddy 33rd/583)

48.

I. P. C Section dealing with punishment for voluntary causing grievous injury:

a) 321 I. P. C

b) 322 I. P. C

c) 323 I. P. C

d) 324 I. P. C

e) 325 I. P. C

Correct Answer - E

Ans: e. 325 I. P. C [Ref Reddy 33rd/294-95, 292; Parikh 6th/4. 59-4. 60]

- S.321, I. C: voluntarily causing hurt
- S.322, I. P. C: voluntarily causing grievous hurt
- S.323, I. P. C: Punishment for voluntarily causing hurt: imprisonment up to one year, or fine up to Rs 1000 or both
- S.324, I. C: voluntarily causing hurt by dangerous weapons or means (3 year imprisonment)
- S.325, I. P. C: Punishment for voluntarily causing grievous hurt: Imprisonment for a term extending to seven years & also fine.
- S.326, I. P. C: Voluntarily causing grievous hurt by dangerous weapons or means: Imprisonment up to ten years & also fine

Grievous Injury (Sec 320 IPC)

1. Emasculation° (cutting off penis, castration, or causing loss of power of erection due to spinal injury)
2. Permanent privation of either eye°
3. Permanent privation of either ear°

4. Privation of any member~ (part, organ or limb) or joint
5. Permanent disfiguration of head or face°
6. Fracture or dislocation of bone or a tooth°
7. Destruction or permanent impairing of powers of any member or joint°
Any hurt which endangers life°, or which causes the sufferer to be, during the space of 20 days°, in severe body pain, or unable to follow his daily routine
- 8.

49. Mummification is/are favoured by:

a) Dry air

b) Humid air

c) Cold environment

d) Drowning

e) Warm air

Correct Answer - A:E

Ans: a. Dry air & e. Warm air

Factor Necessary for the Production of Mummification

- The absence of moisture in the air
- The continuous action of dry or warmed air

"Mummification: Chronic arsenic or antimony poisoning is said to favour the process of mummification in dry & warm climate" (Parikh 6th/3.31).

50. Post- mortem calorificity is/are seen in:

a) Drowning

b) Elderly

c) Strychnine poisoning

d) Sunstroke

e) Cholera

Correct Answer - C:D:E

Ans: c. Strychnine poisoning, d. Sunstroke, & e. Cholera,

This is a normal phenomenon and the rise is 3. 6°F or 2°C

- Septicaemia, Infectious diseases, Bacteremia Tetanus, Rabies, yellow fever Asphyxial Conditions Severe convulsions Tetanus Strychnine Hyperpyrexia at death Heat Stroke (sun stroke) Pontine Haemorrhage High Atmospheric Temperature Peritonitis, Meningitis, Nephritis Alcohol poisoning

51. Gun shot injury may cause (s):

a) Abrasion collar

b) Gutter fracture

c) Rail track injury

d) Incised like injury

e) Lacerated like injury

Correct Answer - B:D:E

Ans: a. Abrasion..., b. Gutt..., d. Incis..., e. Lace..., [Ref Reddy 32nd/205, 235; Parikh 6th/4.43-44]

- Gutter fracture: They are formed when part of the thickness of the bone is removed so as to form a gutter, e.g., in oblique bullet wound.
- Abrasion collar (Marginal abrasion): Abrasion collar surrounds the dirt collar. The abraded collar is reddish at first, but becomes reddish brown as it dries. Some contusion is present in abraded collar & as such, it is also called "contusion collar". These two features are proof of an entrance firearm wound.
- Glancing wounds (striking someone or something at an angle rather than directly and with full force) may simulate incised or lacerated wounds.
- Slit like exit wounds are occasionally encountered. They are due to the bullet exiting on its board side or due to exit of a fragmented bone. Such injuries may simulate incised wounds or stab wounds

52. Not characteristics of poisonous snake:

a) Small scales on head

b) Large scales on belly & cover entire breadth

c) Short & solid fangs

d) Compressed tail

e) Usually nocturnal in habit

Correct Answer - C

Ans: c. Short...[Ref Reddy 32nd/528; Parikh 6th/9.40-9.41]

Trait	Poisonous snake	Non-poisonous snake
1. Head scales	<p>A- small (vipers)</p> <p>B- large &</p> <p>(a) (if there is an opening or pit b/w the eye & nostril (pit viper)</p> <p>(b) third labial touches the eye & nasal shields (cobra or coral snake)</p> <p>(c) No pits & third labial does not touch the nose & eye & central row of scales on back enlarged; undersurface of the mouth has only four infralabials, the fourth being the largest (kraits)</p>	<p>Large with the exceptions as mentioned, under the poisonous snakes</p>
2. Belly	Large & cover entire breadth	Small like these on the back or

scales

3. Fangs Hollow like hypodermic needles

4. Teeth Two long fangs

5. Tail Compressed

6. Habits Usually nocturnal

the back of
moderately large,
but do not cover
the entire breadth

Short & solid

Several small teeth

Not much
compressed

Not so

53. Which of the following is not component of typical embalming agent:

a) Na citrate

b) Na borate

c) Formaldehyde

d) Glycerine

e) None

Correct Answer - E

Ans: (E) None [Ref Reddy 32nd/166; Parikh 6th/8.23] Table (Reddy 32nd/166): A typical embalming

- **Embalming** chemicals are a variety of preservatives, sanitising and disinfectant **agents**, and additives used in modern **embalming** to temporarily prevent decomposition and restore a natural appearance for viewing a body after death
- Sodium borate (Buffer) → 500 g
- Sodium citrate (Anticoagulant) → 900 g
- Glycerine (Wetting agent) → 600 ml
- Sodium chloride (Control pH) → 800 g
- Eosin (Cosmetic) → 30 ml
- Soluble wintergreen (Perfume) → 90 ml
- Water (Vehicle) Upto → 10 litres
- Formalin (Preservative) → 1.5 litres

54. True about Pugilistic attitude:

a) Flexion of hip & knee

b) Occur due to coagulation of protein by burning

c) Extension of elbow

d) Flexion of fingers

e) None

Correct Answer - A:B:D

Ans: a. Flexion of hip & knee, b. Occur due to coagulation of protein by burning, d. Flexion of fingers, [Ref Reddy 32nd/307; 27th/286; Parikh 6th/4.156-4.157]

Pugilistic Attitude (Boxing, Fencing or Defence Attitude) n

Reddy 27th/286; Reddy 32nd/307

- It is the posture of a body which has been exposed to great heat
- The legs are flexed at the hips and knees, the arms are flexed at elbows and wrists and held out in front of the body, head slightly extended, all fingers are hooked like claws.
- "Pugilistic attitude is present whether a living or dead body is burnt & has therefore no medico-legal significance")
- Contraction of paraspinal muscles often causes a marked opisthotonus, in an attitude commonly adopted by boxers.
- This stiffening is due to the coagulation of proteins of the muscles and dehydration which cause contraction. The flexor muscles being bulkier than extensors contract more due to which joints of all limbs are flexed
- It occurs whether the **person was alive or dead at time of burning**

55. Which of the following can be ground for divorce:

a) Sterile female

b) Impotent man

c) Diabetes

d) Premature ejaculation

e) Pre-existing incurable mental disorder

Correct Answer - B:E

Ans: b. impo., e. Pre-existing...

- Impotency is a ground for annulling marriage. In *Parmaswami pillai v. Sornathammal* AIR1969 it was held that the marriage of a woman with an impotent man is voidable.
- **Premature Ejaculation: May be/may not be ground May be Ground for Divorce if it Leads to Impotency**
- Mental disorder can become a ground for filing a divorce if the spouse of the petitioner suffers from incurable mental disorder and insanity and therefore cannot be expected from the couple to stay together.

56. Not true regarding Voyeurism:

a) S. 354C, IPC define punishment

b) For first offence imprisonment of 1-3 year with fine

c) For repeat offence imprisonment may extend to 5-10 year

d) Cognizable offence

e) Repeat offence is considered as non-bailable offence

Correct Answer - C

Ans: c. For repeat...[Ref Reddy 32nd/394, 413; Parikh 6th/5.55; Reddy 27th/367; Criminal Amendment Bill, 2013]

Voyeurism or Scopophilia

- It is defined as one who, experiences recurrent, intense, sexually arousing fantasies, sexual urges or behaviours involving the act of observing an unsuspecting person who is naked, in the process of disrobing or engaged in sexual activity
- Voyeurism or Scotophilia is defined as the desire to watch sexual intercourse or to observe genitals of others. Q
- Most often the victim is stranger
- Masturbation at the scene or later to memories of watching the unsuspecting stranger is normally the source of sexual pleasure
- It is rare in female

57. During separation, sexual intercourse between husband & wife:

a) Non-bailable offence

b) Only a crime if complained by victim

c) It is defined under IPC 376 C

d) Minimum punishment of 2year

e) Minimum punishment of 5 year

Correct Answer - B:D

Ans: b. Only..., d. Minimum...[Ref Reddy 33rd/412; <http://indianlawcases.com/Act-Indian.Penal.Code,1860-1835>]

- Section 376B, I.P.C: Whoever has sexual intercourse with his own wife, who is living separately, whether under a decree of separation or otherwise, without her consent, shall be punished with imprisonment of either description for a term which shall not be less than two years but which may extend to seven years & shall also be liable to fine.
- Section 376 C, I.P.C: Whoever, being the superintendent or manager of a jail, remand home or other place of custody established by or under any law for the time being in force or of a woman 's or children's institution takes advantage of his official position and induces or seduces any female inmate of such jail, remand home, place or institution to have sexual intercourse with him, such sexual intercourse not amounting to the offence of rape, shall be punished with imprisonment of either description for a term which may extend to five years and shall also be liable to fine.

58. Early onset rigor mortis is/are seen in:

a) TB

b) Cholera

c) Asphyxia

d) Arseni

e) Aconite

Correct Answer - A:B

Ans: a. TB, b. Cholera

[Ref Reddy 33rd/162; Parikh 6th/3.171

- The onset of rigor is early & duration is short in deaths from diseases causing great exhaustion & wasting e.g., cholera, typhoid, tuberculosis, cancer etc & in violent death as by cut-throat, firearms, electrocution, lightening & in strychnine poisoning
- In organophosphate poisoning rigidity appears early, CO poisoning delays disappearance
- The onset is delayed in deaths from asphyxia, severe haemorrhage, apoplexy, pneumonia & nervous disease causing paralysis of muscle
- In death due to poisoning from HCN & strychnine, it starts early & persists longer
- Arsenic delays putrefaction"- Reddy 33rd/541
- "Rigor mortis lasts longer than usual in Arsenic poisoning, Aconite is extremely unstable & is destroyed by putrefaction

59. Pinpoint pupil not seen in:

a) Aconite

b) Opium

c) Alcohol

d) Cannabis

e) Organophosphorus

Correct Answer - A:C:D

Ans: a. Aconite, c. Alcohol & d. Cannabis

[Ref Reddy 33rd/6191]

Aconite: The pupils alternately contract & dilate (hippus), but remain dilated in later stages. *Acute alcohol poisoning: pupil dilated & reacting"*

Opium poisoning: The pupils are contracted to pin point size & do not react to light but dilate during the agonal asphyxia phase caused by respiratory depression & ultimate paralysis.

Phenothiazines, Resting (deep sleep), Opiates, Narcotics, Stroke (pontine hemorrhage), Lomotil (diphenoxylate), Insecticides, Mushrooms/Muscarinic (inocybe, clitocybe)