

1. Tuberculin positive means?

- a) Immunodeficient patient
- b) Resistance to tuberculin protein
- c) Patient is infected with mycobacterium
- d) Patient is suffering from disease

Correct Answer - C

Patient is infected with mycobacterium REF: Park 20' edition page 164

A positive test (reaction of 10 mm or more to 1 TU PPD) indicates that the person is infected with *M. tuberculosis*; it does not prove that the person is suffering from the disease

2. Millenium development Goals aim to achieve reduction in MMR by:

a) $1/3$

b) $2/3$

c) $1/4$

d) $3/4$

Correct Answer - D
 $3/4$

3. Secular trend is demonstrated by:

a) Line diagram

b) Bar graph

c) Pie chart

d) Stem leaf plot

Correct Answer - A
Line diagram

4. To eradicate measles the percentage of population to be vaccinated is at least.....%

a) 70

b) 80

c) 85

d) 95

Correct Answer - D
95

5. Which of the following is characteristic of late expanding stage of demographic cycle?

a) High death or birth rates

b) High death or birth rates

c) Low birth and death rate

d) Increasing birth rates and decreasing death rates

Correct Answer - B

Late expanding stage of demographic cycle is characterised by a *fall in birth rate and a further decline in death rate*. In this stage, population continues to grow because births exceed deaths. **India is in this phase of demographic cycle.**

6. You are conducting a survey in your village and the person you are interviewing is a 32 year old post graduate working as a clerk. His total family income is 20,000 Rs per month. According to Kuppuswamy's socio economic status scale, he belongs to:

a) Upper socioeconomic class

b) Upper socioeconomic class

c) Lower middle socioeconomic class

d) Upper lower socioeconomic class

Correct Answer - B

Kuppuswamy's socio economic status scale takes into account education, occupation and monthly family income.

Since he is a post graduate he gets 6 points for education. His job as a clerk gives him 5 points and a monthly family income of 20000 Rs gives him 12 points which gives him a total of 23 points and so he belongs to upper middle socioeconomic class.

Socio economic status	Total score
Upper socio economic status	26 - 29
Upper middle socioeconomic status	16 - 25
Lower middle socioeconomic status	11 - 15
Upper lower socioeconomic status	5 - 10
Lower socioeconomic status	<5

Ref: Park, Edition 21, Page 639

7. What is the acceptable noise level in Hospital (In decibel)?

a) 5-20

b) 20-35

c) 35-50

d) 70-85

Correct Answer - B

Acceptable noise levels (decibels)

Residential	Bed room	25
	Living room	40
Educational	Class room	30-40
	Library	35-40
Hospital	Wards	20-35
Industrial	Workshop	40-60
	Laboratory	40-50

Ref: Park's textbook of Preventive and Social Medicine, 21st edition, page-685.

8. Concentration of sodium in mMol/L in low osmolar ORS is?

a) 45

b) 75

c) 90

d) 60

Correct Answer - B

The efficacy of ORS solution for treatment of children with acute non-cholera diarrhoea is improved by reducing its sodium concentration to 75 mEq/l, its glucose concentration to 75 mmol/l, and its total osmolarity to 245 mOsm/l.

Reduced osmolarity ORS	grams/litre	Reduced osmolarity ORS	mmol/litre
Sodium chloride	2.6	Sodium	75
Glucose, anhydrous	13.5	Chloride	65
Potassium chloride	1.5	Glucose, anhydrous	75
Trisodium citrate, dihydrate	2.9	Potassium	20
		Citrate	10
		Total Osmolarity	245

9. Which of the following is NOT included under the GOBI strategy advocated by UNICEF for child health?

a) Immunization

b) Using growth charts

c) Breast feeding

d) Inpatient care

Correct Answer - D

UNICEF promotes GOBI campaign for a child health revolution.

It consists of:

- G: using growth charts for monitoring child development
- O: oral rehydration therapy to treat dehydration
- B: breastfeeding
- I: immunization

Ref: Park, 21st edition, page: 856.

10. Kishori Shakti Yojana covers the age group of:

a) 10-15 years

b) 11-18 years

c) 15-25 years

d) None of the above

Correct Answer - B

Kishori Shakti Yojana has been implemented in 507 ICDS blocks and deals with improvement of girls in the age group of 11-18 years.

Kishori Shakti Yojana is being implemented using the infrastructure of ICDS

The scheme targets adolescent girls in the age group of 11 to 18 years and addresses their needs of self development, nutrition and health status, literacy and numerical skills, vocational skills etc

Ref: Health policies and programmes in India, D.K. Taneja 11th edition page: 316

11. Residual chlorine in chlorination of water should be:

a) 1 mg/L after 1 hr

b) 0.5 mg/L after 1 hr

c) 1 mg/L after 30 mins

d) 0.5 mg/L after 30 mins

Correct Answer - B

The minimum recommended concentration of free chlorine is 0.5 mg/L for one hour.

The sum of the chlorine demand of the specific water plus the free residual chlorine of 0.5 mg/L constitutes the correct dose of chlorine to be applied.

The chlorine has no effect on spores, protozoal cysts and helminthic ova, except in higher doses.

Ref: Park's Textbook of Social and Preventive Medicine, 19th edition, Page 575.

12. There has been an outbreak of H1N1 influenza in your locality. You are the medical officer of the health centre. A 11 month old child of a woman, who had died due to H1N1 has been brought to you with symptoms of URTI. Which of the following is the appropriate antiviral regime of the child?

a) Oseltamivir 3 mg/kg BID x 5 days

b) Oseltamivir 2 mg/kg BID x 5 days

c) Zanamivir 10 mg BID x 5 days

d) Zanamivir 5mg BID x 5 days

Correct Answer - A

Zanamivir is indicated in individuals > 5 year of age only. The dose is 5 mg inhalation (twice) two times a day for 5 days.

The dosage of Oseltamivir for children

0 – 1 month of age 2 mg/kg BID x 5 days

>1 month – 3 months 2.5 mg/kg BID x 5 days

> 3 month – 1 year 3 mg/kg BID x 5 days

Ref: Park, 21st Edition, Page 148.

13. Rickettsial pox is transmitted by a house mouse mite. The symptoms similar to chicken pox is caused by which of the following?

a) *Rickettsia rickettsiae*

b) *Rickettsia akari*

c) *R. typhi*

d) *Rickettsia conori*

Correct Answer - B

Rickettsial pox, caused by *Rickettsia akari*, is transmitted to humans by the house mouse mite *Liponyssoides sanguineus*.

It is also known as vesicular rickettsiosis, a disease similar to chicken pox.

The disorder begins with the bite of an infected mite, which results in a black eschar. The classic triad of rickettsialpox consists of fever, eschar, and rash. It is endemic in US. It is self-limited over 7-10 days.

***Rickettsia rickettsia* is the cause of the tick-borne Rocky Mountain spotted fever.**

R. typhi is the flea-borne cause of endemic typhus.

Rickettsia conori causes Mediterranean spotted fever, also known as African tick typhus.

14. One of your staff nurse had a deep prick from the needle used to inject an HIV positive individual. What is the treatment regime that should be started in her/him?

Note that drug resistance was suspected in the HIV patient.

a) 2 NRTIs for 3 months

b) 1 NRTI and 1 NtRTI for 28 days

c) 2 NRTIs + 1 protease inhibitor for 28 days

d) 2 protease inhibitor + 2 NtRTIs for 3 months

Correct Answer - C

In this scenario ARVs should be initiated as soon as possible and no later than 72 hours. It should include 2 NRTI drugs.

If drug resistance is suspected a protease inhibitor should also be added.

The duration of treatment is 28 days. If the blood sample drawn from the exposed person is HIV negative at the time of exposure, the test should be repeated at 3 and 6 months.

Ref: Park, Edition 21, Page - 328

15. A patient presented to you with fever, headache, rash and eschar. You suspect rickettsial disease. Which of the following is the LEAST likely disease in this case?

a) Indian tick typhus

b) Rickettsial pox

c) Scrub typhus

d) Endemic typhus

Correct Answer - D

Rash is seen in

- 1) Epidemic typhus
- 2) Endemic typhus
- 3) Scrub typhus
- 4) Rocky Mountain spotted fever
- 5) Indian tick typhus

Lymphadenopathy is seen in

- 1) Scrub typhus
- 2) Rickettsial pox

Eschar is seen in

- 1) Scrub typhus
- 2) Rickettsial pox
- 3) Indian tick typhus

Ref: Park, Edition 21, Page 274-276

16. As per RNTCP guidelines, Multi drug resistance (MDR) TB is defined as resistance to:

a) Rifampicin

b) Rifampicin and isoniazide

c) Rifampicin, isoniazide and ethambutol

d) None of the above

Correct Answer - B

Confirmed MDR-TB case: MDR-TB suspect is one who is sputum culture positive and whose TB is due to Mycobacterium tuberculosis that are resistant in-vitro to at least **isoniazid and rifampicin** (the culture and DST result being from an RNTCP accredited laboratory).

Ref: Park 21st edition, page 178.

<http://health.bih.nic.in/Docs/Guidelines-DOTS-Plus.pdf>.

17. Endemic ascites cases reported from Madhya Pradesh in 1976 was caused due to:

a) Fusarium

b) Crotalaria

c) Ergot

d) Aflatoxin

Correct Answer - B

Endemic ascites was caused due to contamination of millets with **crotalaria (jhunjunia)** seeds which contain hepato toxins such as **pyrrolizidine**.

Ref: Park 21st edition, page 608.

18. Which age group is targeted in the catch up vaccination strategy of WHO for elimination of measles?

a) 6 months to 5 years

b) 9 months to 10 years

c) 9 months to 14 years

d) 6 months to 10 years

Correct Answer - C

WHO'S measles elimination strategy comprises three prong approach to vaccination: **catch up, keep up and follow up**. **Catch up** is defined as one time nation-wide vaccination of all children between 9 months to 14 years regardless of history of measles or vaccination status.

Keep up is defined as as routine services aimed as vaccination of more than 955 of successive birth cohorts.

Follow up is defined as subsequent nationwide vaccination campaign conducted every 2 to 4 years targeting all children born after the catch up campaign.

Ref: Park 21st edition, page 137
Chapter: Epidemiology in communicable diseases.

19. What is the WHO recommended fluid for correction of severe dehydration due to diarrhoea?

a) Normal saline

b) Ringer lactate

c) 5% dextrose

d) ORS

Correct Answer - B

The solutions recommended by the WHO for IV rehydration in cases of severe dehydration are

- Ringer's lactate
- Diarrhoea Treatment Solution
- Normal saline may be used if none of the above is available
- Plain dextrose solution should never be used.

Ref: Park 21st edition, page 203-204.

20. What is drug of choice in dysentery due to shigella?

a) Doxycycline

b) Ciprofloxacin

c) Tetracycline

d) No antibiotic is recommended

Correct Answer - B

The drug of choice for shigella is ciprofloxacin.
Shigella is usually resistant to ampicillin and cotrimoxazole.

Ref: Park 21st edition, page 204.

21. Primordial prevention in myocardial infarction are all except -

a) Maintenance of normal body weight

b) Change in life style

c) Change in Nutritional habits

d) Screening for hypertension

Correct Answer - D

Ans. is 'd' i.e., Screening for hypertension

- Primordial prevention is done even before the development of risk factors.
- Risk factors are not allowed to develop.

In CHD :-

1. Maintenance of normal body weight (prevention of development of obesity).
2. Change in life style.
3. Change in nutritional habits

Similar to previous explanation, there are some tricky situations :?

A) Exercise in a normal built person → Primordial prevention (as we are not allowing to develop risk factor, i.e. obesity).

- Exercise in an obese → Primary prevention (we are modifying the risk factor).

B) Similarly, change in life style or in nutritional habits may be either primordial or primary prevention, depending whether these changes are being done before or after the development of risk factors.

About option 'd'

- This is also tricky one.
- As you all know, screening (early diagnosis) is type of secondary

prevention.

- But screening for hypertension is primary prevention for CHD, because by diagnosis HT early we can modify it.
- So,
- Screening for hypertension Secondary prevention for HT.
 - Screening for hypertension → Primary prevention for CHD (if the person has not developed CHD yet).

22. True morbidity in a population can be calculated by?

a) Sentinel surveillance

b) Passive surveillance

c) Active surveillance

d) Monitoring

Correct Answer - C

Ans. is 'c' i.e., Active surveillance

o True morbidity is calculated by —> Active surveillance

o Missing cases are detected by —> Sentinal surveillance

23.

ICD chapter 21 includes all except -

a) Alcohol

b) Tobacco

c) Injury

d) Drugs

Correct Answer - C
Ans. is 'c' i.e., Injury

24. The concept of Social medicine was first introduced by-

a) Neumann and Virchow

b) Robert Grotjahn

c) John Ryle

d) Rene sand

Correct Answer - A

Ans. is 'a' i.e., Neumann and virchow

The seeds that medicine is a social science were sown late in the 19th century by pioneers such as Neumann and Virchow.

25. All are true of standardised mortality ratio except ?

a) Expressed as rate per year

b) Can be adjusted for age

c) Can be used for events other than death

d) Ratio of observed deaths to expected deaths

Correct Answer - A

Ans. is 'a' i.e., Expressed as rate per year

o Standardization is most commonly used for age.

- Standardization can be used not only for age, but also sex, race, parity, etc.

SMR is the ratio of observed death to expected death and it is usually expressed as a percentage. o SMR is *commonly used in occupational studies* for comparison of morality in an industry and general population.

o SMR can be used for occurrence of disease (rather than death).

26. For calculation of incidence denominator is taken as?

a) Mid year population

b) Population at risk

c) Total number of cases

d) Total number of deaths

Correct Answer - B

Ans. is 'b' i.e., Population at risk

o Denominator for calculating incidence is population at risk

27. In a randomized controlled trial, the essential purpose of randomization is -

a) To produce double blinding

b) To decrease the follow- up period

c) To eliminate the selection bias

d) To decrease the sample size

Correct Answer - C

Ans. is 'c' i.e., To eliminate the selection bias

Experimental studies are of two types ?

1. Randomized controlled trials

2. Non - Randomized

Randomized controlled trials (RCT)

- Randomization is the heart of RCT.
- Randomization is a statistical procedure by which the participants are allocated into study group (in which intervention is given) and control group / reference group (in which intervention is not given).
- It is worth noting that randomisation is done while dividing the participants into study group and control (reference) group, and not while selecting subjects for study, i.e. randomization is done after the sample of subjects has already been selected.
- Therefore, each participant has 'equal and known chance' of falling into either study group or control group. o Randomization is an attempt to eliminate bias and allow comparability.
- It will give the greatest confidence that the groups are comparable so that "like" can be compared with "like".
- It ensures that the investigator has no control over allocation of participants to either study or control group, thus eliminating what is known as selection bias.

- That means, by random allocation, every individual gets an equal chance of being allocated into either group, study (experimental) group or control (reference) group.
 - Unit of study in RCT: Patient
- RCT is of two types:**
- Concurrent parallel design: Comparisons are made between 2 groups:**
- Experimental group: Is exposed to specific medication or intervention
 - Reference group: Is not exposed to specific medication or intervention
- Crossover design: Comparisons are made between 2 groups:**
- Experimental group: Is exposed to specific medication or intervention
- Reference group:** Is not exposed to specific medication or intervention Then the groups are crossed-over (exposed group now becomes non-exposed and vice-versa).

28. Strain used for BCG vaccine -

a) Edmonston Zagreb strain

b) Oka strain

c) 'Danish' 1331

d) RA 27/3strain

Correct Answer - C
Ans. is 'c' i.e., Danish 1331

29. In national immunization shedule of India, measles vaccine is given at -

a) Birth

b) 6 weeks

c) 9 Months

d) 5-6 years

Correct Answer - C

Ans. is 'c' i.e., 9 months

Interval between 2 doses of DPT, OPV and Hepatitis B should not be less than one month.

Minor cough, colds and mild fever are not a contraindication to vaccination. In some states, Hepatitis B vaccine is given as routine immunization at 6th, 10th and 14th weeks.

Vitamin A is given at 9th, 18th, 24th, 30th, 36th, 42nd, 48th, 54th & 60th month.

If the child has diarrhoea, give a dose of OPV, but do not count the dose and ask the mother to return in 4 weeks for the missing dose.

Following information has been added in 22/e of Park

o New table of national immunization schedule has been added on page 115. It has schedule similar to the table mentioned above, with following additions : -

- i) Hepatitis B vaccine (zero dose) is also given along with OPV (zero dose) and BCG at birth.
- ii) At 5-6 years, DPT booster is given instead of DT.
- iii) Japanese encephalitis vaccine is given at 16-24 months with DPT/OPV.
- iv) Now, for measles vaccination, two doses are given at 9 months and 16-24 months (Previously, only one dose vaccination

used to be given at 9 months).

- o Any number of vaccines (live and/or killed) can be given together

- o There need not be a gap of 1 month between a live and a killed vaccine

- o BCG and Measles vaccine can be given together for a case of delayed immunization

- o Minor fever, diarrhea, ARI or other illness is NOT a contraindication for any of the vaccines

- o Doses and schedule remain same even if baby is premature and/or underweight

30. Mass immunization is indicated in the following, except-

a) Leprosy

b) Cholera

c) Influenza

d) Tuberculosis

Correct Answer - A

Ans. is 'a' i.e., Leprosy

Mass immunization (Mass vaccination).

o Mass immunization involves delivering *immunizations to a large number of people* at one or more locations in a short interval of time.

- Important diseases for which mass vaccination is used :-
 - i) Polio iv) Rabies vii) Measles x) Pertussis
 - ii) *Influenza* v) Anthrax viii) *TB (BCG)* xi) Tetanus
 - iii) *Cholera* vi) Typhoid ix) Diphtheria xii) Rubella

31. Quarantine is related to -

a) Minimum incubation period

b) Maximum incubation period

c) Serial interval

d) Generation time

Correct Answer - B

Ans. is 'b' i.e., Maximum incubation period

Quarantine

- Quarantine is defined as "the limitation of freedom of movement of such well persons or domestic animals exposed to communicable disease for a period of time not longer the longest incubation period of the disease in such manner as to prevent effective contact with those not exposed".
- In simple words "Quarantine separates people who have been exposed to a specific illness (but are not yet sick and don't have symptoms)" from those not exposed".

Why would one be quarantined ?

- Some infection can be transmitted even before a person knows he or she is sick or has any symptoms. How long would one be quarantined ?
- The individual and often the entire family will stay at home until the risk of developing the disease **or** its symptoms is over that means maximum incubation period, because following exposure symptoms develop after incubation period.
- So, if after maximum incubation period for a specific disease, exposed person does not develop disease that means that person has not acquired infection and the person should be allowed to move.

What if one is in quarantine and becomes ill ?

- A quarantined person who develops symptoms associated with the disease in question should immediately contact his/her personal physician and local public health department.
- Once ill, the individual will be considered to be in isolation instead of quarantine.

32. Mass chemoprophylaxis in endemic area is recommended for all of the following, except ?

a) Yaws

b) Leprosy

c) Trachoma

d) Filaria

Correct Answer - B

Ans. is 'b' i.e., Leprosy

- Mass chemoprophylaxis is recommended in *yaws, pinta, bejel, trachoma, filaria and malaria*.
- Mass chemoprophylaxis is not recommended for the control of leprosy in endemic area.

33. The amount of bleaching powder necessary to disinfect choleric stools, is -

a) 50 gm/lit

b) 75 gm/lit

c) 90 gm/lit

d) 100 gm/lit

Correct Answer - A
Ans. is 'a' i.e., 50gm/lit

34. False about longitudinal studies is -

a) Identifies risk factor

b) Used to study natural history of disease

c) Incidence can't be measured

d) All

Correct Answer - C

Ans. is 'c' i.e., Incidence can't be measured

35. Positive predictive value is most affected by-

a) Prevalence

b) Sensitivity

c) Specificity

d) Relative risk

Correct Answer - A
Ans. is 'a' i.e., Prevalence

36. If prevalence of a disease increases, what is true?

a) PPV increases

b) PPV decreases

c) No effect on PPV

d) PPV may increase or decrease

Correct Answer - A
Ans. is 'a' i.e., PPV increase

37. Population is 10,000, of these 20% having disease. The screening test has 95% sensitivity and 80% specificity. PPV is -

a) 54.3%

b) 98.5%

c) 47.5 %

d) 20%

Correct Answer - A
Ans. is 'a' i.e., 54.3%

38. Ogive is -

a) Bar chart

b) Histogram

c) Cumulative frequency curve

d) Frequency polygon

Correct Answer - C

Ans. is 'c' i.e., Cumulative frequency curve

Cumulative frequency diagram (OGIVE)

o *Cumulative relative frequency* or *cumulative percentage*, gives the percentage of persons having a measurement less than or equal to the upper boundary of the class interval.

Weight interval (lb)	Frequency	Relative frequency	Cumulative relatives frequency	
10-19	5	8.8	8.8	
20-29	19	33.3	42.1	
30-39	10	17.5	59.6	
40-49	13	22.8	82.4	
50-59	4	7.0	89.4	
60-69	4	7.0	96.4	
70-79	2	3.5	99.9	100%
Total	57	100		

- The last column of above table shows the *cumulative relative frequency* or *cumulative percentage*. This column is easy to form, you do it by successively accumulating the relative frequencies of each of the various intervals. In the above table the cumulative percentage for the first three intervals is

$$8.8 + 33.3 + 17.5 = 59.6$$

and we can say that 59.6% of the children in the data set have a

and we can say that 99.0% of the children in the data set have a weight of 39.5 lb or less. Or, as another example, 96.4% of children weight 69.5 lb or less.

The cumulative relative frequency can be presented graphically. This type of curve is called a *cumulative frequency graph* or *OGIVE*. To construct such a graph, we place a point representing the cumulative relative frequency and the points are connected with straight lines.

- The cumulative frequency graph provides a class of important statistics known as *percentiles* or *percentile scores*. For example, the 90th percentile is the numerical value that exceeds 90% of the values in the data set and is exceeded by only 10% of them. As another example, the 80th percentile is that numerical value that exceeds 80% of the values contained in the data set and is exceeded by 20% of them, and so on. *The 50th percentile is commonly called the median.*

Uses of Cumulative frequency graph

1. When two cumulative frequency graph, representing two different data sets, are placed on the same graph, they provide a rapid visual comparison without any need to compare individual intervals.
2. Cumulative frequency graph provides an important application in the formation of health norms for the monitoring of physical process (weight and height) of infants and children.

39. Sampling method used in assessing immunization status of children under immunization programme is

a) Systemic sampleing

b) Stratified sampling

c) Group sampling

d) Cluster sampling

Correct Answer - D

Ans. is 'd' i.e., Cluster sampling

o In the Expanded programme on Immunization (EPI) cluster technique, a simplified cluster sampling method is used.

It is based on ranodm selection of 210 children who are 12-23 months of age.

These patients are selected in 30 clusters of 7 children each to estimate immunization coverage levels.

40. Sample registration system is done once in ?

a) 6 months

b) 1 year

c) 2 years

d) 5 years

Correct Answer - A
Ans. is 'a' i.e., 6 Months

41. Which of the following is true of chicken pox ?

a) Virus not found in scab

b) Virus can be grown on the chick embryo

c) Caused by RNA virus

d) Does not cross the placental barrier

Correct Answer - A

Ans. **is** 'a' i.e., Virus not found in scab

- The fluid of vesicle of chickenpox contains virus during first 3 days of illness, but scab is noninfective.

About other options

- *Option b*

VZV does not grow in experimental animal or chick embryo.

It can be grown in tissue culture cell lines ---> Human fibroblast, hela cells, vero cells.

- o *Option c*

VZV is a DNA virus.

- o *Option d*

VZV can cross placenta and infect the fetus.

42. Reconstituted measles vaccine should be used with in -

a) 1 hour

b) 3 hour

c) 6 hour

d) 12 hour

Correct Answer - A

Ans. is 'a' i.e., 1 hour

"The reconstituted vaccine should be kept on ice and used within one hour". —Park Measles vaccine :

- *Type: Live attenuated, lyophilized (Freeze dried) vaccine,*
- *Measles vaccine is live attenuated, lyophilized (Freeze dried) vaccine.*
- *Strains of virus used to prepare vaccine are Edmonston Zagreb strain (most common), Schwartz strain and Moraten strain.*
- *It is given subcutaneously in to middle one-third of antero-lateral aspect of thigh.*
- *It is given at the age of 9 months (age can be lowered to 6 months in epidemics & malnutrition) and is repeated at 16-24 months of age.*
- *It has protective efficacy (sero-conversion) of 95%. Vaccination provide life long immunity.*
- *Incubation period of vaccine induced measles is 7 days.*
- *In post-exposure prophylaxis, measles vaccine should be given within 2-3 days of exposure. Incubation period of measles virus is 10 days. Incubation period of live attenuated measles virus of live vaccine is 7 days. Thus, if the vaccine is given within 2-3 days of exposure, the replication of vaccine virus takes preference over replication of wild virus.*

- *Diluent* used for measles vaccine reconstitution is *distilled water or sterile water*.
- Reconstituted vaccine should be used within 1 hour.
- Usual temperature for cold chain storage is +2 to +8°C.

43. In control of pertussis, the drug of choice for cases?

a) Erythromycin

b) Ciprofloxacin

c) Tetracycline

d) Penicillin

Correct Answer - A

Ans. is 'a' i.e., Erythromycin

Control of whooping cough

o Control of whooping cough requires :?

- 1) Management of cases and contacts
- 2) Prevention by active immunization

Cases: *Erythromycin is the DOC*. Alternatives are ampicillin, tetracyclin & septran.

Contacts : Those who are exposed ---> 10 days erythromycin

44. Case finding in RNTCP is based on -

a) Sputum culture

b) Sputum microscopy

c) X -ray chest

d) Mantoux test / PCR

Correct Answer - B

Ans. is 'b' i.e., Sputum microscopy

Following information has been added in 22nd/e of Park

o Liquid culture method is now gold standard for TB diagnosis.

Confirmation is done from biological characteristics of culture growth and selected molecular & biochemical tests. *Rapid*

immunochromatographic assay (strip speciation tests) provides a definitive identification of *M. tuberculosis* and is recommended.

J Cartridge based nucleic acid amplification test : -A second generation NAAT - based TB diagnostic test has sensitivity almost similar to liquid culture.

o In microscopy, following methods helps in early diagnosis of large number of cases : - (i) *Fluorescence*

microscopy by auramine stain, (ii) Light - emitting diode fluorescence microscopy (LEDs).

o Drug susceptibility testing provide a definitive diagnosis of drug - resistant TB. A number of techniques are used :

i) *Phenotype method (detect drug resistance)* : - Three methods are used : proportion, absolute concentration and resistance ratio.

ii) *Genotype methods (detect molecular mutations responsible for resistance)* : - e.g., Molecular testing for rifampic in resistance.

45. BCG is -

a) Live vaccine

b) Killed vaccine

c) Toxoid

d) None

Correct Answer - A

Ans. is 'a' i.e., Live vaccine

BCG is a live attenuated vaccine.

46. Basanti a 29 years female from Bihar present with active tuberculosis; she delivers baby all of the following are indicated except -

a) Administer INH to the baby

b) Withhold breast feeding

c) Give ATT to mother for 2 year

d) Ask mother to ensure proper disposal of sputum

Correct Answer - B

Ans. is 'b' i.e., Withhold breast feeding

"INH therapy for newborns is so effective that separation of mother and infant is no longer considered mandatory".

o The infant should be given INH prophylaxis and later on BCG vaccination.

47. The most sensitive index of recent transmission of malaria in a community is

-

a) Spleen rate

b) Infant parasite rate

c) Annual parasite incidence

d) Slide positivity rate

Correct Answer - B

Ans. is 'b' i.e., Infant parasite rate

MEASUREMENT OF MALARIA

o In the *pre-eradication era*, the magnitude of the malaria problem in a country used to be determined mostly from the reports of the *clinically diagnosed malaria cases* and the classical malariometric measures, e.g., spleen rate, parasite rate etc.

- On the other hand, during eradication era, the *microscopic diagnosis* of malaria cases became the main method of diagnosis and the parameters used are mostly parasitological in nature e.g., API, ABER, SPR and SFR.

Measurements of malaria in the pre eradication era

a) Spleen rate:

o Defined as the percentage of children between 2 & 10 years of age showing enlargement of spleen. Spleen rate is widely used for measuring the endemicity of malaria in a community.

b) Av. enlarged spleen :

o A refinement of spleen rate , denoting the average size of spleen.

c) Parasite rate :

o Defined as on the percentage of children between the ages of 2 &

10 yrs showing malarial parasites in their blood films.

d) Parasite density index :

o Average degree of parasitemia

e) Infant parasite rate :

o Percentage of infants showing malarial parasites in their blood films. It is the most sensitive index of recent transmission of malaria in a locality. If the infant parasite rate is zero for three consecutive years in a locality, it is regarded as absence of malaria transmission even though, the Anopheline vectors responsible for previous transmissions may remain.

o **Eradication Era**

a) Annual Parasite Incidence (API)* =-- (Confirmed cases during one year / population under surveillance) x 1000

b) Annual Blood Examination Rate = (No. of slides examined/population) x 100

o ABER is an index of operational efficiency.

o In the modified plan of operation, the minimum prescribed is 10 percent of the population in a year

c) Annual falciparum index

d) Slide positivity rate
o Slide positivity rate is the percentage of slides found positive for malarial parasite, irrespective of the type of species.

e) Slide falciparum rate

o It is the percentage of slides positive for P. falciparum.

Following data have been added in 22nd/e of Park

o Annual parasite incidence has decreased from 3.29 in 1995 to 1.10 in 2011. o Slide positivity rate has decreased from 3.51 in 1995 to 1.41 in 2010

o However, Plasmodium falciparum % has increased from 38.84 in 1995 to 50.3 in 2011

48. Roll back Malaria program is -

- a) Encourage the development of more effective and new anti malarial drugs and vaccines
- b) Encourage the proper and expanded use of insecticide treated mosquito nets
- c) Training of village health workers and mother on early and appropriate treatment of malaria
- d) All of the above

Correct Answer - D

Ans. is 'd' i.e., All of the above

The main strategies of Roll Back Malaria initiative are :

- a) Strengthen health system to ensure better delivery of health care, especially at district and community level.
- b) Ensure the proper and expanded use of insecticide treated mosquito nets.
- c) Ensure adequate access to basic health care and training of health care workers.
- d) Encourage the development of simpler and more effective means of administering medicines, such as training of village health workers and mothers on early and appropriate treatment of malaria, especially in children.
- e) Encourage the development of more effective and new anti-malaria drugs and vaccines.

49. Multibacillary leprosy follow up for -

a) 12-18 months

b) 2 years

c) 5 years

d) 10 years

Correct Answer - C

Ans. is 'c' i.e., 5 years

o Follow-up in paucibacillary leprosy → 2 years

o Follow-up in multibacillary leprosy → 5 years

50. The goal of $NRR=1$ can be best achieved by use of following contraceptive methods -

a) Condom 72/year

b) IUCD

c) Vasectomy

d) Oralpills

Correct Answer - C

Ans. is 'c' i.e., Vasectomy

o Goal of $NRR = 1$ will be reached when $CPR = 60\%$

o To achieve $CPR 60\%$, the most reliable method is vasectomy :?

"If properly performed vasectomies are almost 100% effective"

— Park

o IUCDs have 3-5% failure rate

o OCPs have

o Condoms have 2-15% failure rate

51. Failure rate of contraceptive method is determined by-

a) Pearl index

b) Half 1 ife

c) Number of accidental pregnancies

d) Period of contraceptive practice continued

Correct Answer - A

Ans. is 'a' i.e., Pearl index

Pearl index

o Contraceptive methods are evaluated by Pearl index

Pearl index is "failure rate per hundred women years of exposure (HWY)"

$$\text{Failure rate per HWY} = \frac{\text{Total accidental pregnancies}}{\text{Total months of exposure}} \times 1200$$

o In applying the above formula, the *total accidental pregnancies shown in the numerator, must include every known conception, whatever its outcome*. The factor 1200 is the number of months in 100 yrs.

o A failure rate of 10 per HWY would mean that in the lifetime of an average women *about one fourth or 2.5 accidental pregnancies would result*, since the average fertile period of a women is about 25 yrs.

52. Child survival index is calculated by ?

a) $1000\text{-IMR}/10$

b) $\text{IMR}-1000/10$

c) $1000\text{-U5MR}/10$

d) $1.15\text{MR}-1000/10$

Correct Answer - C
Ans. is 'c' i.e., 1000-U5MR

53. Calcium in human milk in mg/dl -

a) 28

b) 45

c) 35

d) 55

Correct Answer - C

Ans. is 'c' i.e., 35 mg/dl

Nutrient

Content / 100 ml

Macronutrients

o Calories

67 kcal

o Proteins

1.1 g

o Fat

3.5 g

o Lactose

7.0 g *Minerals / Mic*

onutrients

o Sodium

0.9 mEq

o Potassium

1.4 mEq

o Calcium

35 mg

o Phosphorus

15 mg

o Iron

30-50 g

o Zinc

120 g *Vitamins*

o Vitamin A

60 g

o Vitamin C

5.2 mg

54. Which one of the following is categorised as a high risk pregnancy ?

a) Birth order 3

b) Maternal height 150 cm

c) Twins pregnancy

d) Blood group AB +ve

Correct Answer - C
Ans. is 'c' i.e., Twins pregnancy

55. Egg lacks the following -

a) Protein

b) Cholesterol

c) Carbohydrate

d) Vitamins

Correct Answer - C

Ans. is 'c' i.e., Carbohydrates

o Egg contains all nutrients except carbohydrate and Vitamin 'C'.

56. Egg yields about K cal of energy

a) 50

b) 60

c) 70

d) 80

Correct Answer - C

Ans. is 'c' i.e., 70

o An egg weighing 60 grams contains.

i) 6 gm of protein ii) 6 gm of fat

iii) 30 mg of calcium

iv) 105 mg of iron

v) 70 Kcal. of energy

57. Index of duration of malnutrition is -

a) Weight for height

b) Height for age

c) Weight for age

d) None

Correct Answer - B

Ans. is 'b' i.e., Height for age

o Stunting (deficit in height for age) generally points towards a chronic course of malnutrition. - *O.P. Ghai* -

Height is a stable measurement of growth as opposed to body weight. Whereas weight reflects only the present health status of the child, height indicates the events in the past also".

58. True about Pasteurization of milk is all except

- a) Does not kill thermoduric bacteria
- b) Does not kill spores
- c) Cause > 95% decrease in bacterial count
- d) Kills tubercle bacillus

Correct Answer - C

Ans. is 'c' i.e., "Causes > 95% decrease in bacterial count

Pasteurization

- Pasteurization is done to destroy the pathogens that may be present in milk, while causing minimal change in the composition. flavour and nutritive value.
 - Pasteurization kills nearly 90% of the bacteria in milk, including the more heat resistant - Tubercle bacilli - Q fever organisms
 - It does not kill the thermoduric bacteria.
 - It does not kill bacteria spores.
- There are 3 widely used methods for pasteurization :**
- 1. Holder method : Milk kept at 63-66°C for 30 minutes is rapidly cooled to 5°C.
 - 2. HTST method : 'High temperature short time' method (Flash method)
 - Heated to 72°C for 15 **sec. and** then rapidly cooled to 4°C
 - This is now the most widely used method.
- method :**
- Ultra-high temperature method.
 - Rapidly heated in **two** stages to **125°C for few seconds.**
 - **The second stage is being under pressure.**
 - **It is then rapidly cooled.**



59. All are water borne disease, except-

a) Leptospirosis

b) Schistosomiasis

c) Fish tape worm

d) Brucellosis

Correct Answer - D

Ans. is 'd' i.e., Brucellosis

Water Borne diseases

o Those caused by the presence of an infective agent

a) *Viral* *Hep. A, Hep E, Polio, Rota virus*
diarrhoea

b) *Bacteria* *Typhoid & paratyphoid. Cholera,*
Bacillary dysentery. E coli diarrhoea

c) *Protozoal* *A moebiasis, Gardiasis.*

d) *Helminthic* *round worm. thread worm, hydatid*
disease.

e) *Leptospiral* *Weils disease.*

o Those due to presence of an *aquatic* host

a) *Snail* *Schistosomiasis*

b) *Cyclops* *Guinea worm, fish tapeworm*

60. Hard Tick causes *ale* -

a) Relapsing fever

b) KFD

c) Indian tick typhus

d) *Tularemia*

Correct Answer - A

Ans. is 'a' i.e., Relapsing fever

61. Rat flea transmits all the following except

-

a) Plague

b) Salmonellosis

c) Hymenolopsis

d) Endemic typhus

Correct Answer - B

Ans. is 'b' i.e., Salmonellosis

o Rat flea Bubonic plague, Endemic typhus, Chiggerosis, Hymenolepis diminut.

62. Hardness of water is contributed by following salts except-

a) Calcium gluconate

b) Magnesium chloride

c) Calcium sulfate

d) Magnisum bicarbonate

Correct Answer - A

Ans. is 'a' i.e., Calcium gluconate

o l lardness may be : -

i) Temporary (Carbonate) hardness Calcium bicarbonate & Magnesium bicarbonate.

It is called temporary because it can be *removed by boiling or addition of lime*.

ii) Permanent (Non-Carbonate) hardness —> Calcium Sulfate, magnesium sulfate, Calcium chloride, magnesium chloride.

It is called permanent because it cannot be removed by boiling.

63. When orthotoludine reagent is added to water and if free chlorine is present, what colour will be produced?

a) Pink

b) Yellow

c) Green

d) Red

Correct Answer - B
Ans. is 'b' i.e., Yellow

64. Maximum permissible chloride level is-

a) 200 mg/litre

b) 300 mg/litre

c) 500 mg/litre

d) 600 mg/litre

Correct Answer - D
Ans. is 'd' i.e., 600 mg/litre

65. Components of IDEAS include all of the following except-

a) Self care

b) Communication and understanding

c) Economic condition

d) Performing in work

Correct Answer - C

Ans. is `c' i.e., Economic condition

Indian Disability Evaluation and Assessment Scale (IDIEAS1)
A scale for measuring and quantifying disability in mental disorders.
Developed by the Rehabilitation Committee of Indian Psychiatric Society, December 2000. The scale includes four components or items as described below.

66. Extension phase of a nuclear family begins with -

a) Marriage

b) Birth *of* the first child

c) Birth of second child

d) Spouse death

Correct Answer - B

Ans. is "b" i.e., Birth of the first child

67. Which of the following is not a fundamental aspect of Disaster management ?

a) Disaster response

b) Disaster mitigation

c) Disaster awakening

d) Disaster preparedness

Correct Answer - C

Ans. is `c' i.e. Disaster awakening

68. Which is false regarding an Anganwadi worker ?

- a) Part time worker
- b) Undergoes 4 month training
- c) 1 for 1000 children
- d) Selected from the community itself

Correct Answer - C

Ans. is `c' i.e., 1 for 100 children

Anganwadi worker

o Anganwadi workers are under *ICDS scheme*.

o There is an anganwadi worker for a *population of 1000* (not 1000 children).

o She undergoes training in various aspects of health, nutrition and development for **4 months**.

o She is a *part-time worker*.

o She is paid an honorarium of *Rs. 1500 per month*.

69. In Millennium Development Goals (MDGs), how many goals are health related?

a) 1 out of 8

b) 2 out of 8

c) 3 out of 8

d) 4 out of 8

Correct Answer - C

Ans. is 'c' i.e. 3 out of 8

- Goal 2: Achieve universal primary education.
- Goal 3: Promote gender equality and empower women.
- Goal 4: *Reduce child mortality (Reduce by two-thirds the under-five mortality rate).*
- Goal 5: *Improve maternal health (Reduce by three-quarters the maternal mortality ratio).*
- Goal 6: *Combat HIV/AIDS, malaria and other diseases.*
- Goal 7: Ensure environmental sustainability.
- Goal 8: Develop a global partnership for development.

70. Antimalarial month is-

a) April

b) May

c) September

d) June

Correct Answer - D

Ans. is 'd' i.e., June

o Antimalarial month is observed every year in month of June throughout the country, prior to the onset of monsoon and transmission season, to enhance the level of awareness and encourage community participation.

71. Features of RNTCPA/E -

a) Achieving 80% BCG coverage

b) Involvement of NGO

c) Sputum - 3 times

d) All

Correct Answer - C

Ans. is 'c' i.e., Sputum 3 times

The salient features are :

1. Achievement of atleast 85% cure rate of infectious cases through the supervised short course chemotherapy involving peripheral health functionaries.
2. Augmentation of case finding activities through high quality sputum microscopy to detect at least 70% estimated cases.
3. Involvement of NGOS. information. education and communication and improved operational research. *Patients are screened through 2 sputum smear examination (not 3 times).*

"A pulmonary tuberculosis suspect should submit two sputum samples for microscopy" - Park 21st e p. 169 Note : - According to 20thle of Park 3 sputum samples were required.

72. Integrated Management of Neonatal and Childhood Illness (IMNCI) includes all except -

a) Malaria

b) Respiratory infections

c) Diarrhoea

d) Tuberculosis

Correct Answer - D

Ans. is 'd' i.e., Tuberculosis

Integrated management of neonatal and childhood illness (IMNCI)

o IMNCI includes—> *Diarrhea, Malaria, Malnutrition, ARI*

(Pneumonia, Otitis media), Measles.

73. Which of the following drugs are supplied free of cost to the government Hospital by NACO?

a) Nevaripinc

b) Zidovudine

c) Nevaripinc + Zidovudine

d) Zidovudine + Lamivudine+Nevarapine

Correct Answer - D

Ans. is 'd' i.e., Zidovudine + Lamivudine+Nevarapine

NACO centers providing ART (as of sept 2006)

3 The National AIDS control organization (NACO) has increased the numbers of centres providing ART from 54 to 91 centres with another 9 more centres also getting operational soon.

o At the 91 centres have specially appointed and trained doctors, counsellors and laboratory technicians to help initiate patients on ART and follow them regularly.

o At these 91 centres medicines for treating 85000 patients have been made available.

o The ART is a **combination of three potent drugs**, which is being given to the persons with advanced stage of AIDS.

o Apart from providing **free treatment**, all the ART centres are providing counselling to the infected persons so that they maintain regularly of their medication.

o NACO has branded the STI/RTI services as "Suraksha clinic" and has developed a communication strategy for generating demand for these services.

o Pre-packed colour coded STI/RTI kits have been provided for free

supply to all designated **STI/RTI** clinics.

Kit 1 —> **Grey**, for urethral discharge. ano-rectal discharge. cervicitis.

Kit 2 —> **Green**, for vaginitis

Kit 3 —> **White**, for genital ulcers

Kit 4 --> **Blue**, for genital ulcers

Kit 5 —> **Red**, for genital ulcers

Kit 6 ---> **Yellow**, for lower abdominal pain

Kit 7 —> **Black**, for scrotal swelling.

74. True about ASHA are all except -

a) One per 1000 rural population

b) Mobiliser of antenatal care

c) Female voluntary worker

d) Skilled birth attendant

Correct Answer - D

Ans. is 'd' i.e., Skilled birth attendant

Accredited Social Health Activist (ASHA)

ASHA is the central component of the National Rural Health Mission (NRHM)

National Rural Health Mission (NRHM) was launched to address the health needs of rural population, especially the vulnerable sections of society

o One of the key components of the National Rural Health Mission is to provide every village in the country with a trained female community health activist - 'ASHA' or *Accredited Social Health Activist*. Selected from the village itself and accountable to it, the ASHA will be trained to work as an interface between the community and the *public health system*.

Following are the key components of ASHA:

- ASHA must primarily be a woman *resident of the village* - married/ widowed/ divorced, preferably in the age group of *25 to 45 years*.
 - o She should be a literate woman with formal education up to class eight. This may be relaxed only if no suitable person with this qualification is available.
 - o ASHA will be the first port of call for any *health related demands* of deprived sections of the population, especially women and children, who find it difficult to access health services

o ASHA will be a health activist in the community who will *create awareness on health* and its social determinants and mobilize the community towards local health planning and increased utilization and accountability of the existing health services. She would be a *promoter of good health practices*.

- She will counsel women on birth preparedness, importance of safe delivery, breastfeeding and complementary feeding, *immunization, contraception* and prevention of common infections including Reproductive Tract Infection/ Sexually Transmitted Infection (RTIs/STI s) and care of the young child
 - o She will arrange escort/accompany pregnant women & children requiring treatment/ admission to the nearest pre-identified health facility i.e. Primary Health Centre/ Community Health Centre/ First Referral Unit (PHC/CHC /FRU).
 - o ASHA will provide primary medical care for minor ailments such as diarrhoea, fevers, and first aid for minor injuries. She will be a provider of Directly Observed Treatment Short-course (DOTS) under Revised National Tuberculosis Control Programme
- She will also act as a depot holder for essential provisions being made available to every habitation like Oral Rehyd ration Therapy (ORS), Iron Folic Acid Tablet (IFA), chloroquine, Disposable Delivery Kits (DDK), Oral Pills & Condoms, etc. A Drug Kit will be provided to each ASHA.
 - o The general norm will be '*One ASHA per 1000 population*'. In tribal, hilly, desert areas the norm could be relaxed to one ASHA per habitation, dependant on workload etc.
 - o ASHA would be an **honorary volunteer and would not receive any salary or honorarium**. Her work would be so tailored that it does not interfere with her normal livelihood.

75. True about GIST all except

- a) Most common in duodenum
- b) Necrosis and ulceration present
- c) PET is used to assess response to therapy
- d) Well circumscribed

Correct Answer - A

Ans is a i.e. Most common in duodenum

Most common site for GIST is stomach: *Stomach 60-70%*

Small intestine 20-30%

Esophagus, colon, rectum <10%

It is a well circumscribed slow growing tumor that usually does not invade adjacent viscera.

Necrosis and ulceration can occur causing pain and bleeding.

FDG PET is the investigation of choice to see the response to imatinib therapy. (Ref: *Devita Oncology 8/e chapter 39*)

76. Teaching children about the side effects of taking drugs comes under:
March 2013 (e)

a) Primary level of prevention

b) Secondary level of prevention

c) Tertiary level of prevention

d) Primordial prevention

Correct Answer - D

Ans. D i.e. Primordial prevention

Primordial prevention

- It consists of actions and measures that inhibit the emergence of risk factors in the form of environmental, economic, social, and behavioral conditions and cultural patterns of living etc.
- For example, many adult health problems (e.g., obesity, hypertension) have their early origins in childhood, because this is the time when lifestyles are formed (for example, smoking, eating patterns, physical exercise).
- In primordial prevention, efforts are directed towards discouraging children from adopting harmful lifestyles

77.

Which of the following is not a part of Kuppuswamy's socio-economic status scale:

September 2011

a) Education

b) Occupation

c) Income

d) Housing

Correct Answer - D

Ans. D: Housing

Kuppuswamy scale includes education of the head of family, occupation of the head of family and income of the family per month

Kuppuswami scale

- It is widely used to measure the socio-economic status of an individual in urban community based on three variables namely education, occupation and income.
- The modification of Kuppuswami scale meant to determine the socioeconomic status of family based on education and occupation of head of the family and per capita income per month has also been widely used.
- Recently, Mishra et al have suggested an economic revision of Kuppuswami's scale in order to account for the devaluation of rupee and is proposed to measure the socio-economic status of the family and is neither based on the individual nor on the head of the family

78. For post-exposure prophylaxis, dose of human rabies immunoglobulin is:
September 2007

a) 10 IU/kg

b) 20 IU/kg

c) 30 IU/kg

d) 40 IU/kg

Correct Answer - B

Ans. B: 20 IU/kg

Immunoglobulin should be given in a single dose of 20 IU per kg of body weight for human anti-rabies immunoglobulin, and 40 IU per kg of body weight for heterologous (equine) immunoglobulin.

Sensitivity to heterologous immunoglobulin must be determined before it is administered.

The physician should be prepared to deal with anaphylactic shock reactions.

Administration of rabies immunoglobulin (RIG) should be infiltrated into the depth of the wound and around the wound as much as anatomically feasible. Any remainder should be injected at an intramuscular site distant from that of vaccine inoculation e.g. into the anterior thigh/ gluteal region

Treatment should be started as early as possible after exposure, but in no case should it be denied to exposed persons whatever time interval has elapsed.

**79. Which of the following is not included in the primary prevention for hypertension:
*September 2010***

a) Exercises

b) Weight control

c) Health education

d) Early diagnosis and treatment

Correct Answer - D

Ans. D: Early diagnosis and treatment

Primary prevention strategies intend to avoid the development of disease.

Most population-based health promotion activities are primary preventive measures

Weight loss, reduced intake of dietary sodium, moderation in alcohol consumption, and increased physical activity are the best proven interventions for prevention of hypertension.

**80. Kyasanur forest disease is transmitted by:
*September 2011***

a) Mite

b) Tick

c) Mosquito

d) None

Correct Answer - B

Ans. B: Tick

Vector for KFD in India is hard tick (*Haemophysalis spinigera*)

Kyasanur Forest Disease/ KFD

- It is a tick-borne viral hemorrhagic fever endemic to South Asia.
- The disease is caused by a virus belonging to the family flaviviridae, which also includes yellow fever and dengue fever.
- There are a variety of animals thought to be reservoir hosts for the disease, including porcupines, rats, squirrels, mice and shrews.
- The vector for disease transmission is *Haemaphysalis spinigera*, a forest tick.
- Humans contract infection from the bite of nymphs of the tick.
- The disease has a morbidity rate of 2-10%, and affects 100-500 people annually.
- The symptoms of the disease include a high fever with frontal headaches, followed by haemorrhagic symptoms, such as bleeding from the nasal cavity, throat, and gums, as well as gastrointestinal bleeding.
- An affected person may recover in two weeks time, but the convalescent period is typically very long, lasting for several months. There will be muscle aches and weakness during this period and the affected person is unable to engage in physical activities

Prophylaxis by vaccination, as well as preventive measures like protective clothing, tick control, and mosquito control are advised.

- An attenuated live vaccine is now available.
- Specific treatments are not available

81. Denominator for maternal mortality rate

is:

September 2005, 2010, March 2013 (d, e, h)

a) 100,000 pregnancies

b) 100,000 live births

c) 100,000 births

d) 100,000 population

Correct Answer - B

Ans. **B**: 100,000 live births

The maternal mortality rate is the number of maternal deaths due to childbearing per 100,000 live births. The crude death rate is the total number of deaths per year per 1000 people.

The perinatal mortality rate is the sum of neonatal deaths and fetal deaths (stillbirths) per 1000 births. The infant mortality rate is the number of deaths of children less than 1 year old per 1000 live births.

The child mortality rate is the number of deaths of children less than 5 years old per 1000 live births.

The standardised mortality rate (SMR)- This represents a proportional comparison to the numbers of deaths that would have been expected if the population had been of a standard composition in terms of age, gender, etc.. The age-specific mortality rate (ASMR) - This refers to the total number of deaths per year per 1000 people of a given age (e.g. age 62 last birthday).

82. True statement regarding 'at risk baby': *September 2009*

- a) Birth weight less than 2.75 kg
- b) Weight less than 70% of the expected weight
- c) Birth order more than 3
- d) Ist degree malnutrition

Correct Answer - B

Ans. B: Weight less than 70% of the expected weight

The basic criteria for identifying 'at risk' babies include:

- Birth weight less than 2.5 kg.
- Twins
- Birth order 5 and more
- Artificial feeding
- Weight below 70% of the expected weight (**II and III degrees of malnutrition**)
- Failure to gain weight during three successive months
- Children with diarrhea, PEM
- Working mother/ one parent

**83. Following are seen in vitamin A deficiency
EXCEPT:
March 2004**

a) Nightblindness

b) Follicular hyperkeratosis

c) Growth retardation

d) Polyneuritis

Correct Answer - D
Ans. D i.e. Polyneuritis

84. Vitamin D is not found in sufficient quantities in:
March 2012

a) Fish fat

b) Egg

c) Halibut liver oil

d) Milk

Correct Answer - D

Ans: D i.e. Milk

Foodstuff and vitamin-D content

- Fish fat contains 5-30 microgram/100 gram of vitamin D
- Egg contains 1.25-1.5 microgram/100 gram of vitamin D
- Halibut liver oil contains 500-10,000 microgram/100 gram of vitamin D
- Milk has 0.1 microgram/100 gram

85. Protein requirement of an infant of 0-6 months of age:

March 2013 (d, p)

a) 0.5 gm/ kg/day

b) 1 gm/ kg/day

c) 1.5 gm/ kg/day

d) 2 gm/ kg/day

Correct Answer - B

Ans. B i.e. 1 gm/ kg/ day

Protein requirement for infant 0-6 month age is 1.16 g/ kg/ day and 1.169 g/ kg/ day for 6-12 months age.

86. 1st symptom of vitamin A deficiency:
March 2009

a) Conjunctival xerosis

b) Bitot's spots

c) Night blindness

d) Corneal ulcer

Correct Answer - C

Ans. C: Night blindness

Vitamin A deficiency is common in developing countries but rarely seen in developed countries. Night blindness is one of the first signs of vitamin A deficiency.

Xerophthalmia and complete blindness can also occur since Vitamin A has a major role in phototransduction.

Vitamin A deficiency also diminishes the ability to fight infections. In countries where children are not immunized, infectious disease like measles, have higher fatality rates.

Even mild, subclinical deficiency can also be a problem, as it may increase children's risk of developing respiratory and diarrheal infections, decrease growth rate, slow bone development and decrease likelihood of survival from serious illness.

**87. Millennium Development goals are to be achieved by:
*March 2012***

a) 2005

b) 2010

c) 2015

d) 2020

Correct Answer - C

Ans: C i.e. 2015

Governments have set a date of 2015 by which they would meet the Millennium Development Goals/ MDGs, i.e. eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality; improve maternal health; combat HIV/ AIDS, malaria and other communicable diseases; ensure environmental sustainability; and develop a global partnership for development.

88. Which of the following is incorrect about ASHA:

September 2009, March 2013 (g)

a) 1 ASHA worker per 1000 population

b) Resident of local community

c) She must be educated till 4th class

d) 25-45 years of age

Correct Answer - C

Ans. C: She must be educated till 4th class

One of the key components of the National Rural Health Mission is to provide every village in the country with a trained female community health activist - 'ASHA' or Accredited Social Health Activist.

Selected from the village itself and accountable to it, the ASHA will be trained to work as an interface between the community and the public health system.

General norm of selection would be one ASHA per 1000 population.

Selection of ASHA:

Should be resident of the same village

Preferably in the age group of 25-45 years

Formal education up to eighth class

Having communications skills and leadership.

Following are the key components of ASHA:

- The ASHAs will receive performance-based incentives for promoting universal immunization, referral and escort services for Reproductive and Child Health (RCH) and other healthcare programmes, and construction of household toilets.

- ASHA will be the first port of call for any health related demands of deprived sections of the population, especially women and children, who find it difficult to access health services.
- ASHA will provide information to the community on determinants of health such as nutrition, basic sanitation and hygienic practices, healthy living and working conditions, information on existing health services and the need for timely utilisation of health and family welfare services.

89. Number of beds in a CHC is:
March 2010

a) 20

b) 30

c) 40

d) 50

Correct Answer - B
Ans. B: 30

90. Most important factor which decides the results of a randomized controlled trial is:

March 2005

a) Inclusion of all age groups

b) 50% treated with placebo and 50% with drugs

c) 100% follow up

d) Effective randomization

Correct Answer - D

Ans. D: Effective randomization

It is a procedure by which the participants are allocated into groups usually called 'study' and 'control' groups. Randomization is the heart of control trials.

It eliminates selection bias

91. Natural method of contraception is: *September 2005*

a) Rhythm method

b) Coitus interruptus

c) Breast feeding

d) All of the above

Correct Answer - D

Ans. D: All of the above

Natural methods of contraception are:

- Abstinence

Refraining from penetrative sex provides 100% protection from pregnancy, and offers effective prevention of transmission of sexually transmitted infections as well.

Withdrawal or Coitus interruptus

The withdrawal method of family planning is unlike other natural methods in that it is male-controlled. Calendar methods - based on calculations of cycle length

In calendar rhythm methods, a woman makes an estimate of the days she is fertile based on past menstrual cycle length. This involves setting the days of avoidance of unprotected intercourse.

- Methods based on symptoms and signs

- Ovulation Method, Billings Method, Cervical Mucus Method

These methods are based on the changes in cervical secretions due to the effects of circulating levels of estrogen and progesterone

- Basal Body Temperature (BBT) Method

Due to the actions of progesterone on the hypothalamus, a woman's body temperature rises slightly after she ovulates (0.2 to 0.5 degrees C) and remains elevated until the end of the cycle, until

menstruation. Women who use this method must chart their temperature every day, immediately after waking up and before getting out of bed or drinking any liquids.

- Sympto-Thermal Method

- This method combines several techniques to predict ovulation. It typically includes monitoring and charting cervical mucus and position and temperature changes on a daily basis and may include other signs of ovulation, such as breast tenderness, back pain, abdominal pain or "heaviness," or light intermenstrual bleeding.

- Lactational Amenorrhea Method (LAM)

Breastfeeding to achieve contraception, called the lactational amenorrhea method, or LAM, is more than 98% effective during the first 6 months following delivery.

92. True regarding malathion are all of the following except:

March 2008

a) Used as a spray

b) Can be used as an alternative to DDT

c) Most toxic of all members of the group

d) Belongs to organophosphorous insecticides

Correct Answer - C

Ans. C: Most toxic of *all* members of the group

93. ESI act does not cover which of the following:
September 2010

a) Hotel employee

b) Transpoters

c) Railway employees

d) Factory employees

Correct Answer - C

Ans. C: Railway employees

This act covers all employees including engaged through the contracts but whose remuneration does not exceed Rs. 10, 000 p.m. including staff in the class of administrative, canteen, loading-unloading, security, etc.

Apprentices who are appointed for learning the work with no right of being absorbed in service, do not come with the ambit of this act.

94. True about measles vaccine ?

a) Killed vaccine

b) In epidemic vaccine is given at 9 months of age

c) Can cause TSS

d) Duration of protection is 5-10 years

Correct Answer - C

Ans. is 'c' i.e., Can cause TSS

Measles vaccine :

- *Type:* Live attenuated, lyophilized (Freeze dried) vaccine
- **Strains used:**
 1. Edmonston Zagreb Strain (Most Common)
 2. Schwartz Strain
 3. Moraten Strain
- *Dose:* 0.5 ml
- *Route:* Subcutaneous
- *Site:* Antero-lateral aspect of thigh (middle one-third)
- *Age of administration in National Immunisation schedule (India):* 9 months (can be lowered to 6-9 months in epidemics & malnutrition)
- *Diluent for Reconstitution:* Distilled Water or sterile water
- *Use within 1 hr after reconstitution with diluent*
- Measles (& MMR) vaccine can lead to Toxic Shock Syndrome
- Measles vaccine is contraindicated in pregnancy
- *Cold chain Temperature for storage:* +2 to +8 degree C
- *Protective efficacy:* > 95%
- *Duration of Protection:* Life long
- *IP of vaccine induced measles:* 7 days
- Measles immunoglobulin is also available for post exposure prophylaxis.

- The best age for measles vaccination is 9 months.
- The *age can be lowered to 6 months* if there is measles outbreak in the community. For infants immunized between 6 months and 9 months of age, a second dose should be administered as soon as possible after the child reaches the age of 9 months provided that at least 4 weeks have elapsed since the last dose.

95. Which of the following does not show iceberg phenomenon ?

a) Rabies

b) Polio

c) JE

d) Mumps

Correct Answer - A

Ans. is 'a' i.e., Rabies

Iceberg phenomenon of disease is not shown by rabies, tetanus and measles.

96. Rapid test used by WHO for tuberculosis ?

a) Quanteferon gold

b) ELISPOT

c) Xpert MTB

d) Sputum AFB

Correct Answer - D

Ans. is 'd' i.e., Sputum AFB

Sputum smear microscopy is the quickest and easiest procedure.

But it lacks both sensitivity and specificity.

- Smears are stained by ziehl-Neelsen acid-fast stain.
- *Sputum smear examination (by AFB stain) is the method of choice for case finding.*

Note : Genexpert MTB/RIF is also a fast test (results within 90 minutes), but it is not routinely recommended by WHO.

97. SARS most common in ?

a) Coal miners

b) School kids

c) Pregnancy

d) Health care workers

Correct Answer - D

Ans. is 'd' i.e., Health care workers

- Health care workers, especially those involved in procedures generating aerosols, accounted for 21 per cent of all cases.
- Maximum virus excretion from the respiratory tract occurs on about day 10 of illness and then declines.
- The efficiency of transmission appears to be greatest following exposure to severely ill patients or those experiencing rapid clinical deterioration, usually during the second week of illness.
- When symptomatic cases were isolated within 5 days of the onset of illness, few cases of secondary transmission occurred.
- There was no evidence that patient transmits infection 10 days after fever has resolved.
- Children are rarely affected by SARS.
- To date, there have been two reported cases of transmission from children to adults and no report of transmission from child to child.
- Three separate epidemiological investigations have not found any evidence of SARS transmission in schools.
- Furthermore, no evidence of SARS has been found in infants of mothers who were infected during pregnancy.

98. Which is not a barrier method of contraception ?

a) Condom

b) Suppositories

c) Diaphragm

d) IUD

Correct Answer - D

Ans. is 'd' i.e., IUD

Barrier methods

- A variety of barrier or occlusive methods, suitable for both men and women are available.
- The aim of these methods is to prevent live sperm from meeting the ovum.
- Barrier methods are less effective than either the pills or IUD.

99. Reference Indian man, all are true except ?

a) Age 30-39 years

b) Weight 60 kg

c) Height 1.73 meter

d) BMI 20.3

Correct Answer - A
Ans. is 'a' i.e., Age 30-39 years

100. OPV can be used if vaccine vial monitor is showing?

a) Colour of outer circle is same as inner square

b) Colour of outer circle is darker than inner square

c) Colour of outer circle is lighter than inner square

d) None of the above

Correct Answer - B

Ans. is 'b' i.e., Colour of outer circle is darker than inner square

101. Denominator in specific death rate due to coronary artery disease ?

a) 1000 live birth

b) Mid year population

c) Total number of deaths in a community

d) Total number of case population in community

Correct Answer - B

Ans. is 'b' i.e., Mid year population

Crude death rate

- It is the simplest measure of mortality.
- It is defined as "*the number of death (from all causes) per 1000 estimated mid-year population in one year, in a given place*".

102. Out of 10 relatives exposed to a primary case, of measles, 6 developed measles. Secondary attack rate of measles ?

a) 4/10

b) 6/10

c) 4/6

d) 6/4

Correct Answer - B

Ans. is 'b' i.e., 6/10

Secondary attack rate (SAR)

SAR is defined as *"the number of exposed persons developing the disease within the range of incubation period, following exposure to primary case"*.

103. Modifiable risk factors for hypertension is ?

a) Genetic factors

b) Age

c) Sex

d) Obesity

Correct Answer - D
Ans. is d i.e., Obesity

104. Toxin associated with epidemic dropsy ?

a) BOAA

b) Sanguinarine

c) Aflatoxin

d) Pyrroolidine

Correct Answer - B
Ans. is 'b' i.e., Sanguinarine

105. Silicosis was reported first time in India from ?

a) Bangalore

b) Mysore

c) Chennai

d) Aurangabad

Correct Answer - B

Ans. is 'b' i.e., Mysore

Among the occupational diseases, silicosis is the major cause of permanent disability and mortality.

It is caused by inhalation of dust containing free silica or silicon dioxide (SiO₂).

It was first reported in India from the Kolar gold mines (Mysore) in 1947.

Even since, its occurrence has been uncovered in various other industries, e.g., mining industry (coal, mica, gold, silver, lead, zinc, manganese and other metals), pottery and ceramic industry, sand blasting, metal grinding, building and construction work, rock mining, iron and steel industry and several others.

106. Health index characteristics are all except ?

a) Validity

b) Reliability

c) Affordability

d) Feasibility

Correct Answer - C

Ans. is 'c' i.e., Affordability

There has been some confusion over terminology: health indicator as compared to health index (plural: indices or indexes).

It has been suggested that in relation to health trends, the term indicator is to be preferred to index, whereas health index is generally considered to be an amalgamation of health indicators (56).

Characteristics of indicators

Indicators have been given scientific respectability: for example ideal indicators.

a) Should be valid, i.e., they should actually measure what they are supposed to measure;

b) Should be reliable and objective, i.e., the answers should be the same if measured by different people in similar circumstances.

c) Should be sensitive, i.e., they should be sensitive to changes in the situation concerned.

d) Should be specific, i.e., they should reflect changes only in the situation concerned,

e) Should be feasible, i.e., they should have the ability to obtain data needed, and;

f) Should be relevant, i.e., they should contribute to the

understanding of the phenomenon of interest.

107. Crippling fluorosis occurs at what level ?

a) 0.5-0.8 mg/litre

b) 1.5 mg/litre

c) 3-6 mg/litre

d) > 10 mg/litre

Correct Answer - D

Ans. is 'd' i.e., 10 mg/liter

Crippling fluorosis

This occurs at fluoride level > 10 mg/litre (PPM). Patient is crippled and bed ridden.

108. Epidemic typhus is transmitted by ?

a) Flea

b) Mite

c) Louse

d) Tick

Correct Answer - C
Ans. is 'c' i.e., Louse

109. Mean Hb values are compared in two population groups. The best test is ?

a) Paired T test

b) Unpaired T test

c) Chi-square test

d) Fisher's test

Correct Answer - B
Ans. is 'b' i.e., Unpaired T test

110. Mode of prevention in CHD ?

a) High risk strategy

b) Primordial prevention

c) Secondary prevention

d) Tertiary prevention

Correct Answer - B

Ans. is 'b' i.e., Primordial prevention

Best way to prevent mortality from any disease is to prevent the development of disease.

In case of CHD, primordial prevention is best strategy, which mainly concerns with life style changes.

111. Asbestos used in ?

a) Painting

b) Bakery

c) Cement production

d) Cotton industry

Correct Answer - C

Ans. is 'c' i.e., Cement production

Asbestos is the commercial name given to certain types of fibrous material.

They are silicates of varying composition; the silica is combined with such bases as magnesium, iron, calcium, sodium and the aluminium.

Asbestos is of two types-serpentine or chrysolite variety and the amphibole type.

Ninety per cent of the world's production of asbestos is of the serpentine variety, which is hydrated magnesium silicate, the amphibole type contains little magnesium.

The amphibole type occurs in different varieties, e.g., crocidolite (blue), amosite (brown), and anthrophyllite (white).

Asbestos fibres are usually from 20 to 500 μ m in length and 0.5 to 50 μ m in diameter.

Asbestos is used in the manufacture of asbestos cement, fire-proof textiles, roof tiling, brake lining, gaskets and several other items.

Asbestos is mined in Andhra Pradesh (Cudappah), Bihar, Jharkhand, Karnataka, and Rajasthan - but most of it is imported from USSR, Canada, US and South Africa.

112. Not included in human development index ?

a) GNI per capita

b) Life expectancy at 1 yr

c) Years of schooling

d) Knowledge

Correct Answer - B

Ans. is 'b' i.e., Life expectancy at 1 year

Life expectancy at birth is a dimension of HDI (not life expectancy at one year).

HUMAN DEVELOPMENT INDEX (HDI)

HDI is a composite index combining indicators representing three dimensions.

113. Most common STD in India ?

a) HIV

b) Syphilis

c) Candidiasis

d) Bacterial vaginosis

Correct Answer - B

Ans. is 'b' i.e., Syphilis

Among the given options, syphilis is most common.

Five *classical* STDs are syphilis (*T. pallidum*), gonorrhoea (*N. gonorrhoeae*), chancroid (*H. ducreyi*), lymphogranuloma venereum (*Chlamydia trachomatis*), and donovanosis (*Calymatobacterium granulomatis*).

Most common STD in India is herpes genitalis (20%) followed by chancroid (11%), viral warts/HPV (11%), syphilis (11%) and gonorrhoea (9%).

Overall (in world) most common STD is chlamydia followed by gonorrhoea.

114. Roll back malaria programme focused mainly on ?

a) IEC campaigns for community awareness

b) Insecticide treated bed nets

c) Development of larvivorous fishes for eradication of larvae.

d) Presumptive treatment of malaria case

Correct Answer - B

Ans. is 'b' i.e., Insecticide treated bed nets

The main strategies of Roll Back Malaria initiative are :

a) Strengthen health system to ensure better delivery of health care, especially at district and community level.

b) Ensure the proper and expanded use of insecticide treated mosquito nets.

c) Ensure adequate access to basic health care and training of health care workers.

d) Encourage the development of simpler and more effective means of administering medicines, such as training of village health workers and mothers on early and appropriate treatment of malaria, especially in children.

e) Encourage the development of more effective and new anti-malaria drugs and vaccines.

115. Tuberculin testing done at ?

a) Dorsum of left arm

b) Dorsum of right arm

c) Ventral aspect of left forearm

d) Ventral aspect right forearm

Correct Answer - C

Ans. is 'c' i.e., Ventral aspect of left forearm

In tuberculin test, injection is given intradermally on flexor (ventral) surface of left forearm, mid-way between elbow & wrist.

116. Which is not included in millennium development goals?

a) Number of oral pills intake in a community

b) Proportion of children underweight

c) Proportion of population using biomass fuel

d) Tuberculosis morbidity and mortality

Correct Answer - A

Ans. is 'a' i.e., Number of oral pills intake in a community

The indicators included in MDG are:?

- 1) *Prevalence of underweight children (under five years of age).*
- 2) Proportion (%) of population below minimum level of dietary energy consumption.
- 3) Under-five mortality rate.
- 4) Infant mortality rate.
- 5) Proportion (%) of 1 year old children immunized for measles.
- 6) Maternal mortality ratio.
- 7) Proportion (%) of births attended by skilled health persons.
- 8) HIV prevalence among young people.
- 9) Condom use in high-risk population.
- 10) Ratio of children orphaned/non-orphaned in schools.
- 11) Malaria death rate per 100,000 in children (0-4 years of age).
- 12) Malaria death rate per 100,000 in all age groups.
- 13) Malaria prevalence rate 100,000 population.
- 14) Proportion (%) of population under-age 5 in malaria risk areas using insecticide treated bed nets.
- 15) Proportion (%) of population under-age 5 with fever being treated with anti-malarial drug.
- 16) Tuberculosis death rate per 100,000.

- 17) Tuberculosis prevalence rate per 100,000.
- 18) *Proportion (%) of smear-positive pulmonary tuberculosis cases detected and put under directly observed treatment short-course (DOTS).*
- 19) *Proportion (%) of smear-positive pulmonary tuberculosis case detected cured under directly observed treatment short-course (DOTS).*
- 20) *Proportion (%) of population using biomass fuel*
- 21) *Proportion (%) of population with sustainable access to an improved water source, rural.*
- 22) *Proportion (%) of population with sustainable access to an improved water source, urban.*
- 23) *Proportion (%) of urban population with access to improved sanitation.*
- 24) *Proportion (%) of population with access to affordable essential drugs on a sustainable basis*

117. Where and when MDG adopted ?

a) WI-10 1990

b) UN 2000

c) UNICEF 1995

d) ILO 2005

Correct Answer - B

Ans. is 'b' i.e., UN 2000

The millennium development Goals (MDG)

- More recently in September 2000, representative for 189 countries met at the millennium summit in New York, to adopt United Nations Millennium Declaration.
 - The goals in the area of development and poverty eradication are now referred to as "Millennium development Goals" (MDGs).
 - Governments have set a date of 2015 by which they would meet the MDGs.
 - MILLENNIUM DEVELOPMENT GOALS (MDGS - TO BE ACHIEVED BY 2015) :
 - Millennium Development Goals (MDGs) is a set of 8 Goals adopted by 189 countries at UN Millennium Summit in September 2000.
 - Baseline year was taken as 1990: '*All MDGs have to be achieved by 2015*'
 - 3 of 8 goals (Goal 4, 5, 6), 8 of 18 targets and 18 of 48 indicators are '*directly*' health related
1. *Goal 1: Eradicate extreme poverty and hunger*
 2. *Goal 2: Achieve universal primary education*
 3. *Goal 3: Promote gender equality and empower women*
 4. *Goal 4: Reduce child mortality (Reduce by two-thirds the under-five mortality rate)*

- 5. *Goal 5:* Improve maternal health (Reduce by three-quarters the maternal mortality ratio)
- 6. *Goal 6:* Combat HIV/AIDS, malaria and other diseases
- 7. *Goal 7:* Ensure environmental sustainability
- 8. *Goal 8:* Develop a global partnership for development

118. Raiv Gandhi Shramik Kalyan Yojna comes under ?

a) RCH

b) ESI

c) MCH programmer

d) National population policy

Correct Answer - B

Ans. is 'b' i.e., ESI

RAJIV GANDHI SHRAMIK KALYAN YOJNA

The ESI corporation has launched a new Yojna for the employees covered under the ESI scheme. This scheme provides an unemployment allowance for the employees covered under ESI scheme who are rendered unemployed involuntarily due to retrenchment/closure of factory etc. after fulfilling certain eligibility conditions. The scheme came into effect from 1st April, 2005.

As per this scheme, an insured person going out of insurable employment involuntarily, on account of closure of a factory or establishment, retrenchment, or permanent invalidity arising out of non-employment injury, after rendering insurable employment and having contributed under the scheme for five or more years, is entitled to claim unemployment allowance for maximum period of 6 months during his/her entire service.

The allowance can be availed in one spell or different spells of not less than one month.

The daily rate of unemployment allowance is the "standard benefit" as specified in the table on standard benefit rates under rule-54 of ESI (Central) Rules, 1950 corresponding to the average daily wage drawn by the insured person.



119. True about measles vaccine ?

a) Contraindicated in neomycin allergic patients

b) Killed vaccine

c) Given Intramuscularly

d) Provides protection for 5-10 years

Correct Answer - A

Ans. is 'a' i.e., Contraindicated in neomycin allergic patients

Measles vaccine may contain sorbitol and hydrolysed gelatin as stabilizers, as well as a small amount of neomycin

People with a history of an anaphylactic reaction to neomycin, gelatin or other components of the vaccine should not be vaccinated.

120. Not a strategy for measles elimination ?

a) Mop up: Vaccinate kids left with routine vaccination

b) Catch up: One time nation wide vaccination 9 month- 14 years old children

c) Keep up: Vaccinate > 95% successive birth

d) Follow up: Nationwide vaccination every 2-4 years

Correct Answer - A

Ans. is 'a' i.e., Mop up: Vaccinate kids left with routine vaccination

The priorities of countries pursuing measles control include :-

- i. Improve routine vaccination coverage level to at least 90%.
 - i. Active coverage of more than 90% in catch-up and follow-up campaigns or active coverage of more than 90% with routine second dose of measles vaccine.
 - i. Establish case - based surveillance with laboratory confirmation of suspected cases and virus isolation from all chains of transmission.
 - r. Conduct supplementary vaccination campaign together with administration of vitamin 'A' in high risk areas.
- In India, measles is a major cause of morbidity and a significant contributor to childhood mortality. Prior to the immunization programme, cyclical increase in the incidence of measles were recorded every third year. With the increase in immunization coverage levels, the intervals between cyclic peaks has increased and the intensity of the peak minimized.
 - *Epidemic of measles occur if proportion of susceptible children is > 40%*
 - *If measles is introduced in a virgin community, it infects > 90% of children.*

- *Eradication of measles requires vaccine coverage >96%*

121. How many doses of vitamin A are required to treat deficiency ?

a) 1

b) 2

c) 3

d) 4

Correct Answer - C
Ans. is 'c' i.e., 3

122. Key indicator for AFP surveillance ?

a) At least one case of non-polio AFP per year per 1000 population of under 5 years

b) At least one case of non-polio AFP per year per 100000 population of under 5 year

c) At least one case of non-polio AFP per year per 1000 population of under 15 years

d) At least one case of non-polio AFP per year per 100000 population of under 15 years

Correct Answer - D

Ans. is 'd' i.e., At least one case of non-polio AFP per year per 100000 population of under 15 years

123. DASH diet consists of diet ?

a) Rich in proteins and low in salts

b) Rich in fruits and low-fat dairy products

c) Rich in carbohydrate and low in protein

d) Rich in protein, carbohydrate and fat

Correct Answer - B

Ans. is 'b' i.e., Rich in fruits and low-fat dairy products

124. Zonal office of Central Drugs Standard Control Organization is at ?

a) Delhi

b) Ghaziabad

c) Bangalore

d) Cuttack

Correct Answer - B

Ans. is 'b' i.e., Ghaziabad

The central government have established Four Zonal Offices of Central Drug Standard Control Organization at :-

1. *Mumbai*

2. *Chennai*

3. *Kolkata*

4. *Ghaziabad*

- The zonal offices work in close collaboration with state drug control administration and assist them in securing uniform enforcement of the Drug Act and other connected legislation, on all India basis.

125. Unmet needs for contraception ?

- a) Increases with age group
- b) Maximum in women < 20 years age
- c) Maximum in women 25-30 years age
- d) Mainly for spacing births in women > 30 years

Correct Answer - B

Ans. is 'b' i.e., Maximum in women < 20 years age

Many women who are sexually active would prefer to avoid pregnancy, but nevertheless are not using any method of contraception. These women are considered to have 'unmet need' for family planning.

The concept is usually *applied to married women*.

According to the National Family Health Survey-3, Unmet need for family planning is highest (27.1%) among women below 20 years age and is almost entirely for spacing the births rather than for limiting the births.

It is also relatively high for women in age group 20-24 years (21.1%) with 75% need for spacing and 25% for limiting the birth. Unmet need for contraception among women aged 30 years and above are mostly for limiting birth.

126. After finding a case of AFP, next step is ?

a) OPV vaccination

b) Reporting of case

c) Stool culture

d) Chemoprophylaxis

Correct Answer - B

Ans. is 'b' i.e., Reporting of case

Every case of AFP in *any* child under 15 years should be reported.

- *The number of AFP cases reported each year is used as an indicator of a country's ability to detect polio, even in countries where the disease no longer occurs.*

127. Mutation is seen in ?

a) Polio virus

b) Influenza virus

c) Mumps virus

d) Measles virus

Correct Answer - B

Ans. is 'b' i.e., Influenza virus

A unique feature of the influenza virus is its ability to undergo antigenic variations.

- *Antigenic variability is highest in influenza virus Type A and less in Type B, while it has not been demonstrated in type C.*
- Surface antigens hemagglutinin and neurominidase, undergo independent antigenic variations which may be of Two types.
 - 1) Antigenic drift
 - Antigenic change is gradual over a period of time
 - The new antigens, though different from the previous antigens, are yet related to them.
 - *Antigenic drift involves point mutation in the gene owing to selection pressure by immunity in the host population*
 - *Antigenic drift accounts for the periodic epidemics of influenza.*
 - Occurs every 2-3 years in case of Influenza A and every 4-7 years in case of Influenza-B
 - 2) Antigenic shift
 - An abrupt, drastic, discontinuous variation in the antigenic structure.
 - Result from genetic recombination of human with animal or avian virus.
 - Accounts for the major epidemics or pandemics.
 - Occurs every 10-15 years.

- Occurs in influenza 'A' only

128. Prophylaxis for chicken-pox by varicella-zoster immunoglobulin, true is ?

a) Should be given within 24 hours

b) Given to newborn contact

c) Can be given with varicella vaccine

d) Can be given in established disease

Correct Answer - B

Ans. is b' i.e., Given to newborn contact

Varicella-Zoster immunoglobulin (VZIG) given within 72 hours of exposure has been recommended for prevention of chickenpox in exposed susceptible individuals particularly in immunosuppressed persons.

These include :?

- a) Susceptible persons receiving immunosuppressive therapy
 - b) Persons with congenital cellular immunodeficiency
 - c) Persons with acquired immunodeficiency including HIV/AIDS
 - d) Susceptible and exposed, persons, in particular pregnant women
 - e) Newborn
 - f) Premature infants of low birth weight.
- It has no therapeutic value in established disease.
 - VZIG is given by intramuscular injection in a dose of 12.5 units/kg body weight up to a maximum of 625 units, with a repeat dose in 3 weeks, if a high-risk patient remains exposed.
 - Because VZIG appears to bind the varicella vaccine, the two should not be given concomitantly.

129. If mother is vaccinated for rubella in preconception period. Chances of rubella infection in the child is after how much period after birth -

a) 1 month

b) 2 months

c) 6 months

d) 12 months

Correct Answer - C

Ans. is 'c' i.e., 6 months

Maternal rubella antibodies (IgG) are transferred from vaccinated/immune mother to child during fetal life.

These antibodies last for 6 months and provide protection.

After this period, the infant is susceptible to rubella.

130. Most important strategy for control of malaria in endemic area -

a) Early treatment of case

b) Chemoprophylaxis

c) Vector control

d) Elimination of plasmodium

Correct Answer - C
Ans. is 'c' i.e., Vector control

131. High environmental temperature, best step for malaria control?

a) Remove breeding place

b) Full sleeve cloth

c) Indoor insecticide

d) Early treatment

Correct Answer - A

Ans. is 'a' i.e., Remove breeding place

"The most important step in reducing number of mosquitoes is to eliminate their breeding places" Park

132. Fertile period in a women with menstrual cycle of 26-31 days ?

a) 8-21 days of cycle

b) 15-25 days of cycle

c) 5-15 days of cycle

d) First 5 days of cycle

Correct Answer - A

Ans. is 'a' i.e., 8-21 days of cycle

Safe Period (rhythm method)

- This is also known as the *calendar method* first described by Ogino.
- The method is based upon the fact that ovulation occurs from 12 to 16 days before the onset of menstruation.
- Calculation is as follows :
- *The shortest cycle minus 18 days gives the first day of the fertile period.*
- *The longest cycle minus 10 days gives the last day of fertile period.*
- For example, if a woman's menstrual cycle varies from 26-31 days, the fertile period during which she should not have intercourse would be from the 8th day to 21st day of the menstrual cycle, counting day one as the first day of the menstrual period.

**133. Following is prevented by killed vaccine
?**

a) Mumps

b) Measles

c) Rabies

d) Rubella

Correct Answer - C
Ans. is 'c' i.e., Rabies

134. Sex ratio is ?

a) Number of males per 100 females

b) Number of males per 1000 females

c) Number of females per 100 males

d) Number of females per 1000 males

Correct Answer - D

Ans. is 'd' i.e., Number of females per 1000 males

Sex ratio

- Sex ratio is defined as the number of *females* per 1000 males. Sex ratio is considered as :-
 1. *Favourable* : When females are more than males (> 1000 females per 1000 males).
 2. *Unfavourable* : When females are less than males (< 1000 females per 1000 males).
 3. *Ideal* : Females are equal in number as males (1000 females per 1000 males).
- *India has sex ratio 940 (It was 933 in 2001). Only two states/UT have favourable sex ratio : Kerala (highest sex ratio of 1084) and Puducherry. Dadra & Nagar Haveli has lowest sex ratio.*
- *Child sex ratio is defined as females (0-6 years age) per 1000 males (0-6 years age). Child sex ratio of India has reached an all time low of 914 since 1961. The fall has been 13 points from 927 (in 2001) to 914 (in 2011). It is highest in Mizoram and lowest in Harayana.*
- *Sex ratio at birth in India is 914.*

135. WHO declared global eradication of small pox on ?

a) 26th October 1977

b) 5th July 1975

c) 17th May 1975

d) 8th May 1980

Correct Answer - D

Ans. is 'd' i.e., 8th May 1980

The world's *last case* of smallpox occurred in *somalia* on *26 October 1977* (Apart from a laboratory accident in 1978).

- The WHO declared on 8 may 1980 that smallpox had been eradicated.

India

- The last indigenous case in India occurred on 17 May 1975 in Bihar.
- On 24 May 1975, India's last known case of smallpox, an importation from Bangladesh occurred.
- In April 1977, India was declared smallpox free by an International Commission for Assessment of smallpox eradication.

136. HDI includes all except ?

a) Income

b) Knowledge

c) Life duration and well being

d) Standard of living

Correct Answer - D
Ans. is 'd' i.e., Standard of living

137. Which is not included in NVBDCP ?

a) Dengue

b) Malaria

c) Japanese encephalitis

d) Plague

Correct Answer - D

Ans. is 'd' i.e., Plague

NVBDCP includes 6 *vector borne diseases* of public health importance in India :

1. *Malaria*
2. *Kala-azar*
3. Dengue
4. Japanese encephalitis
5. *Filaria*
6. *Chikungunya fever*

138. What is a not a criteria to establish causal association ?

a) Temporal association

b) Sensitivity of association

c) Consistency of association

d) Coherence of association

Correct Answer - B

Ans. is `b' i.e., Sensitivity of association

139. Spread of which disease cannot be controlled by isolation ?

a) Diphtheria

b) Neonatal tetanus

c) Cholera

d) Mumps

Correct Answer - B

Ans. is `b' i.e., Neonatal tetanus

140. Net reproduction rate is ?

- a) Number of live births per 1000 mid-year population
- b) Number of live birth per 1000 women of child bearing age
- c) Number of daughters a newborn girl will have during life time
- d) None of the above

Correct Answer - C

Ans. is 'c' i.e., Number of daughters a newborn girl will have during life time

Net reproduction rate

Net reproductive rate is defined as

"The no. of daughters a new born girl will bear during her lifetime assuming fixed age specific fertility and mortality rates"

- It is the only fertility related statistics which also takes mortality rates into consideration.
- NRR of one is equivalent to attaining approximately *the two child norms*.
- Goal of $NRR=1$ can be achieved only *if atleast 60%* of the eligible couples are effectively practicing family planning.*

141. Third generation IUCD ?

a) Mirena

b) Nova-T

c) Lippe's loop

d) CuT-200

Correct Answer - A
Ans. is 'a' i.e., Mirena

142. Ergonomics?

a) Adjusting the Worker to his job

b) Study of human behavior

c) Study of social mobility

d) None

Correct Answer - A

Ans. is 'a' i.e., Adjusting the Worker to his job

Ergonomics Simply means "*fitting the job to the worker*".

The object of ergonomics is "*to achieve the best mutual adjustment of man and his work, for the improvement of human efficiency and well being*".

143. 4 hrs old 14 kg wt, 4 day h/o of loose stools dec urine output, delayed skin pinch, sunken eyes and dry mucosa, calculate fluid required for treating dehydration and maintenance for 4 hrs ?

a) 1200 ml

b) 1050 ml

c) 700 ml

d) 2000 ml

Correct Answer - B

Ans. is 'b' i.e., 1050 ml

The child in question is having some dehydration and should be treated with Plan-B.

According to plan-B, fluid requirement in first 4 hour is 75ml/kg.

Weight of child in question is 14 kg. Thus fluid requirement in first 4 hours is 1050ml (14 x 75).

144. Measles elimination criteria?

a) $< 1/1000$

b) $< 1/10000$

c) $< 1/100000$

d) $< 1/100$

Correct Answer - C

Ans. is 'c' i.e., $< 1/100000$

WHO defines elimination of measles as the absence of endemic measles for a period of 12 months in the presence of adequate surveillance.

One indicator of measles elimination is a sustained measles incidence $< 1/100,000$ population. o In 2005, the World Health Assembly set a goal of achieving a 90% reduction in global measles mortality by 2010 as compared with level in 2000.

145. The gas responsible for Bhopal gas tragedy was?

a) Methyl isocyanate

b) Potassium isothiocyanate

c) Sodium isothiocyanate

d) Ethyl isothiocyanate

Correct Answer - A

Ans. is 'a' i.e., Methyl isocyanate

The ***Bhopal disaster (Bhopal gas tragedy)*** was a gas leak incident in India that occurred on the night of December 2-3, 1984 at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, MP. A leak of ***methyl isocyanate*** from the plant resulted in the exposure of hundreds of thousands of people.

146. Chronic carrier state is seen in all except ?

a) Measles

b) Diphtheria

c) Typhoid

d) Gonorrhoea

Correct Answer - A

Ans. is 'a' i.e., Measles

Chronic carriers are seen in *Typhoid fever, HBV, malaria, gonorrhoea, diphtheria, dysentery and cerebrospinal meningitis*

147. Rare complication of measles ?

a) Diarrhoea

b) Pneumonia

c) Otitis media

d) SSPE

Correct Answer - D

Ans. is 'd' i.e., SSPE

Subacute sclerosing panencephalitis (SSPE) is a rare complication of measles, which develops many years after the initial infection -

The most common complications are : measles- associated diarrhea, pneumonia and otitis media ?

148. According to RNTPC, case definition on sputum examination -

a) 1 sample positive out of three samples

b) At least two samples positive out of two samples

c) Any of the two or both samples are positive out of two

d) 2 or 3 samples positive out of three

Correct Answer - C

Ans. is 'c' i.e., Any of the two or both samples are positive out of two
Two sputum smear samples are examined.

If any of the two samples or both the samples are positive, the diagnosis of smear-positive TB is confirmed.

**149. The type of distribution, if mean 209,
median 196, and mode 135 ?**

a) Standard curve

b) Positively skewed

c) Negatively skewed

d) J-shaped

Correct Answer - B

Ans. is 'b' i.e., Positively skewed

In question, mean > median > mode → Feature of positively skewed deviation.

150.

Which of the following was a part of expanded programme of immunization ?

a) Hepatitis B

b) Rubella

c) Pertussis

d) Mumps

Correct Answer - C

Ans. is 'c' i.e., Pertussis

In may 1974, the *WHO* officially launched a global immunization programme, known as *expanded programme of immunization (EPI)* to protect all children of the world against six vaccine-preventable diseases by the year 2000.

151. WHO recommended salt intake ?

a) < 5 gm/d

b) < 6 gm/d

c) < 7 gm/d

d) < 8 gm/d

Correct Answer - A
Ans. is 'a' i.e., < 5 gm/d

152. Diagnostic power of the test is reflected by ?

a) Sensitivity

b) Specificity

c) Predictive value

d) Population attributable risk

Correct Answer - C

Ans. is 'c' i.e., Predictive value

Predictive accuracy (Predictive value) of screening test

- In addition to sensitivity and specificity, the performance of screening test is measured by its predictive value.
- *Predictive value reflects the diagnostic power of the test.*
- Predictive value depends upon *sensitivity, specificity and prevalence.*
 - i) Positive predictive value (Post test probability of a disease or precision rate).*
- It is the probability a patient with positive test result has the disease in question, i.e., the proportion of patients with positive test results who are correctly diagnosed.
- In other words, it is the percentage of the diseased people among those who show positive results.
- For example, if positive predictive value of a test is 50%, that means there is 50% probability a patient with positive tests results has the disease.
- A high positive predictive value indicates that a person with a positive test has the disease → diagnostic power of a screening test to correctly identify the disease.
- It is the most important measure of a diagnostic method as it reflects

the probability that a positive test reflects the underlying condition being tested for.

ii) *Negative predictive value*

- It is the probability that a person with negative test results, is in fact healthy.
- In other words the percentage of healthy people among those who show negative test results.
- A high negative predictive value means there is high probability that a negative test rules out the disease → diagnostic power of a screening test to exclude the disease.
- *The sensitivity and specificity are properties of the screening test, while the predictive value is property of both the test and the population under study.*

153. If specificity of test increases ?

a) Low false negative

b) Low true negative

c) More false positive

d) More false negative

Correct Answer - D

Ans. is 'd' i.e., More false negative

- *High sensitivity gives large no. of false positives*
- *High specificity gives large no. of false negatives.*

Remember

- *If a population has more false positive cases :?*
 - i. *Screening test is more sensitive*
 - i. *Positive predictive value of the test is low*
 - i. *Prevalence of disease is low*
- *If a population has more false negative cases*
 - i. *Screening test is more specific*
 - i. *Negative predictive value of the test is low*

154. In positively skewed deviation ?

a) Mean = Median = Mode

b) Mean > Medians > Mode

c) Mode > Median > Mean

d) None of the above

Correct Answer - B

Ans. is 'b' i.e., Mean > Medians > Mode

155. Ratio of incidence among exposed and non exposed is known as ?

a) Risk ratio

b) Odds ratio

c) Attributable risk

d) SAR

Correct Answer - A

Ans. is 'a' i.e., Risk ratio

Relative risk (risk ratio)

Relative risk is the ratio of the incidence of the disease (or death) among exposed and the incidence among nonexposed.

156. Drug of choice for chemoprophylaxis in meningococcal meningitis is ?

a) Tetracycline

b) Rifampicin

c) Streptomycin

d) Erythromycin

Correct Answer - B

Ans. is `b' i.e., Rifampicin

- Meningococcal meningitis is the only type of bacterial meningitis that occurs in epidemic form. o Close contacts of index case (such as other household member, infants in day-care centers, or military recruits) are at increased risk for developing meningococcal disease. casual contacts such as schoolmates do not appear to be at increased risk.
- *Chemoprophylaxis is indicated only for close contacts.*
- Sulfonamides, once widely employed in chemoprophylaxis, should no longer be used for that purpose because approximately 25% of meningococcal isolates are now resistant to sulfonamide.
- *Rifampicin is the drug of choice to accomplish prophylaxis in close contacts.* The recommended dose in adults is either 600 mg orally every 12 hours for 2 days or 600 mg orally once daily for 4 days (total 4 doses).
- Other drugs for chemoprophylaxis are *ceftriaxone, ciprofloxacin, Azithromycin, minocycline.*

157. Salk polio vaccine is ?

a) Killed

b) Live attenuated

c) Subunit

d) Recombinant

Correct Answer - A

Ans. is 'a' i.e., Killed

Inactivated polio (Salk) vaccine

- IPV is usually made from selected wild polio virus (WPV) strains- namely, *Mahoney (Salk type 1)*, *MEF-1 (Salk type 2)* and *Saukett (Salk types)* - that are grown in vero cell culture or in human diploid cells.
- Vaccine contains all the three types of poliovirus, *inactivated by formalin, i.e. killed vaccine.*
- It contains 40, 8 and 32 D antigen units of type 1, 2 and 3 virus respectively (Previous vaccine had 20, 2 and 4 D antigens, according to 20th/e of Park).
- The primary or initial course of immunization consists of 4 *inoculation (4 doses).*
- The first 3 doses are given at intervals of 1-2 months and 4th dose 6-12 months after the third dose.
- First dose usually given when the infant is 6 weeks old.
- Additional doses are recommended prior to school entry and then every 5 years until the age of 18.
- *Being an inactivated vaccine, it can be given to immunosuppressed individuals, e.g. AIDS patients.*
- IPV is administered by IM injection (preferred) or subcutaneous injection.

- It can be combined with DPT, Hepatitis, and/or H. influenzae type B vaccine. In the combination vaccines, the alum or the pertussis vaccine, or both have an adjuvant effect.

158. DOC for chemoprophylaxis of plague ?

a) Streptomycin

b) Erythromycin

c) Tetracycline

d) Vancomycin

Correct Answer - C
Ans. is 'c' i.e., Tetracycline

159. Maximum fat is found in ?

a) Buffalo milk

b) Goat milk

c) Human milk

d) Cow milk

Correct Answer - A
Ans. is 'a' i.e., Buffalo milk

160. Burning feet syndrome is due to deficiency of ?

a) Niacin

b) Folic acid

c) Vitamin B₁₂

d) Pantothenic acid

Correct Answer - D

Ans. is 'd' i.e., Pantothenic acid

161. As per ICDS the recommended nutrition for 3 ?6 yrs age is_____ kcal and_____gm of proteins ?

a) 200/10

b) 300/10

c) 250/10

d) 500/15

Correct Answer - D
Ans. is 'd' i.e., 500/15

162. Incubation period of new disease determined by?

a) Lead time

b) Generation time

c) Serial interval

d) Latent period

Correct Answer - B

Ans. is 'b' i.e., Generation time

Generation time

- *Interval between receipt of infecton by host and maximal infectivity of the host.*
- Generation time is roughly equal to the incubation period.

163. Carriers not seen in ?

a) Rabies

b) Typhoid fever

c) Polio

d) Malaria

Correct Answer - A
Ans. is 'a' i.e., Rabies

164. Influenza pandemic is ?

a) Seasonal trend

b) Cyclic trend

c) Secular trend

d) None of the above

Correct Answer - B

Ans. is 'b' i.e., Cyclic trend

165. True about chicken pox ?

a) Caused by Human Herpes Virus-3

b) Scab is infective

c) Rash is deep seated

d) SAR is 70%

Correct Answer - A

Ans. is 'a' i.e., Caused by Human Herpes

Chickenpox is caused by varicella zoster virus (Human Herpes Virus-III or Herpes simplex type-III).

166. Relative risk 2 means ?

- a) Risk of developing disease is 2 times higher among nonexposed
- b) 30% of disease among exposed is due to risk factor
- c) 200% increase in risk of developing disease among exposed
- d) Incidence rate is 2 times higher in exposed group than non-exposed

Correct Answer - D

Ans. is 'd' i.e., Incidence rate is 2 times higher in exposed group than non-exposed

It is very important to know the difference between relative risk and attributable risk.

167. Contraception of choice for lactating mothers ?

a) OC pills

b) Progesterone only pills

c) Natural method

d) c and b both

Correct Answer - D

Ans. is 'c > b' i.e., Natural method > Progesterone only pills

Natural method (breast feeding) is best contraception during lactation.

Contraception during lactation

- Preferred methods of contraception during breast feeding are those that do not interfere with lactation.
- Methods are :
 - 1) Lactational amenorrhea method (LAM)
- The probability of pregnancy is very small for first 6-8 months after pregnancy, if the mother is fully breast-feeding her infant, is still amenorrhoeic and the child does not receive additional food.
- Under these conditions there is only 2% chance of pregnancy.
- So breast - feeding is a very important and efficient contraceptive method during *early puerperium* Referred to as *lactation amenorrhea method*.
- 2) Alternative methods
- *Barrier methods, IUD and progesteron only hormonal methods (minipills, implants, injectables) are the primary contraceptive alternatives during breast feeding.*
- They have no adverse effects on lactation, the condition of the infant or maternal ovarian function.

- *Sterilization* is only a good alternative only if the family wants a permanent method of contraception.
- *Combined oral contraceptives (estrogen + progesteron) diminish milk production and therefore are not recommended during lactation.*

168. Migration studies explains ?

a) Distribution of disease

b) Genetic factors affecting disease

c) Social status of immigrants

d) None of the above

Correct Answer - B

Ans. is 'b' i.e., Genetic factors affecting disease

169. The diluent used for BCG is ?

a) Distilled water

b) Normal saline

c) Dextrose solution

d) Ringer-lactate

Correct Answer - B
Ans. is 'b' i.e., Normal saline

170. Food standards for international food market utilizes?

a) ISI

b) AGMARK

c) Codex alimentarius

d) Bureau of India standards

Correct Answer - C
Ans. is 'c' i.e., Codex alimentarius

171. Statistical analysis of data of various studies done in same matter is called as ?

a) Meta analysis

b) Data review

c) Propaganda

d) Cohort study

Correct Answer - A

Ans. is 'a' i.e., Meta analysis

Meta analysis

Meta-analysis refers to the analysis of analyses. It is the statistical analysis of a collection of individual studies.

Meta-analysis is a statistical technique for amalgamating, summarising, and reviewing previous quantitative research. By using meta-analysis, a wide variety of questions can be investigated, as long as a reasonable body of primary research studies exist.

Selected parts of the reported results of primary studies are entered into a database, and this "meta-data" is "meta-analyzed", in similar ways to working with other data - descriptively and then inferentially to test certain hypotheses.

The appeal of meta analysis is that it in effect combines all the research on one topic into one large study with many participants.

The danger is that in amalgamating a large set of different studies the construct definitions can become imprecise and the results difficult to interpret meaningfully.

In a meta-analysis, research studies are collected, coded, and interpreted using statistical methods similar to those used in primary data analysis. The result is an integrated review of findings that is

data analysis. The result is an integrated review of findings that is more objective and exact than a narrative review. By accumulating results across studies, one can gain a more accurate representation of the population relationship than is provided by the individual study estimators.

172. Observational study is all except -

a) Case control

b) Cohort

c) RCT

d) Cross-sectional

Correct Answer - C
Ans. is 'c' i.e., RCT

173. Billing method of contraception is synonymous for ?

a) Rhythm method

b) Basal body temperature method

c) Cervical mucus method

d) Abstinence

Correct Answer - C

Ans. is 'c' i.e., Cervical mucus method

174. Test quoted as highly sensitive means ?

a) High false positive and high false negative

b) High false positive & low false negative

c) Low false positive & low false negative

d) Low false positive and high false negative

Correct Answer - B

Ans. is 'b' i.e., High false positive & low false negative

When a screening test is used to diagnose a disease, the test outcome can be positive (diseased) or negative (healthy), while the actual health status of the person may be different.

- **In that setting**

- i. *True positive* → Diseased people correctly diagnosed as diseased.

- i. *False positive* → Healthy people wrongly identified as diseased.

- i. *True negative* → Healthy people correctly identified as healthy.

- i. *False negative* Diseased people wrongly identified as healthy.

- There are two major statistical measures for the validity of a screening test : ?

- **Sensitivity**

- It is the ability of a test to identify correctly all those who have the disease, i.e., true positive.

- In other words sensitivity measures the percentage of sick people who are identified as having disease.

- For example if a test is 90% sensitive, that means out of 100 diseased people, it will diagnose 90 (90% of diseased people will be diagnosed). Remaining 10% will be wrongly identified as not having the disease, i.e., false negative.

- **Specificity**

- It is the ability of a test to identify correctly those who do not have

the disease i.e., true negative

- In other words specificity measures the percentage of well people who are identified as not having the disease.
- For example, a 90 percent specificity means that 90% of nondiseased people will be identified as not having the disease. The remaining 10% will be wrongly classified as diseased, i.e., false positive.

175. About measles true is ?

a) Incubation period is 5 days

b) Otitis media is the most common complication

c) Caused by orthomyxovirus

d) Large number of carriers

Correct Answer - B

Ans. is 'b' i.e., Otitis media is the most common complication

- Measles is caused by a *RNA virus* of paramyxovirus family.
- *The only source of infection is a case of measles, carriers are not known to occur.*

176. Registration of birth & death with a 6 monthly survey is done in ?

a) National sample survey

b) Vital statistical system

c) Census

d) Sample registration system

Correct Answer - D

Ans. is 'd' i.e., Sample registration system

Sample registration system

Sample registration system (SRS), initiated in mid 1960s provides reliable estimates of birth (fertility) and death (mortality) rates at state and national levels.

It is a *dual record* system, consisting of continuous enumeration of birth and death by an enumerator and an independent survey every 6 months by an investigator supervisor.

Main objective of SRS is to provide reliable estimates of birth rate, death rate and infant mortality rate at the natural division level for rural areas and at state level for urban areas.

Infant mortality rate is the decisive indicator for estimation of sample size at natural division.

Sample design for SRS is *unistage stratified simple random sample*. SRS now covers entire country.

Finding of recent SRS (2013),

According to 23rdle of Park :-

- i) Crude Birth Rate (CBR) : 21.6 per 1000 mid-year population.
- ii) Crude Death Rate (CDR) : 7.0 per 1000 mid-year population.
- iii) Natural Growth Rate : 14.5 per 1000 mid-year population.
- iv) Infant Mortality Rate (IMR) : 42 per 1000 live births.

My main research topic (title) is per 1000 the number

177. Body mass index (BMI) is a ratio of body weight to ?

a) Height

b) Square root of height

c) Square of height

d) Cube of height

Correct Answer - C

Ans. is 'c' i.e., Square of height

Body mass index

Body mass index (BMI) is a simple index of weight for height that is commonly used to classify underweight, overweight and obesity in adults.

It is defined as the weight in kilograms divided by the square of height in metres.

178. Which is not a criteria for overcrowding ?

a) No. of persons

b) Sex separation

c) Door and window

d) Floor space

Correct Answer - C
Ans. is 'c' i.e., Door and window

179. Soiling index is measure for ?

a) Air pollution

b) Water pollution

c) Faecal contamination

d) Milk contamination

Correct Answer - A

Ans. is 'a' i.e., Air pollution

Monitoring of air pollution

- Monitoring of air pollution is done by : -
- Sulphur dioxide.
- Gritt and dust measurement.
- Co-efficient of haze.
- Air pollution index.
- *Smoke or soiling index*

180. Not included in numerator of dependency ratio?

a) 5 years age group

b) 10 years age group

c) 20 years age group

d) 70 years age group

Correct Answer - C

Ans. is 'c' i.e., 20 years age group

181. Not true about population pyramid ?

- a) India has broad base
- b) India has narrow base
- c) India has narrow apex
- d) Developing countries have bulge in the center

Correct Answer - B

Ans. is 'b' i.e., India has narrow base

In countries with high birth rates as ours, population pyramid is broad based conical (narrow apex) because of high birth rate and tapering of population with increase in age.

The pyramid of developing country (e.g. India) has a broad base and a tapering top.

In developed countries, the pyramid generally shows a bulge in the middle and has a narrower base (as in figure given in the question).

182. True about DPT vaccine ?

a) > 95% Efficacy

b) Prevent development of carrier

c) Prevent development of Diphtheria

d) Stored at -4° C

Correct Answer - B

Ans. is 'b' i.e., Prevent development of carrier

Diphtheria toxoid (in DPT) prevents development of disease by inducing antibody formation against diphtheria toxin (exotoxin) which is responsible for disease. But, it does not prevent carrier state as antibodies are not produced against organism and it can reside in nasopharynx.

183. Reliability of screening test does not mean ?

a) Reproducibility

b) Repeatability

c) Validity

d) Precision

Correct Answer - C

Ans. is 'c' i.e., Validity

Repeatability (reliability)

- Repeatability means, the test must give consistent results when it is repeated more than once on the same individual under same conditions.
- That means the results of test are precise (exact), So repeatability is some time called precision, reliability or reproducibility.

184. 1st case of which of the following was found in shimoga district of Karnataka ?

a) Yellow fever

b) Japanese encephalitis

c) KFD

d) Dengue fever

Correct Answer - C

Ans. is 'c' i.e., KFD

KFD was first recognized in 1957 in Shimoga district of Karnataka State in South India. Local inhabitants called the disease "monkey disease" because of its association with dead monkeys. The disease was later named after the locality-Kyasanur Forest- from where the virus was first isolated.

185. Which of the following is a differentiating feature of anopheles from aedes mosquito ?

a) Pupa has broad siphon

b) Eggs are oval shaped

c) Wings unspotted

d) Pupae are short

Correct Answer - A
Ans. is 'a' i.e., Pupa has broad siphon

186. Association of cause and effect testing in different settings by different methods to assess

a) Coherence

b) Specificity

c) Consistency

d) Strength

Correct Answer - C

Ans. is 'c' i.e., Consistency

Consistency of association

- The association is consistent if the results are replicated when studies in different settings and by different methods.
- For example, different studies in different settings have proved smoking as one of the cause for lung cancer → Smoking has consistent association with lung cancer.

187. Mother to child transmission in vectors is called?

a) Transovarian

b) Mechanical transmission

c) Propagative transmission

d) Cyclodevelopmental transmission

Correct Answer - A

Ans. is 'a' i.e., Transovarian

When the infectious agent is transmitted vertically from the infected female to her progeny in the vector, It is known as *transovarian transmission*.

Transovarian transmission is seen in :-

- *Scrub typhus*
- *Rickettsial pox*
- *Rocky mountain spotted fever*
- *Indian tick typhus*
- *Q. fever*
- *Yellow fever*

Note : In Q fever also, there is transovarian transmission in tick. (But no arthropod is involved in its transmission to man).

Also know

- Transmission of the disease agent from one stage of life cycle to another as for example nymph to adult is known as *trans-stadial transmission*.

188. Main recommendation of Jungalwalla committee?

a) Creation of multipurpose worker

b) Health survey and planning

c) 1 PHC for 50000 population

d) Integration of health services

Correct Answer - D

Ans. is 'd' i.e., Integration of health services

Health Planning in India

The guide lines for national health planning were provided by a number of committees.

These committees were appointed by the Government of India from time to time to review the existing health situation and recommend measures for further action.

189. NEERI headquarter is situated at ?

a) Delhi

b) Cuttack

c) Calcutta

d) Nagpur

Correct Answer - D

Ans. is 'd' i.e., Nagpur

National Environmental Engineering Research Institute (NEERI)
Headquarter is at Nagpur.

190. For survey of immunization by WHO age group selected is ?

a) 12 - 23 months

b) 0 - 6 months

c) 6 - 12 months

d) 2 - 5 years

Correct Answer - A

Ans. is 'a' i.e., 12 - 23 months

In the Expanded programme on Immunization (EPI) cluster technique, a simplified cluster sampling method is used.

- *It is based on random selection of 210 children who are 12-23 months of age.*
- *These patients are selected in 30 clusters of 7 children each to estimate immunization coverage levels.*

191. When two tests done together what is the result?

a) Increased sensitivity and specificity

b) Decreased sensitivity and specificity

c) Increased sensitivity, decreased specificity

d) Decreased sensitivity, increased specificity

Correct Answer - C

Ans. is 'c' i.e., Increased sensitivity, decreased specificity

Diagnostic test in 'Series mode'

- It means that a particular diagnostic test (or more than one diagnostic tests) are performed *sequentially*.
- *The pt. is considered positive for the diseases only when all the tests performed in the sequence give positive results.*
- Even if one of the test is negative [despite other tests being positive] the pt. is considered negative for diseases.
- Thus as quite apparent '*serial testing*' increases *specificity* but decreases the *sensitivity*.

Parallel testing

- In *parallel testing* multiple diagnostic tests are given *concurrently* and the pt is considered positive for disease if any of the tests give positive result.
- For example ECG and Echocardiography are two procedures used in the diagnosis of VSD. When used in Parallel mode the pt. will be considered to have VSD, if any of the test give positive result (even if the other test gives negative result)
- *[But if these two tests are used in 'series mode' then the pt. will be declared positive for VSD only if both the tests give positive result]*

For example

- Suppose 10 different diagnostic tests are used to diagnose a particular disease
- If test are used in *Series mode*
- *The pt. will be declared positive only when all the tests give positive result.*
- *Even if 9 tests give positive and one in negative pt. will be considered negative.*
- *Because even a single positive test is considered positive*
- *True positivity increases → Sensitivity increases.*
- If test are used in *Parallel Mode*
- *the pt will be declared positive if any of the tests give positive result.*
- *even if 9 tests are negative and one is positive pt. will be considered positive.*
- *As, even a single negative test rules out the disease Increase in true negative rate Specificity increases.*

192. Most common cause of meningococcal epidemic?

a) A

b) C

c) Y

d) W-135

Correct Answer - A

Ans. is 'a' i.e., A

Meningococcal meningitis (cerebrospinal fever)

- It is an acute communicable disease caused by *N. meningitidis*.
- Out of 13 serogroups, group A, B and C are most important. Group A is associated with epidemics and group C mostly with localized outbreaks, while group B causes both epidemics and outbreaks. Group 29-E, W-135 and Y also frequently cause meningitis.
- *Reservoir* → Human nasopharynx is the only reservoir
- *Source of infection* → carriers are the most important source of infection, not the clinical cases.
- *Age group* → Children between 3 months to 5 years.
- Outbreaks of meningococcal meningitis occur more frequently in the dry and cold months of the year.
- *Period of communicability* → until meningococci are no longer present in discharges from nose and throat. Cases rapidly lose their infectiousness within 24 hours of specific treatment.
- Meningococcal meningitis is a very fatal disease.
- *In untreated cases mortality is 80%.*
- *The disease is fatal in 5-10% of cases even with prompt antimicrobial treatment in good health care facility.*

193. In house with 9 susceptible individuals 1 gets infected and other two get infected after two days what is the secondary attack rate ?

a) 25%

b) 33%

c) 50%

d) 65%

Correct Answer - A
Ans. is 'a' i.e., 25%

194. Most common carcinoma in female worldwide ?

a) Cervix

b) Lung

c) Breast

d) Kidney

Correct Answer - C
Ans. is 'c' i.e., Breast

195. Validity, if a test is ?

a) Precise

b) Reproducible

c) Repeatable

d) Accurate

Correct Answer - D

Ans. is 'd' i.e., Accurate

Validity (Accuracy)

- The validity of a test is the extent to which it *accurately measures which it purports to measure*. In other words its the *ability to show which individuals have the disease in question and which do not*.
- Validity has two components - *sensitivity & specificity*. To be truly valid, a test should be highly sensitive, specific and unbiased.

196. Taking history of smoking in pregnant woman and following its effect on fetus is what ?

a) Case control

b) Prospective cohort

c) Retrospective cohort

d) Case report

Correct Answer - B

Ans. is 'b' i.e., Prospective cohort

o Prospective cohort study is one in which the outcome (e.g. disease) has not occurred at the time of investigation begins.

o In the given question, the outcome has not occurred at the time of investigation begins. Only history of risk factor exposure (smoking) is taken. Then outcome (effect on fetus) is followed in prospective.

o This is **classical prospective cohort study**.

Types of cohort studies

Prospective cohort study:

- Known as '*Current cohort study*' or '*Concurrent cohort study*'
- *Outcome has not yet occurred when the study has begun: Only exposure has occurred; we look for development of same disease in both exposed and non-exposed groups*

Examples :- *Framingham heart study, Doll & Hills prospective study on smoking & lung Cancer.*

Retrospective cohort study :

- Known as '*Historical cohort study*' or '*Non-concurrent cohort study*'
- *Combines advantages of both Cohort study and Case control study*
- *Both exposure as well as outcome have occurred when the study*

has begun: First we go back in time and take only exposure into consideration (cohorts identified from past hospital/ college records), then look for development of same disease in both exposed and non-exposed groups

- *Sample size required is same as that of prospective cohort study*
- Usually used in occupational cancer studies
- Examples :- Effect of fetal monitoring on neonatal death; PVC exposure and angiosarcoma of liver.
- *Combined prospective-retrospective cohort study :*
- Known as '*Mixed cohort study*'
- Combines designs of both prospective cohort study and retrospective cohort study
- *Both exposure as well as outcome have occurred when the study has begun:* First we go back in time and take only exposure into consideration (cohorts identified from past hospital/ college records), then look for development of same disease in both exposed and non-exposed groups; later cohort is followed prospectively into future for outcome
- Examples :- *Court-Brown & Doll Study on effects of radiation therapy.*

197. Kata Thermometer is used to measure ?

a) Maximum temperature

b) Minimum temperature

c) Radiant heat

d) Cooling power of air

Correct Answer - D

Ans. is 'd' i.e., Cooling power of air

198. Sex ratio in India is ?

a) 970

b) 960

c) 930

d) 940

Correct Answer - D
Ans. is 'd' i.e., 940

199. Index case is the ?

a) First case in a community

b) Case getting infection from primary case

c) Case getting infection from secondary case

d) First case detected by investigator

Correct Answer - D

Ans. is 'd' i.e., First case detected by investigator

- *Primary case* → First case of communicable disease introduced into the population.
- *Index case* → First case to come to attention of the investigator.
- It is not always necessary that primary case will be index case : -
 - i. When the first case noticed by the investigator is also the first case of the population → Primary case and index case are the same.
 - i. When the first case noticed by the investigator is not the first case of the population (primary case) → Index case and primary case are different.
- *Secondary cases* → Cases those developing from contact with primary case.

200. Village Health Guide measures the state of malnutrition in an under 5 child by using -

a) Mid arm circumference

b) Weight for age

c) Skin fold thickness

d) Height for age

Correct Answer - A

Ans. is 'a' i.e., Mid Arm Circumference

Midarm circumference is an *age independent*, easy, measure of the state of malnutrition, for children between the age group of *1-5 years*.

A circumference less than 12.5 cm is suggestive of moderate to severe malnutrition.

The use of Shakir's Tape has further simplified assessment of midarm circumference at the village level. This tape has shading in the three different colours, which indicate different levels nutrition : (M.A.0 = Mid arm circumference)

Red shading signifies $M.A.0 < 12.5$ and is an index of malnutrition

Yellow shading signifies $M.A.0 = 12.5$ to 13.5 and sets forth a warning

Green shading signifies $M.A.0 > 13.5$ and is indicative of adequate nutrition.

201. Repeatability of test refers to ?

a) Same results on repeated trials

b) Precision

c) Consistent results

d) All of the above

Correct Answer - D

Ans. is 'd' i.e., All of the above

Repeatability (reliability)

- Repeatability means, the test must give consistent results when it is repeated more than once on the same individual under same conditions.
- That means the results of test are precise (exact), So repeatability is some time called precision, reliability or reproducibility.

202. Which is not true about attitude ?

a) Adjustment

b) Knowledge

c) Cognition

d) Affect

Correct Answer - A

Ans. is 'a' i.e., Adjustment

Attitudes

- An attitude is a hypothetical construct that represents an individual's degree of like or dislike for an item.
- In simple words, *attitude means how a person expresses his/her likes and dislikes towards particular people, things, and occurrences.*
- Attitude can be positive, negative, or neutral.
- It is also common to have more than one of these feelings towards something → When that happens, for example, in the case of a person both likes and dislikes something at once, it is referred to as *ambivalent attitude*.
- An attitude includes three components :-
 - .. Cognitive (knowledge) element
 - }. *Affective (emotional or feeling) element*
 - }. A tendency to action

203. Which is not true about learning ?

a) Conscious

b) Temporary change in behaviour

c) Acquiring new fears

d) Formation of habits

Correct Answer - B

Ans. is 'b' i.e., Temporary change in behaviour

Learning

- Learning is any relative permanent change in behaviour that occurs as a result of practice or experience.
- It means acquiring something new- new knowledge, new techniques, new skills, new fears and new experiences.
- Learning is necessary for man's survival and for human progress.
- It includes not only acquiring knowledge but also skills and formation of habits, and development of perception.
- Learning depends largely upon intelligence.
- Learning also depends upon motivation, and motivation depends on the need students feel to learn.
- Learning is a continuous process. It is both conscious and unconscious.

204. Not true about IDSP ?

a) TB under regular surveillance

b) HIV under sentinel surveillance

c) Syndromic diagnosis by medical officer

d) Presumptive diagnosis by medical officer

Correct Answer - C

**Ans. is 'c' i.e., Syndromic diagnosis by medical officer
Integrated disease surveillance project (IDSP)**

- IDSP is a decentralized *state based* surveillance system intended to detect early warning signals of impending outbreaks and helps initiate an effective response in a timely manner in urban and rural areas.
- It will also provide essential data to monitor progress of on-going disease control programme and help allocate health resources more efficiently.
- It is a 5 years project and was launched in November 2004.

205. In malaria control, insecticide used for insecticide treated bed nets (ITBN)-

a) Deltamethrin

b) Malathion

c) Lindone

d) Fenitrothion

Correct Answer - A

Ans. is 'a' i.e., Deltamethrin

Insecticide Treated Bed Nets (ITBN) Programme (esp. deltamethrin) has resulted in significant decline in malaria incidence and API

- .. Average decline in anopheline mosquito density - 68%
- ?. Average decline in cuicine mosquito density - 50%
- }. Chemicals used in ITBN Programme : Synthetic pyretheroids
 - Deltamethrin : 2.5% in dosage of 25 mg/m²
 - .. Cyfluthrin: 5% in dosage of 50 mg/m²
 - ?. Other insecticides used : Permethrin, Lambdacyhalothrin, Etofenprox, Cypermethrin
- Effectiveness of pyrethroids: For 6-12 months (Retreatment every 6 months)
- Long-lasting insecticidal mosquito nets (LLINs) : Also use pyrethroid insecticides, and a chemical binder that allows the nets to be washed > 20 times, allowing use for > 3 years.

206. Main aim for treatment of TB ?

a) Prevention of complication

b) Prevention of disease transmission

c) Complete clinical cure

d) Complete bacteriological cure

Correct Answer - D

Ans. is 'd' i.e., Complete bacteriological cure

Chemotherapy is indicated in every case of active tuberculosis.

The objective of treatment is cure-that is, the elimination of both the fast and slowly multiplying bacilli from the patient's body.

The effects of chemotherapy are judged not by the anatomic healing of lesions, but mainly by the elimination of bacilli from the patient's sputum.

207. All are true of Reduced osmolarity ORS except?

a) Sodium 75 mmol/litre

b) Potassium 20 mmol/litre

c) Chloride 45 mmol/litre

d) Osmolarity 245 mmol/litre

Correct Answer - C

Ans. is 'c' i.e., Chloride 45 mmol/litre

Because of the improved effectiveness of reduced osmolarity ORS solution, WHO and UNICEF are recommending that countries manufacture and use the following formulation in place of the previously recommended ORS solution.

208. Denominator in general fertility rate is ?

a) All women between 15-45 year age

b) All married women between 15-45 year age

c) Total number of live births

d) Total number of all births

Correct Answer - A

Ans. is 'a' i.e., All women between 15-45 yr age

209. Richest source of vitamin B12 ?

a) Meat

b) Green leafy vegetables

c) Corn oil

d) Sunflower oil

Correct Answer - A
Ans. is 'a' i.e., Meat

210. True about mumps vaccine ?

a) Killed vaccine

b) Efficacy 95%

c) Only one dose is given

d) Not combined with other vaccines

Correct Answer - B

Ans. is 'b' i.e., Efficacy 95%

Mumps vaccine

- Highly effective live attenuated vaccine is now available for the prevention of mumps.
- Widely-used live attenuated mumps vaccine strains include the Jeryl-Lynn, RIT 4385, Leningrad-3, L-Zagreb and Urabe strains.
- Live attenuated mumps vaccine strains used only on a limited scale include the Hoshino, Torii and NKM-46 strains.
- The WHO recommends that the Rubini mumps vaccine strain should not be used in national immunization programmes because of its demonstrated low effectiveness.
- A single dose (0.5 ml) intramuscularly produces detectable antibodies in 95% of vaccines.
- The duration of long-term immunity is not known.
- It is recommended for routine immunization for children over 1 year of age, either alone or in combination with other virus vaccines, e.g. in MMR vaccine or as a quadrivalent vaccine with varicella.
- A second dose is recommended for children at 4-6 years of age i.e., before starting the school.
- The current mumps strain (Jeryl Lynn) has the lowest associated incidence of post vaccine aseptic meningitis (from 1 in 150,000 to 1 in 1.8 million).

- There are no known case of long-term sequelae associated with mumps vaccination.

211. True about measles outbreak ?

a) Occurs if proportion of susceptible children is $>20\%$

b) Infects 50% children in virgin community

c) Vaccination given at 6 months

d) Every 6-7 years

Correct Answer - C

Ans. is 'c' i.e., Vaccination given at 6 months

Epidemic of measles occur if proportion of susceptible children is $>40\%$.

If measles is introduced in a virgin community, it infects $>90\%$ of children.

Measles vaccine is given at the age of a months, but age can be lowered to 6 months in epidemics.

Measles shows a cyclic trend with epidemic every 2-3 years.

212. Suicide rate in India ?

a) 20 per 10000 population

b) 36 per lac population

c) 108 per lac population

d) 20 per 1000 population

Correct Answer - B

Ans. is 'b' i.e., 36 per lac population

Suicides have been increasing at an alarming rate in SEAR countries.

Incidence rates of 11 per lac population in Bangladesh, 36 per lac population in India, 8 per lac in Sri Lanka, and 22 per lac in Thailand; per year have been reported.

Nearly 70% of suicides in all countries have been reported in the age group of 15-34 years with male-female ratio of 1:1.2 to 1:3 from different countries.

Position, hanging, self-immolation and drowning are the most commonly reported methods of suicide.

In India, an average of 369 suicides take place every day, out of these 248 are committed by males and 121 by females (62 are house wives). Family problems (89) and illness (72) are the main cause of suicides. o Majority cases are below 29 years of age (136) followed by 30-44 years of age group (125).

213. Residual chlorine level after disaster like flood ?

a) 0.7 mg/litre

b) 1.5 mg/litre

c) 2 mg/litre

d) 3 mg/litre

Correct Answer - A

Ans. is 'a' i.e., 0.7 mg/litre

Principles of chlorination

- Water should be clear and free from turbidity. Turbidity impedes efficient chlorination.
- The chlorine demand of the water should be estimated. *It is the amount of chlorine that is needed to destroy bacteria and to oxidize all the organic matter and ammoniacal substances present in water.* Chlorine demand of water is the difference between the amount of chlorine added to the water and the amount of residual chlorine remaining at the end of specific period of contact (usually 60 minutes) at a given temperature and pH of the water.
- *The point at which the chlorine demand of the water is met is called break point chlorination. If further chlorine is added beyond break point, free chlorine begins to appear in water.*
- The presence of free residual chlorine for a contact period of at least one hour is essential to kill bacteria and virus.
- The minimum recommended concentration of free chlorine is 0.5mg/l for one hour. *This free residual chlorine provides margin of safety against subsequent microbial contamination.*
- The sum of the chlorine demand of the specific water plus the free

residual chlorine of .5 mg/L constitutes the correct dose of chlorine to be applied.

- It is worth noting here that recommended residual chlorine level for drinking water is 0.5 mg/ litre, while *for swimming pool sanitation it is 1.0 mg/ litre and for water bodies & post disaster it is 0.7 mg/litre.*

214. A pharma agent wants to introduce vaccine for 1 yr old and see its efficacy. The study design should be ?

a) Cohort study

b) Clinical trial

c) Field trial

d) None

Correct Answer - C

Ans. is 'c' i.e., Field trial

Experimental epidemiology (Epidemiological Experiments)

- Experimental epidemiology is also called *trial*. Broadly speaking, a trial refers to putting something to a test. This allows the term to be used in reference to a test of a treatment for the sick or a test of a preventive measure intended to avert illness, injury or disease.
- Therefore, the defining feature of an experimental study is its ability to allocate or assign interventions or treatment to experiment unit.
- In simple words, the study of a treatment (Drugs, surgical intervention) or preventive measure (e.g. vaccination) on living subjects is known as *experimental study or trial*.
- Assignment of treatments may be based on
 - i. *Randamization* → In randomized controlled trials
 - i. *Non-randmization trails*
- There are following types of experimental trials
 - .. *Clinical trials*: Used to evaluate treatment for people who are ill (e.g. a clinical trial of a chemotherapeutic agent)
 - ?. *Field trails*: Used to evaluate interventions to prevent disease in healthy people (e.g. a field trial of a vaccine).

3. *Community trial*: Used to evaluate community-wide intervention (e.g. a community trial of the effects of fluoridation of public water supply).
4. *Animal Study*: When clinical trials are done on animals (instead of human) is called animal study.
 - In an experimental study, the investigator assign individuals in experimental group and reference group and then follows the two groups for the outcome of interests. Therefore, *experimental study is prospective study*.
 - Before starting any experimental study the approval of ethics committee is required. The portocol of study is submitted to ethics committee and ethics committee gives approval to the studies which are ethical. So, all experimental studies are considered ethical (after taking approval of ethics committee). There are fewer ethical restrains on experimental study in animals than in human.

215. Study was conducted to see for role of radiation in leukemia, 100 patients selected among which 70 given history of exposure, among 100 controls 30 giving history of exposure. What is the bias in the study ?

a) Reporting bias

b) Recall bias

c) Interviewer bias

d) Hawthorne bias

Correct Answer - B

Ans. is 'b' i.e., Recall bias

Information (Observer or misclassification bias)

- Information bias is a type of cognitive bias
- Are when proportion of subjects misclassified on exposure or disease.
- Information bias occurs due to people's curiosity and confusion of goals when trying to choose a course of action.
- It may be of following types
 - i) Reporting bias**
 - Individual with severe disease tends to have complete records therefore more complete information about exposures and greater association found.
 - ii) Recall bias (memory bias)**
 - Those who have disease (cases) have a greater sensitivity for recalling exposure than those who dont have disease (controls).

iii) Interviewer bias

- Caused by the action of the interviewer, e.g., Interviewer generally devote more time to cases as compared to controls.

iv) Hawthorne bias (Attention bias)

- It is caused by change in behavior of human subjects of an experiment, simply because they know that they are being observed.
- For example, if we want to study the smoking as a risk factor for lung carcinoma and we take 2 groups (50 smokers and 50 nonsmoker) and follow them for 10 years. It may be possible that over the time study subjects may change their behavior, e.g. 5 out of 50 smokers quit smoking behavior. This will cause *Hawthorne bias*.
- It is quite obvious that Hawthorne effect will occur in prospective studies (where the study subject are being observed), e.g. in **Cohort Study**. This bias will not occur in retrospective study as the study subjects are not observed rather their history is taken.

216. Dimension of HDI which is measured to check good standard of living ?

a) Income

b) Knowledge

c) Lingeivity

d) Housing

Correct Answer - A

Ans. is 'a' i.e., Income

HDI is a composite index combining indicators representing three dimensions ?

- i. *Longevity (life expectancy at birth)*
- i. *Knowledge (Adult literacy rate and mean years of schooling, i.e. Gross enrolment ratio)*
- i. *Income (real GDP per capita in purchasing power parity in US dollars)*
- Among these three, income is included in standard of living.
- **Standard of living**
- It refers to the usual scale of our expenditure, goods we consume and services we enjoy.
- **It includes :?**
- i. *Income & occupation*
- i. *Standards of housing, sanitation & nutrition*
- i. *Level of provision of health, educational, recreational and other services.*
- Standard of living depends on ***per capita GNP***

217. The data of distribution of mortality in a specific geographical area in single year is depicted by ?

a) Scatter diagram

b) Line diagram

c) Pictogram

d) Histogram

Correct Answer - D

Ans. is 'd' i.e., Histogram

218. A factory of 30 persons has monthly wage bill of Rs 30000. According to ESI act they will pay for insurance every month ?

a) 1425 Rs

b) 525 Rs

c) 2000 Rs

d) 5000 Rs

Correct Answer - A

Ans. is 'a' i.e., 1425 Rs

Finance of ESI scheme

The scheme is run by contribution by employees and employers and grants from central and state governments?

- i. Employers contribution → 4.75% of total wages bills
- i. Employee contribution → 1.75% of total wages bills
- i. The state government's share of expenditure on medical care is $\frac{1}{8}$ of total cost of medical care.
- Factory will give 4.75% of 30000 (1425 Rs).

219. Not true about iodophores ?

a) Inorganic compounds

b) Release iodine

c) Surfactants

d) Disinfectant

Correct Answer - A

Ans. is 'a' i.e., Inorganic compounds

Iodine

- Iodine is *more sporicidal than chlorine*.
- Iodine is often used in aqueous and alcoholic solution as *skin disinfectant*.
- Aqueous and alcohol based *povidone iodine preparations (Betadine)* are *best and safe skin disinfectants (antiseptics)*.
- *Iodophores* are organic compounds that slow the release of iodine.
- The iodophores additionally serve as surfactants, thus increasing penetration while simultaneously steadily supplying iodine over long periods.
- So, iodophores are more active.

220. A child requires how much energy per day (Kcal/ day)?

a) 1000-1500

b) 1600-2000

c) 2000-2500

d) 2500-3000

Correct Answer - A
Ans. is 'a' i.e., 1000-1500

221. Primary Health Care includes all, except ?

a) Proper housing

b) Equitable distribution

c) Intersectoral coordination

d) appropriate technology

Correct Answer - A

Ans. is 'a' i.e., Proper housing

Primary health care

- "Primary health care is essential health care made universally accessible to individuals and acceptable to them, through their full participation and at a cost the community and country can afford."
- There are 4 main principles of primary health care :
 1. Equitable distribution
 2. Community participation
 3. Intersectoral coordination
 4. Appropriate technology
- Primary health care involves: health care of mother and child, immunization, prevention and control of locally endemic diseases, as well as appropriate treatment of common diseases and injuries. However, it is not essential to deliver these elements through the agencies of doctors under the primary health care. Root level workers, such as village health guides, are appropriately trained to deliver these elements, at the village level.

222. Which of the following correctly defines prevalence ?

- a) New case at a time in a population
- b) Old cases at a time in a population
- c) All cases at a time in a population
- d) Subclinical cases at a time in a population

Correct Answer - C

Ans. is 'c' i.e., All cases at a time in a population

Prevalence

Prevalence refers specifically to all current cases (old and new) existing at a given point in time or over a period of time in a given population.

"The total number of all individuals who have an attribute or disease at a particular time (or during a particular period) divided by the population at risk of having the attribute or disease at this point in time or midway through the period".

223. Primordial prevention is ?

a) Early diagnosis and treatment

b) Prevention of development of disease

c) Prevention of development of risk factors

d) Rehabilitation

Correct Answer - C

Ans. is 'c' i.e., Prevention of development of risk factors

224. Denominator in dependency ratio ?

a) 0-5 years

b) 5-14 years

c) > 65 years

d) 15-65 years

Correct Answer - D
Ans. is 'd' i.e., 15-65 years

225. Kanawati index is used for ?

a) Air population

b) PEM

c) Obesity definition

d) Infectivity

Correct Answer - B

Ans. is 'b' i.e., PEM

Kanawati index is used to classify protein energy malnutrition (PEM).

226. Lead time is defined is ?

- a) Time between diagnosis and treatment
- b) Time between point where the diagnosis is made by screening test to usual diagnosis
- c) Time between disease onset and outcome
- d) Time between usual time of diagnosis and outcome

Correct Answer - B

Ans. is 'b' i.e., Time between point where the diagnosis is made by screening test to usual diagnosis

The lead time is the time period between diagnosis by early detection (i.e., earliest point of diagnosis by screening test) and diagnosis by standard diagnostic tests.

Lead time is the advantage gained by screening.

227. Denominator in specificity ?

a) True positive + False negative

b) True positive + False positive

c) True negative + False positive

d) True negative + False negative

Correct Answer - C

Ans. is 'c' i.e., True negative + False positive

228. Failure rate of female condom ?

a) < 1 per 100 women-years

b) 1-5 per 100 women years

c) 5-20 per 100 women years

d) 20-40 per 100 women years

Correct Answer - C

Ans. is 'c' i.e., 5-20 per 100 women years

Female condom

- The female condom is a pouch made of polyurethane, which lines the vagina.
- An internal ring in the close end of the pouch covers the cervix and an external ring remains outside the vagina.
- It is prelubricated with silicon, and a spermicide need not be used.
- It is an effective barrier to STD infection.
- However, high cost and acceptability are major problems.
- The failure rates during the first year use vary from 5 per 100 women-years pregnancy rate to about 21 in typical users.

229. NRHM was started by ?

a) Ministry of Education

b) Ministry of Finance

c) Ministry of Home affairs

d) Government of India

Correct Answer - D

Ans. is 'd' i.e., Government of India

National Rural Health Mission (NRHM)

- Government of **India** launched NRHM on 5th April, 2005 for a period of 7 years (2005-2012).
- The mission seeks to improve rural health care delivery system.
- The main aim of NRHM is to provide accessible, affordable, accountable, effective and reliable primary health care and bridging the gap in rural health care through creation of a cadre of *Accredited Social Health Activist (ASHA)*.
- The schedule of implementation of major components of NRHM are as following (40) :
 1. Merger of multiple societies and constitution of district/state mission.
 2. Provision of additional generic drugs at SC/PHC/CHC level.
 3. Operational programme management units.
 4. Preparation of village health plans.
 5. *ASHA at village level (with drug kit)*
 6. Upgrading of rural hospital
 7. Operationalising district planning
 8. Mobile medical unit at district level
- The Goals to be achieved by NRHM (40)
 - A. National level**
 - Infant mortality rate reduced to 30/1,000 live births.

- Maternal mortality ratio reduced to 100/100,000.
- Total fertility rate reduced - 50% by 2010, additional 10% by 2012.
- Malaria mortality rate reduction -50% by 2010 additional 10% by 2012.
- Kala-azar mortality rate reduction - 100% by 2010 and sustaining elimination until 2012.
- Filarial/microfilaria rate reduction - 70% by 2010, 80% by 2012 and elimination until 2015.
- Dengue mortality rate reduction - 50% by 2010 and sustaining at that level until 2012.
- Japanese encephalitis mortality rate reduction - 50% by 2010 and sustaining at that level until 2012.
- Cataract operation : increasing to 46 laths per year by 2012.
- Leprosy prevalence rate : from 1.8/10,000 in 2005 to less than 1/10,000 thereafter.
- Tuberculosis DOTS services : maintain 85% cure rate through entire mission period.
- Upgrading community health centres to Indian public health standards.
- Increase utilization of first referral units from less than 20% to 75%.
- Engaging 250,000 female accredited social health activists (ASHA) in 10 states.

B. At community level

- Availability of trained community level worker at village level, with a drug kit for general ailments.
- Health day at anganwadi level on a fixed day/month for provision of immunization, ante/post natal checkups and services related to mother and child healthcare, including nutrition.
- Availability of generic drugs for common ailments at subcentre and hospital level.
- Good hospital care through assured availability of doctors, drugs and quality services under the programme.
- *Improved facilities for institution deliver through* provision of referral, transport, escort and improved hospital care subsidized under the janani suraksha yojana for the below poverty line families.
- Availability of assured healthcare at reduced financial risk through pilots of community health insurance under the mission.

- Provision of household toilets.
- Improved outreach services through mobile medical unit at district level.

230. Carbohydrate requirement in ideal balanced diet?

a) 10-20% of total energy intake

b) 20-30% of total energy intake

c) 40-50% of total energy intake

d) 50-70% of total energy intake

Correct Answer - D

Ans. is 'd' i.e., 50-70% of total energy intake

**231. Normal body temperatures is 98° F.
Standard deviation is 1. For 95% of
persons lower limit of body temperature
?**

a) 97° F

b) 96° F

c) 95° F

d) 94° F

Correct Answer - B
Ans. is 'b' i.e., 96° F

232. Two groups are tested for anemia. Which test should be used ?

a) Paired T-test

b) Unpair T-test

c) Chi-square test

d) ANOVA

Correct Answer - C

Ans. is `c' i.e., Chi-square test

Observations in the given question are in the form of qualitative data (anemia present or not).

Thus Chi-square test should be used.

Chi square test

- Is used when the *observation are in the form of proportions* (for qualitative data)
- The outcome are in clear cut answers; *yes or no*. As in the example *the HBsAg is either present or not present*. In contrast when the observation is normally distributed in the population e.g blood pressure, blood sugar ; student test is used.
- In the example comparing the occurrence of hepatitis B surface antigen in medical and dental students, use of chi square analysis is appropriate because the outcome variables are dichomatous. *Students are classified by the presence or absence of HBsAg.*

Student t test

- is used *when the outcome variable is normally distributed in population* (for quantitative data) e.g blood pressure, blood glucose.
- In the example student t test is used to assess the difference between mean systolic pressure of pregnant and non pregnant women (to know the effect of pregnancy on mean systolic blood

pressure) because *mean systolic blood pressure is normally distributed in the population*. Every single lady has a mean systolic blood pressure. It may be low or high, but she has a value of mean systolic blood pressure.

Students t test may be following types:

- i. *Unpaired t test (Independent t test)* : It compares the mean of two small samples: The data is unpaired from two *independent sample*. for example, blood sugar concentration is measured in two different group (A group of 10 patients and other group of 8 patient). To test the significance of difference between the means of the two groups, unpaired *t* test is used.
- i. *Paired t test* : It compares the mean in *paired data, before and after the intervention from same sample*. For example, Blood sugar level in a sample of 10 patients is measure before giving and after giving the oral hypoglycemic. In this condition paired *t* test is used.

Chi-square test Vs Student t test

- In the example student t test is used to assess the difference between mean systolic pressure of pregnant and non pregnant women (to know the effect of pregnancy on mean systolic blood pressure) because *mean systolic blood pressure is normally distributed in the population*. Every single lady has a mean systolic blood pressure. It may be low or high, but she has a value of mean systolic blood pressure.
- But suppose we change the example in a way that we make a clear cut definition of hypertension (such as mean systolic blood pressure over 140 mm of Hg will be taken to be hypertension) and then look for hypertension among pregnant and non-pregnant women.
- The test now used to analyse the outcome will be *chi square test* since the outcomes are now in the form of *dichomatous data* i.e yes or no (*a woman is either hypertensive or not hypertensive. This is in contrast to mean systolic blood pressure which was normally distributed among ladies; every lady had one value of mean systolic blood pressure*).

Analysis of Variance (ANOVA) (F test/ F ratio)

- ANOVA is considered as an extension of the student t test for the significance of the difference between two sample means. The student *t* test can be used only for making just one comparison

(between two sample means), or between a sample mean and hypothesized population mean. *ANOVA is used when more than one comparison is to be made (When means of more than two groups are being compared).*

- For example, BP is measured in more than two groups of men (married, unmarried, widowed, separated and divorced). In this situation ANOVA test is best.

233. The study of smoking as a cause of lung cancer, 90 cases were taken, 75 were smokers and among 100 controls 40 were smokers. Calculate the odds ratio ?

a) 2

b) 4.5

c) 7.5

d) 10

Correct Answer - C

Ans. is 'c' i.e., 7.5

Odds ratio is cross product of entries in the table.

So, it is very important to make a correct table construct ?

i) History of exposure (risk factor) is arranged on left column (row).

ii) Disease is arranged on the top ?

a) Cases in middle column (row)

b) Controls in right column (row)

234. A village with 10000 population 250 suffered from malaria out of which 50 dead, another 100 suffered from dengue out of which 30 died in 2013 case fatality rate of dengue is ?

a) 40

b) 80

c) 30

d) 70

Correct Answer - C
Ans. is 'c' i.e., 30

235. All of the following indicators are included in Physical Quality of Life Index (PQLI) except ?

a) Infant mortality rate

b) Life expectancy at age one

c) Literacy rate

d) Per capita income

Correct Answer - D

Ans. is 'd' i.e., Per capita income

The index for quality of life is "*Physical quality of life index (PQLI)*". The PQLI is an attempt to measure quality of life or well-being of a country.

Physical quality of life index consolidates three indicators :?

i) Literacy rate

ii) Infant mortality rate

iii) Life expectancy at age 1 year (LE)

PQLI ranges from 0 to 100.

PQLI in India is 65.

236. High stationary stage of Demography cycle is characterized by ?

a) High birth rate, low death rate

b) Low birth rate, high death rate

c) Low birth rate, low death rate

d) High birth rate, high death rate

Correct Answer - D

Ans. is 'd' i.e., High birth rate, high death rate

237. Calculate BMI if weight in kilograms is 98 and height in centimeters is 175 ?

a) 28

b) 32

c) 36

d) 40

Correct Answer - B
Ans. is 'b i.e., 32

238. Disease under international surveillance ?

a) Rabies

b) Mumps

c) Hepatitis

d) Tetanus

Correct Answer - A

Ans. is 'a' i.e., Rabies

Diseases under international surveillance (WHO)

- Rabies
- poliomyelitis
- Salmonellosis
- Louse born typhus fever
- Malaria
- Relapsing fever
- Human influenza

239. Mean, Median and mode all are zero. The type of distribution is ?

a) Standard normal

b) Negatively skewed

c) Positively skewed

d) J shaped

Correct Answer - A
Ans. is 'a' i.e., Standard normal

240. OKA strain is used to produce vaccine for ?

a) Mumps

b) Measles

c) Japanese encephalitis

d) Chickenpox

Correct Answer - D
Ans. is 'd' i.e., Chickenpox

241. Gross fertility rate is ?

- a) Number of children a women has during reproductive period
- b) Number of female children a woman has during reproductive period
- c) Number of male children a woman has during reproductive period
- d) Total number of live birth per 1000 women 1544 years age

Correct Answer - B

Ans. is 'b' i.e., Number of female children a woman has during reproductive period

Gross reproduction rate (GRR) :

Average number of girls that would be born to a married woman if she experiences the current fertility pattern throughout her reproductive span (15-44 or 49 year) assuming no mortality.

242. Median is ?

a) Middle most value in sequentially arranged data

b) Most frequently occurring value in a data set

c) Highest value in a data

d) Lowest value in a data

Correct Answer - A

Ans. is 'a' i.e., Middle most value in sequentially arranged data

The median

A median is described as the value separating the higher half of a data set from the lower half. It does not depend on the total, and number of items.

To obtain the median, the data is first arranged in an ascending or descending order of magnitude, and then the value of the middle observation is located, which is called median.

For example, diastolic BP of 9 individuals was as follows ?

83, 75, 81, 79, 71, 95, 75, 77, 84

Now data is arranged in ascending order ?

71, 75, 75, 77, 79, 81, 83, 84, 95

Here, 79 is the middle observation that is separating the upper four values from lower four values, so it is the median.

If there are two values in the middle instead of one, the median is worked out by taking the average of the two middle values.

For example, If diastolic BP of 10 individuals is as follows :?

83, 75, 81, 79, 71, 95, 75, 77, 84, 90

Data is arranged in ascending order -

71, 75, 75, 77, 79, 81, 83, 84, 90, 95

243. The reference protein is ?

a) Fish

b) Egg

c) Rice

d) Lemon

Correct Answer - B

Ans. is 'b' i.e., Egg

Eggs are used in nutrition studies as a "reference protein" as eggs proteins are considered to be the best among food proteins because of their high biological value and digestibility.

So NPU is also high because it is the product of biological value and digestibility coefficient divided by 100.

244. Pulse proteins are deficient in?

a) Methionine

b) Lysine

c) Threonine

d) All

Correct Answer - A
Ans. is 'a' i.e., Methionine

245. Using seatbelt is which level of prevention ?

a) Primary

b) Secondary

c) Tertiary

d) Rehabilitation

Correct Answer - B
Ans. is 'b' i.e., Secondary

246. Advantage of cohort study ?

a) Involves fewer number of subjects

b) Inexpensive

c) Suitable for rare disease

d) More than one outcomes can be studied

Correct Answer - D

Ans. is 'd' i.e., More than one outcomes can be studied

247. Relative risk is define as ?

- a) Incidence of disease among exposed minus incidence of disease among non-exposed
- b) Incidence of disease among exposed plus incidence of disease among non-exposed
- c) Incidence of disease among exposed divided by incidence of disease among non-exposed
- d) None of the above

Correct Answer - C

Ans. is 'c' i.e., Incidence of disease among exposed divided by incidence of disease among non-exposed

248. Immunization schedule after dog bite ?

a) 0, 7, 21

b) 0, 3, 7, 14, 28, 90

c) 0, 3

d) None

Correct Answer - B

Ans. is 'b' i.e., 0, 3, 7, 14, 28, 90

249. Formula for Quetelet's index ?

a) Weight divided by height

b) Height divided by cube root of weight

c) Height minus 100

d) Weight divided by square of height

Correct Answer - D

Ans. is 'd' i.e., Weight divided by square of height

250. Cereals are rich in which amino acid ?

a) Lysine

b) Threonine

c) Tryptophan

d) Methionine

Correct Answer - D

Ans. is 'd' i.e., Methionine

"Pulses have high lysine content and are deficient in methionine; on the other hand cereals have an abundance of methionine"

251. False rejection of a true null hypothesis is due to?

a) Type II error

b) Type I error

c) Beta error

d) Error of second kind

Correct Answer - B

Ans. is 'b' i.e., Type I error

Statistical errors

- Statistical errors are used to describe possible errors made in statistical decision.
- Before reading about the types of error you must know null hypothesis because these tests are related to null hypothesis.
- *Null hypothesis says* → Any kind of difference or significance you see in a set of data is due to chance and not significant that means there is no variation (difference) exists between variables.
- Null hypothesis testing (e.g., in Chisquare test) is used to make a decision about whether : -
 - i) *The data contradict the null hypothesis* → That means there is true difference (which is significant) between variables and it is not due to chance.

Or

ii) *The data approve the null hypothesis* There is no difference between variables and the difference you see is due to chance.

Now see types of error :?

- There are two basic type of statistical errors : ?
 - ∴ *Type I error*
 - ∴ *Type II error*

Type I error

- It is also known as an *error of first kind* or *a-error* or *false positive*.
- This type of error rejects null hypothesis when it is true → *False rejection of null hypothesis*.
- That means in real there is no difference (as null hypothesis says) but we observe a difference (by rejecting the null hypothesis due to error).
- In very simple words "we observe a difference when it is not true" → *false positive*.
- One of the simplest example of this would be if a test shows that a women is pregnant when in reality she is not, i.e., she is false positive for pregnancy.
- *Probability* of type-I error is given by '*P-value*' (probability of declaring a significant difference when actually it is not present).
- *Significance (a) level* is the maximum tolerable probability of type I error.
- *Significance (a) level is fixed in advance* and calculation of *P value* (probability of type I error) can be less than, equal to or greater than the significance (a) level.
- If the probability of type I error (*P -value*) is less than significance (a) level, the results are declared statistically significant.
- Therefore, to declare the results statistical significant, type I error (a-level) should be kept to minimum [below significance (a) level].
- Type I error is more serious that type II error.

Type II error

- It is also known as an error or *second kind* or *A-error* or *false negative*.
- This type of error accept/fail to reject the null hypothesis when it is false *False acceptance of null hypothesis*.
- That means we fail to observe a difference when in truth there is one → *False negative*.
- An example of this would be if a test shows that a woman is not pregnant when in reality she is i.e., she is false negative.

252. Louse transmits ?

a) Epidemic typhus

b) Endemic typhus

c) Murine typhus

d) Rickettsial pox

Correct Answer - A
Ans. is 'a' i.e., Epidemic typhus

253. Tiger mosquito is ?

a) Anopheles

b) Mansonia

c) Aedes

d) Culex

Correct Answer - C
Ans. is 'c' i.e., Aedes

254. Spot map was devised by ?

a) Louis pasteur

b) Ronald Ross

c) David Moley

d) John snow

Correct Answer - D

Ans. is 'd' i.e., John snow

John Snow (1813-1858) found the link between cholera and contaminated drinking water in 1854, using spot map.

255. Gomez classification is based on ?

a) Weight retardation

b) Height retardation

c) Mid arm circumference

d) Stunting

Correct Answer - A

Ans. is 'a' i.e., Weight retardation

256. The law stating that "the relative frequency of each gene allele tend to remain constant from generation to generation" is known as ?

a) Mendel's law

b) Hardy-Weinberg law

c) David-Morgan's law

d) Lamarck's law

Correct Answer - B

Ans. is 'b' i.e., Hardy-Weinberg law

Hardly-Weinberg law

- The hardly-weinberg law states that "*The relative frequencies of each gene allele tends to remain constant from generation to generation*".
- Thus, the study of gene frequencies, and the influences which operate to alter the "gene pool" and their long term consequences is the central theme in *population genetics*.

257. Correlation coefficient +1 means ?

- a) Very weak positive correlation
- b) Moderate positive correlation
- c) Very strong positive correlation
- d) Strong positive correlation

Correct Answer - C

Ans. is 'c' i.e., Very strong positive correlation

A correlation simply expresses the strength and direction of the relationship between two variables in terms of a correlation coefficient, signified by 'C'.

Values of r varies from -1 to +1.;

The strength of the relationship is indicated by the size of the coefficient , whereas its direction is indicated by the sign (+ or -)

A plus sign (+) means : That there is a positive correlation between the two variables - high values of one variable (such as salt intake) are associated with high value of the other variable (such as blood pressure) i.e salt intake is directly proportional to blood pressure.

A negative sign (-) means : That there is a negative correlation between the two variables - high values of one variables (such as cigarette consumption) are associated with low values of the other (such as life expectancy). Cigarette consumption is inversely proportional to life expectancy

If there is a perfect linear relationship between the two variables so that it is possible to know the exact value of one variable from the knowledge of other variable, the correlation coefficient (r) will be exactly + or - 1.00 (+1 or -1).

If there is absolutely no relationship between the two variables so that it is impossible to know anything about one variable on the basis of knowledge of the other variable. Then the coefficient will be 0

of knowledge of the other variable. Then the coefficient will be 0.

258. An epidemiological hypothesis should specify the following except ?

a) Population

b) Time response relationship

c) Geographical trends

d) Expected outcome

Correct Answer - C

Ans. is `c' i.e., Geographical trends

An epidemiological hypothesis should specify : -

- The population
- The expected outcome
- The time response relationship
- The specific cause
- The dose response relationship

259. All of the following are true about case control study except ?

a) Rapid and inexpensive

b) No risk to subjects

c) Risk factor can be identified

d) Less prone to bias

Correct Answer - D
Ans. is 'd' i.e., Less prone to bias

260. Odds ration is designated as ?

a) ab/cd

b) ac/bd

c) bd/ac

d) ad/bc

Correct Answer - D

Ans. is 'd' i.e., ad/bc

Odds - ratio (cross product ratio)

- From a case control study odds ratio can be derived which a measure of the strength of association between risk factor and outcome.
- Odds ratio is closely related to relative risk (which is analysed in cohort study) → odds ratio represents *only an estimate of relative risk*.

261. Positive predictive value depends on all except ?

a) Sensitivity

b) Specificity

c) Prevalence

d) Incidence

Correct Answer - D

Ans. is 'd' i.e., Incidence

Positive predictive value (PPV) of a screening test depends on :

-

i. *Sensitivity*

i. *Specificity*

i. *Prevalence of disease*

- As the sensitivity and specificity of a test are relatively constant, positive predictive value is mainly dependent on the prevalence of disease.

262. Type of study in risk factor associated with multiple diseases ?

a) Cohort study

b) Case control study

c) Ecological study

d) Clinical trial

Correct Answer - A

Ans. is 'a' i.e., Cohort study

In case control study we proceed from effect to cause by taking history. It is possible to take history of exposure of multiple risk factors → multiple risk factors can be identified for a single disease. In cohort study we start by exposing the study cohort to a particular risk factor and then follow up the cohort for the occurrence of disease. So, several possible outcomes related to exposure can be studied simultaneously → we can study the association of the suspected factor with many other disease in addition to the one under study.

- *Case control study* → can identify multiple risk factors.
- *Cohort study* → can identify multiple outcome (disease).

263. Current infant mortality rate in India ?

a) 29 per 1000 live births

b) 42 per 1000 live births

c) 50 per 1000 live births

d) 20 per 1000 live births

Correct Answer - B

Ans. is 'b' i.e., 42 per 1000 live births

264. The correct sequence of phases of public health history in India is ?

a) Disease control → Health promotion → Social engineering phase → Health for All phase

b) Health promotion → Social engineering phase → Health for All phase → Disease control

c) Social engineering phase → Health for All phase → Disease control → Health promotion

d) Health for All phase Disease control → Health promotion → Social engineering phase

Correct Answer - A

Ans. is 'a' i.e., Disease control → Health promotion → Social engineering phase → Health for All phase

Following is the correct sequence of correct phases of public health history in India:

- i. Disease control phase [1880-1920]
- ii. Health promotional phase [1920-1960]
- iii. Social engineering phase [1960-1980]
- iv. Health for All phase [1981-200 A. D.]

265. Minimum number of ANC visits required as per 2010 MOHFW (Ministry of Health and Family Welfare) guidelines ?

a) 1

b) 2

c) 3

d) 4

Correct Answer - D

Ans. is 'd' i.e., 4

Now, at least 4 antenatal visits, during pregnancy, are recommended.

266. WHO defines adolescent age between ?

a) 10-19 years of age

b) 10-14 years of age

c) 10-25 years of age

d) 9-14 years of age

Correct Answer - A

Ans. is 'a' i.e., 10 - 19 Years of age

267. Cereal protein is deficient in which amino acid

a) Leucine

b) Lysine

c) Phenylalanine

d) Tryptophan

Correct Answer - B

Ans. is 'b' i.e., Lysine

Supplementary action of proteins

- Cereals are deficient in essential amino acid *Lysine & threonine*.
- Pulses are deficient in essential amino acid Methionine.
- *So if cereals are eaten with pulses, their proteins complement each other & provide a more balanced and complete protein intake.*

268. In the list of bioterrorism which of the following belongs to category A ?

a) Plague

b) Brucella

c) SARS

d) E. coli 157: H7

Correct Answer - A

Ans. is 'a' i.e., Plague

Bioterrorism

- A bioterrorism attack is the deliberate release of viruses, bacteria, or other germs (agents) used to cause illness or death in people, or plants. These agents are typically found in nature, but it is possible that they could be changed to increase their ability to cause disease, make them resistant to current medicine, or to increase their ability to be spread into the environment. Biological agents can be spread through the air, through water, or in food. Terrorists may use biological agents because they can be extremely difficult to detect and do not cause illness for several hours to several days. Some bioterrorism agents, like the smallpox virus, can be spread from person to person and some, like anthrax, can not.

Bioterrorism Agent Categories

- Bioterrorism agents can be separated into three categories, depending on how easily they can be spread and the severity of illness or death they cause. Category A agents are considered the highest risk and Category C agents are those that are considered emerging threats for disease.

Category A

- These high-priority agents include organisms or toxins that pose the

highest risk to the public and national security because:

1. They can be easily spread or transmitted from person to person
2. They result in high death rates and have the potential for major public health impact.
3. They might cause public panic and social disruption
4. They require special action for public health preparedness.

Category B

- These agents are the second highest priority because
 1. They are moderately easy to spread
 2. They result in moderate illness rates and low death rates
 3. They require specific enhancements of CDC's laboratory capacity and enhanced disease monitoring. Category C
- These third highest priority agents include emerging pathogens that could be engineered for mass spread in the future because:
 1. They are easily available
 2. They are easily produced and spread
 3. They have potential for high morbidity and mortality rates and major health impact.

269. Janani Suraksha Yojana is applicable to poor women of low performing states for ?

a) First 2 pregnancies

b) First 3 pregnancies

c) First 2 live births

d) All births

Correct Answer - D

Ans. is 'd' i.e., All births

Janani Suraksha Yojana

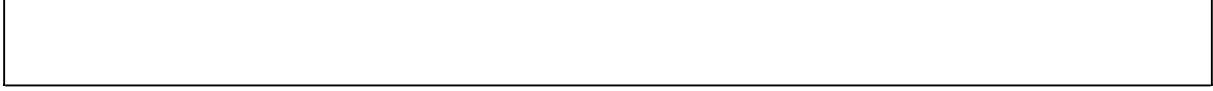
The National Maternity Benefit scheme has been modified into a new scheme called Janani Suraksha Yojana.

It was launched on 12th April, 2005.

The objectives of scheme are reducing maternal and infant mortality through encouraging delivery at health, institutions, and focusing at institutional care among women in below poverty line.

Salient features of JSY:

1. It is 100% centrally sponsored
2. It combines 'benefit of cash assistance with institutional care'
3. Eligibility of cash assistance.
4. *In low performing states (LPS)* : All women undergoing institutional deliveries
5. *In high performing states (HPS)* : Below poverty line women aged 19 years and above; SC/ST pregnant women
6. Limitation of cash assistance
7. *In low performing states (LPS)* : All births in institutions
8. *In high performing states (HPS)* : upto 2 live births.



270. Time interval between inoculation of infection to maximum infectivity is ?

a) Lead time

b) Median incubation period

c) Generation time

d) Serial interval

Correct Answer - C

Ans. is 'c' i.e., Generation time

Generation time → Period from receipt of infection to maximal infectivity.

Serial interval → Gap between onset of primary case and secondary case.

271. True about measles are all except ?

a) Koplik's spots is pathognomonic

b) Source is a case

c) Infectivity is low

d) Affect age group 1 to 3 years

Correct Answer - C

Ans. is 'c' i.e., Infectivity is low

Measles has high infectivity with secondary attack rate of 80%.

Other options are correct.

272. True about Chick-Martin test ?

a) Phenol is taken as standard

b) Test for efficacy of disinfectant

c) Disinfection in presence of organic matter

d) All of the above

Correct Answer - D

Ans. is 'd' i.e., All of the above

There is no reliable test available to determine the efficacy of a disinfectant.

- This is due to the number of parameters which influence disinfectant activity.
- Traditionally in such tests phenol is taken as the standard.
Two important tests are :-
 - i) Rideal-Walker test
- Suspensions containing equal numbers of typhoid bacilli are submitted to action of varying concentration of phenol and of the disinfectant to be tested.
- The dilution of test disinfectant which sterilises the suspension in given time, divided by the corresponding dilution of phenol, is stated as the phenol coefficient of disinfectant (phenol-1).
- In this test disinfectant react directly *without any organic matter* being present.
 - ii) Chick-Martin test
- In this, the disinfectant *acts in the presence of organic matter* (dried yeast or feces).

273. Not a copper containing IUD ?

a) CuT-200

b) Nova -T

c) Multiload-250

d) LNG-20

Correct Answer - D

Ans. is `d i.e., LNG-20

LNG-20 is third generation IUD which does not contain copper.

Other three options are 2nd generation (copper containing) IUDs.

274. Mental Health Act was passed in ?

a) 1982

b) 1987

c) 1971

d) 1950

Correct Answer - B
Ans. is 'b' i.e., 1987

275. Index of operational efficiency of Malaria ?

a) API

b) ABER

c) Infant parasite rate

d) Spleen rate

Correct Answer - B

Ans. is 'b' i.e., ABER

Annual blood examination rate (ABER) is an index of operational efficiency.

276. All of the following are components of Epidemiological triad except ?

a) Environment

b) Agent

c) Host

d) Manpower

Correct Answer - D

Ans. is 'd' i.e., Manpower

Epidemiological triad

- The occurrence and manifestations of any disease, whether communicable or noncommunicable, are determined by the interaction of following three factors.
 1. *The agent*
 2. *The host*
 3. *The environment*

277. True about rash of chicken pox ?

a) Deep seated

b) Centripetal

c) Affects palm & sole

d) Slow evolution

Correct Answer - B
Ans. is 'b' i.e., Centripetal

278. In MCH programme, best indicator for mother and child health ?

a) MMR

b) IMR

c) Still birth rate

d) Neonatal mortality rate

Correct Answer - B

Ans. is 'b' i.e., IMR

IMR is best indicator for:-

1. Health status of a community.
2. Level of living.
3. *Effectiveness of MCH services.*

IMR is second best indicator of socioeconomic status of country (under 5 mortality rate is more refined indicator for socioeconomic status).

279. Screening under RNTCP emphasizes on:

a) Sputum microscopy

b) Chest X-ray

c) PCR

d) Sputum culture

Correct Answer - A

Ans. a. Sputum microscopy

Over-reliance on chest X-ray was a draw back of National Tuberculosis Programme (NTP) which was over come by Revised National Tuberculosis Control Programme(RNTCP) which started diagnosing patient by sputum microscopy

'A nation-wide network of RNTCP quality assured designated sputum smear microscopy laboratories has been set up, providing appropriate, available, affordable and accessible diagnostic services for TB suspects and cases.

280. The provisions under Janani Shisna Suraksha Karvakram (.1SSK) include all of the following except:

a) Free food to the mother in the hospital

b) Cash incentive for institutional deliveries

c) Free transport to the mother and baby to/from hospital

d) Free treatment of the neonate and infant in all public health facilities

Correct Answer - B

Ans. b. Cash incentive for institutional deliveries

Janani-Shishu Suraksha Karyakram (JSSK):

- The initiative entitles all pregnant women delivering in public health institutions to absolutely free and no expense to delivery, including cesarean section.
- The entitlements include free drugs and consumables, free diet up to 3 days during normal delivery and up to 7 days for cesarean section, free diagnostics, and free blood wherever required.
- This initiative also provides for free transport from home to institution, between facilities in case of referral and drop back home.
- Similar entitlements have been put in place for all sick newborns accessing public health institutions for treatment till 30 days after birth.
- This has been expanded to cover sick infants
- The scheme aims to eliminate out of pocket expenses incurred by the pregnant women and sick new borns while accessing services at Government health facilities

281. Consumer protection act was passed in ?

a) 1977

b) 1986

c) 1993

d) 1998

Correct Answer - B

Ans. is 'b' i.e., 1986

- Consumer protection act was passed in 1986.

282. Standard deviation is measured in ?

a) Distribution

b) Dispersion

c) Mean-deviation

d) All of the following

Correct Answer - B
Ans. is 'b' i.e., Dispersion

283. The single most common cause of maternal mortality is?

a) Anemi

b) Sepsis

c) Obstetric hemorrhage

d) Obstructed labor

Correct Answer - C

Ans. is 'c' i.e., Obstetric hemorrhage

284. Unit of radiation exposure ?

a) Gray

b) Roentgen

c) Sievert

d) Red

Correct Answer - B

Ans. is 'b' i.e., Roentgen

Units of potency

- Roentgen and coulomb per kilogram → Units of exposure. It is the amount to which a person is exposed.
- Red and Gray → Units of absorbed dose. It is the amount which is absorbed per gram of tissue.
- Rem and Sievert → Product of the absorbed dose and the modifying factor. Represent the degree of potential danger to health

285. According to 'Biomedical concept' health is?

a) Relative absence of pain and discomfort

b) Absence of disease

c) A sound mind in sound body, in a sound family, in sound environment

d) None

Correct Answer - B

Ans. is 'b' i.e., Absence of disease

286. SSPE is a complication of ?

a) Mumps

b) Diphtheria

c) Measles

d) Pertussis

Correct Answer - C

Ans. is 'c' i.e., Measles

[Ref: Textbook of neurological practice p. 85]

"SSPE virus is a defective virus. Unlike wild-type measles virus it cannot be isolated directly from body fluids like CSF by inoculating in permissive cell lines. Fresh brain tissue obtained at biopsy or autopsy has to be either explanted in culture or trypsinised to obtain single cell suspension and co-cultured with permissive cell lines".

- SEPE is a late and rare complication of measles .
- SSPE is considered as a slow infection by the measles virus, reactivated many years after the initial attack.
- High level of measles antibodies are present in CSF of patients with SSPE.

287. One criteria for prudent diet?

a) Fat intake 35-40% of total energy

b) Dietary cholesterol < 300 mg/1000Kcal per day

c) Salt intake <10 g/day

d) Saturated fats < 10% of total energy

Correct Answer - D

Ans. is 'd' i.e., Saturated fats < 10% of total energy

Dietary goals prescribed by WHO expert committee prudent diet

- 3 Dietary modification is the principal preventive strategy in the prevention of CHD. The WHO Expert Committee (1) considered the following dietary changes to be appropriate for high incidence populations.
- Reduction of fat intake to 20-30 percent of total energy intake
- Consumption of saturated fats must be limited to less than 10 percent of total energy intake, some of the reduction in saturated fat may be made up by mono and poly-unsaturated fats.
- A reduction of dietary cholesterol to below 100 mg per 1000 kcal per day.
- An increase in complex carbohydrate consumption (i.e. vegetables, fruits, whole grains and legumes)
- Avoidance of alcohol consumption, reduction of salt intake to 5 g daily or less.

Other specific interventions as part of primordial prevention of coronary heart disease

- To achieve a smoke free society
- Reduction of Blood pressure through prudent diet. Regular exercise, weight control & cessation of smoking.

- Regular Physical Activity.

288. All are calculated by Cohort study, except ?

a) Incidence

b) Relative risk

c) Odds ratio

d) Attributable risk

Correct Answer - C
 Ans. is 'c' i.e., Odds ratio

	Characteristics Cohort Study	Case control Study	Cross Sectional Study
Design	Prospective	Retrospective	One point in time
<i>Incidence</i>	<i>Estimated</i>	Not estimated	Not estimated
Prevalence	Not estimated	Not estimated	Estimated
Calculations	Incidence rates Relative risk Attributable risk	Odds ratio	

289. Admission rate bias is?

a) Reporting bias

b) Response bias

c) Berksonian bias

d) None

Correct Answer - C

Ans. is 'c' i.e., Berksonian bias

Selection bias

- Selection biases are distortion that result from procedure used to select subjects and from factors that influence study participation.
- Groups to be compared are differentially susceptible to the outcome even before the experimental maneuver is performed.
- Selection bias may be of following types.
 1. Surveillance/detection bias
- A potential artifact in epidemiologic data caused by the use of a particular diagnostic technique or type of equipment.
- For example, cancer rates may vary in different regions or periods, not because of an actual difference in the incidence of disease but because of different diagnostic technologies.
- If diagnostic test is being used in one region is more sensitive than other region, the cancer rates will be high in that region even without the existence of an actual difference.
 2. Neyman survival bias (Incidence-Prevalence bias)
- This type of bias is due to missing of fatal cases, mild cases or cases of shorter duration from the study.
- For example, in a study of breast cancer, we can choose two different types of cases : ?
- .. Incident cases → All breast cancer patients newly diagnosed during

a given time.

2. Prevalent cases → All breast cancer patients who are alive during a given time frame.

- These can lead to different results, because the probability of finding a case in given time frame is related to mortality risk. Those patients who have a mild form of disease and survive for a relatively long time have a good chance of being around on the date of data collection. Those patients who die quickly are unlikely to be around on that date.

3. Referral bias or volunteer bias

- Volunteer or referral bias occurs because people who volunteer to participate in a study (or who are referred to it) are often different than non-volunteers/non referral.
- This bias usually favors the treatment group, as volunteers tend to be more motivated and concerned about their health.

4. Response bias

- Occurs when those who respond to a survey differ in important ways from those who do not respond.
- This bias can work in either direction, i.e., if bias occurs, when those who do not respond to a survey differ in important ways from those who respond, it is called nonrespondent bias.

5. Berksonian bias

- Berksonian bias results from the greater probability of hospital admission for people with two or more diseases than for people with one disease. So, it is also known as *admission rate bias*.
- For example, If breast cancer is the exposure of interest (diseases are often treated as exposures in hospital based case-control studies) and meningioma is the case disease then people with both breast cancer and meningioma could be hospitalized for either breast cancer or meningioma or both.
- However, people with only breast cancer or with only meningioma could be hospitalized because of one of these diseases.
- Therefore, a greater proportion of people in the community with both breast cancer and meningioma would be admitted to the hospital than would people with meningioma only.
- So, *Berksonian bias occurs when both exposure (e.g., breast cancer in above example) and disease (e.g., meningioma in above*

example) affect selection.

290. Which one of the following is the most sensitive and specific screening test to detect breast cancer?

a) Regular X-ray

b) Self breast examination

c) Mammography

d) Regular biopsy

Correct Answer - C

Ans. is 'c' i.e., Mammography

- Mammography is most sensitive and specific in detecting small tumors that are sometimes missed on palpation.

Screening Test (s)	Disease screened
Papanicolaou (Pap) smear test	Cervical cancer
Breast self examination (BSE)	Breast cancer
Mammography	Breast cancer
Bimanual oral examination	Oral cancer
ELISA, RAPID, SIMPLE	HIV (National AIDS Control Programme)
Urine for Sugar, Random blood sugar	Diabetes mellitus
AFP (alpha-feto-protein)	Developmental anomalies in fetus
Digital rectal examination (DRE)	Prostate cancer
Prostate specific antigen (PSA)	Prostate cancer
Fecal occult blood test	Colorectal cancer

**291. All are transmitted by fecal-oral route
except ?**

a) Polio

b) Typhoid

c) Ascaris

d) Dracunculiasis

Correct Answer - D
Ans. is 'd' i.e., Dracunculiasis

292. Paradoxical carriers are-

- a) A person who acquires the microorganism due to his contact with the patient.
- b) A person who acquires the microorganism another carrier.
- c) A person who is clinically recovered from an infectious disease but still capable of transmitting the infectious agent to others.
- d) None

Correct Answer - B

Ans. B.A person who acquires the microorganism another carrier. Paradoxical carrier are defined as person who acquires the microorganism another carrier.

293. Under the National Rural Health Mission, an ASHA will receive financial remuneration for all of the following except:

a) Institutional deliveries

b) Measuring the birth weight of neonates

c) Zero dose of DPT and OPV

d) Registration of births

Correct Answer - C

Answer- C. Zero dose of DPT and OPV

- ASHA Payments under Janani Suraksha Yojana (JSY): On 45th Day
- 6 visits in institutional deliveries (Day 3, 7, 14,21,28,42)
- 7 visits in home deliveries (Day 1, 3,7,14,21,28, 42)
- Birth weight record
- Immunized with BCG, first dose of OPV & DPT
- Birth registration
- Mother & child are safe
- Other ASHA Payments
- Institutional deliveries
- Arrange transport of AN mother
- Escort AN mother to facility
- Completed immunization upto 1 & 2 years of age
- Pulse polio immunization
- Family planning services
- Sanitary napkins to adolescent girls
- Promote use of sanitary toilets
- DOTS provider

- Leprosy treatment
- Peripheral smear for malaria
- Malaria treatment

294. In a clinical trial, blood pressure was measured between in a group of patients before and after treatment, which of the following test will be suitable as at test of significance?

a) Paired t-test

b) Mann Whitney U test

c) Student test

d) ANOVA

Correct Answer - A

Ans. A. Paired t-test

295. Which of these is the correct dosing schedule according to the Nation Iron Plus Program made to tackle iron-deficiency anemia?

a) 20 mg of elemental iron to all 2-5-year-old children biweekly for an entire year

b) 100 ma of elemental iron and 500 micrograms of folic acid to pregnant women weekly for an entire year

c) 100 mg of elemental iron and 500 micrograms of folic acid to pregnant women biweekly for an entire year

d) 20 mg of elemental iron and 100 micrograms of folic acid to 2-5-year-old children weekly for an entire year

Correct Answer - B

Ans: B. 100 ma of elemental iron and 500 micrograms of folic acid to pregnant women weekly for an entire year

(Ref: Park 22/e p596; <http://www.nrhmp.gov.in/sites/default/files/files/Iron%20plus%20initiative/020for%206%20months%20-5%20years.pdf>)

- According to the National Iron Plus Program made to tackle iron-deficiency anemia, 100 mg of elemental iron and 500 micrograms of folic acid should he given to pregnant women weekly for an entire year.

296. All of the following are duties of an ASHA worker except:

a) All of the following are duties of an ASHA worker except:

b) Primary screening for prevalence of non-communicable diseases

c) Administering zero dose of DPT and OPV

d) Assessing the success of national programs under ANM

Correct Answer - C

Ans: C. Administering zero dose of DPT and OPV

Ref: Park 24^{le} p936, 23^{le} p449, 22^{le} p414; Ministry of Health anti Family Welfare (MoHFW). (2005b). Reading Material for ASHA. Government of India)

- ASHA doesn't receive financial remuneration for administering zero dose of DPT and OPV is not the function of ASHA.
- ASHA Payments under Janani Suraksha Yojana (JSY): On 45th Day:**
- 6 visits in institutional deliveries (Day 3, 7, 14, 21, 28,
 - 7 visits in home deliveries (Day 1, 3, 7, 14, 21, 28, 42).
 - Birth weight record
 - Immunized with BCG, first dose of OPV & DPT
 - Birth registration
 - Mother & child are safe

297. Population - based registries are better than hospital -based registries because they ?

a) May be used for etiological studies

b) Help in assesing the effectiveness of control programme

c) Measure the burden of disease in a defined population

d) All of these

Correct Answer - D

Ans. is 'a, b & c' i.e., May be used for etiological studies 'b' i.e., Help in assesing the effectiveness of control programme & 'c' i.e., Measure the burden of disease in a defined population

[Ref Cancer epidemiology : principles & methods - 385]

- The cancer registry is an organization for the systematic collection, storage, analysis, interpretation and reporting of data on subjects with cancer. There are two main types of cancer registry : hospital -based and population based cancer registries.

298. WHO definition of health does not include ?

a) Physical health

b) Mental health

c) Environmental health

d) Social health

Correct Answer - C

Ans. is 'c' i.e., Environmental health [Ref Park 23th/e p. 14]

According to **WHO**, "Health is a state of complete **physical, mental** and social well being and not merely an absence of disease or infirmity." In recent years, this statement has been amplified to include "the ability to lead a socially and economically productive life."

299. Daily physical activity/exercise is which type of prevention ?

a) Primordial

b) Primary

c) Secondary

d) Tertiary

Correct Answer - B

Ans. is 'b' i.e., Primary [Ref: Park 23rdie p. 44]

Life style & behavioral changes, e.g. doing exercise is health promotion, a type of primary

300. Use of shakirs tape for measuring arm circumference is -

- a) Equitable distributin
- b) Community participation
- c) Intersectoral coordination
- d) Appropriate technology

Correct Answer - D

Ans. is 'd' i.e., Appropriate technology

[Ref Textbook of healthcare in India - 743]

Appropriate technology is defined as 'technology that is scientifically sound, adaptable to local needs, and acceptable to those who apply it and those for whom it is used, and that can be maintained by the people themselves in keeping with the principles of self reliance with the resources the community and country can afford.

301. Case series report is a type of ?

a) Analytic study

b) Experimental study

c) Observational study

d) Intervention study

Correct Answer - C

Ans. is 'c' i.e., Observational study [Ref Park 24^m/e p. 67 & 23^e/e p. 62]

A) Observational studies

- .. Descriptive studies : Case reports, case series.
- 2. Analytic studies : Case-control (case-reference), Cohort (follow-up), Ecological (correlational), Cross-sectional.

B) Experimental/intervention studies

- .. Randomized controlled trials/clinical trials.
- 2. Community trials.
- 3. Field trials.
- 1. Animal studies.

302. Goal is defined as ?

- a) Planned end-point of all activities
- b) Planned discrete activity for the programme
- c) Ultimate desired state
- d) All of the above

Correct Answer - C

Ans. is 'c' i.e., Ultimate desired state [Ref Park 23rd/e p. 868]

- A goal is defined as the *ultimate desired state* towards which objectives are directed. Goals are *not necessarily attainable*. Unlike objectives and targets, goals are not constrained by time or existing resources.

303. True about point source epidemic ?

a) Single exposure

b) Rapid rise

c) Slow fall

d) Secondary wave

Correct Answer - A:B

Ans. is 'a & b' i.e., Single exposure & Rapid rise [Ref Park 24th/e p. 69 & 23rd/e p. 64]

Single exposure or point source epidemics

- The exposure to the disease agent is brief and essentially simultaneous - single exposure.
- Because disease agent enters into all exposed persons at same time - the resultant cases all develop within one incubation period of the disease.
- The epidemic curve rises and falls rapidly.
- Because exposure is single (simultaneous) with no further exposure No secondary wave (**no** secondary case).
- Epidemic tends to be explosive, there is clustering of cases within a narrow interval of time.
- Point source epidemics are mostly (not always) due to exposure to an infectious agent.
- Examples Food poisoning, Bhopal gas tragedy, Minamata disease in Japan, Chernobyl tragedy

304. Birth & death in India should be registered within?

a) 7 days

b) 14 days

c) 21 days

d) 30 days

Correct Answer - C

Ans. is 'c' i.e., 21 days [Ref Park 24thie p. 877 & 23rd/e p. 840; IRS-2009]

Birth	21 days
Death	21 days
Marriage	30 days
Pregnancy	NO LEGISLATION YET

305. In a case of meningitis, neisseria meningitidis was grown in culture after 48 hours. Which measure is to be taken immediately ?

a) Isolation of contacts

b) Antibiotic treatment of contacts

c) Vaccination of contact

d) All of the above

Correct Answer - B

Ans. is 'b' i.e., Antibiotic treatment of contacts [Ref: Park 24th/e p. 176]

- Close contacts of persons with confirmed meningococcal disease are at an increased risk of developing meningococcal illness.
- Antibiotics are effective in preventing additional cases through eradicating carriage of the invasive strain.
- Most secondary case occur within the first 72 hours after presentation of the index case; risk of secondary disease decreases to near baseline by 10-14 days.
- Antibiotics effective for this purpose include rifampicin, ciprofloxacin, ceftriaxone or azithromycin.

306. Used urine bags are disposed in which color bag ?

a) Red

b) Yellow

c) White

d) Black

Correct Answer - A

Ans. is 'a' i.e., Red [Ref: *Imanh. org*]

- Contaminated recyclable wastes are disposed in which red color bag. These are tubing, bottles, IV tubes, IV sets, catheters, urine bags, syringes (without needles) and vaccutainers (with their needles cut) and gloves.

307. Which of the following is defined as generalized HIV epidemics ?

a) Prevalence in pregnant women > 0.5 %

b) Prevalence in a population > 0.5 %

c) Prevalence in pregnant women > 1%

d) Prevalence in a population > 1%

Correct Answer - C

Ans. is 'c' i.e., Prevalence in pregnant women > 1% [Ref Park 24th/e p. 361, 363]

Low level HIV epidemics

- HIV prevalence has not consistently exceeded 5% in any defined sub-population.

Concentrated HIV epidemics

- HIV prevalence is consistently over 5% in at least one defined sub-population but is below 1% in pregnant women in urban areas

Generalized HIV epidemics

- HIV prevalence consistently over 1% in pregnant women

308. World diabetes day is celebrated on ?

a) 8th may

b) 8th march

c) 14th November

d) 1st december

Correct Answer - C

Ans. is 'c' i.e., 14th November

- 8 May → World Red Cross Day
- 8th March → International Women's Day
- 14th November → World Diabetes Day
- 1st December → World AIDS Day

309. If in a state prevalence of HIV is 5% in high risk group but in antenatal women it is <1%. The state belongs to ?

a) High prevalence state

b) Moderate prevalence state

c) Low prevalence state

d) Very low prevalence state

Correct Answer - B

Ans. is 'b' i.e., Moderate prevalence state [Ref. Park 23rd/e p. 432 & 22nd/e p. 317]

- Group I (High prevalent states): HIV infection in > 5% high risk group and 1% antenatal women.
- Group II (Moderate prevalent states) : HIV infection in 5% high risk group and < 1% antenatal women.
- Group III (Low prevalent states): HIV infection in < 5% high risk group and < 1% antenatal women.

310. Training period for anganwadi worker ?

a) 3 months

b) 4 months

c) 6 months

d) 1 year

Correct Answer - B

Ans. is 'b' i.e., 4 months

- Anganwadi workers are under ICDS scheme.
- There is an anganwadi worker for a population of 400-800 in plains and 300-800 in hilly/tribal areas.
- She undergoes training in various aspects of health, nutrition and development for 4 months.
- She is a part-time worker.
- She is paid an honorarium of Rs. 1500 per month.

311. A population of 100000 is under surveillance during an year. 100 cases were positive for malarial thick smear. What is the annual parasite index ?

a) 1 per 1000

b) 2 per 1000

c) 10 per 1000

d) 20 per 1000

Correct Answer - A

Ans. is 'a' i.e., 1 per 1000 [Ref Park 24th le p. 278]

Annual Parasite Incidence = (confirmed cases during one year/population under surveillance) x 1000

Population under surveillance = 100000

Confirmed cases = 100

100

$$\text{API} - \frac{100}{100,000} \times 1000 = 1$$

So, API is 1 per 1000 population.

312. BCG vaccination is given by which route ?

a) Subcutaneous

b) Intradermal

c) Intramuscular

d) Subdermal

Correct Answer - B

Ans. is 'b' i.e., Intradermal [Ref Park 24th/e p. 195 & 23rd /e p. 185]

The routes of important vaccines are :-

1. Subcutaneous : Measles, rubella, killed influenza, killed cholera, IPV, yellow fever.
2. Intramuscular : Mumps, killed influenza, typhoid Vi-polysaccharide, DPT (deep intramuscular), rabies, IPV.
3. Intradermal : BCG, rabies.
4. Nasal : Live influenza.
5. Ora/ : OPV, oral cholera, oral typhoid (typhoral).

313. Community health centers provide ?

a) Primary health care

b) Secondary health care

c) Tertiary health care

d) Any of the above

Correct Answer - B

Ans. is 'b' i.e., Secondary health care [*Ref Park 23/e p. 904*]

314. True about leprosy in India ?

a) Annual new case detection rate 9.73 per 100000

b) Total 8 lac cases

c) Prevalence rate 1.2 per 10000

d) All of the above

Correct Answer - A

Ans. is 'a' i.e., Annual new case detection rate 9.73 per 100000 [Ref Park 24th/e p. 333]

- A total of 1.25 lac new cases were detected during the year 2014-15, which gives annual new case detection rate (ANCDR) of 9.73 per lac population.
- A total of 0.88 lac cases were on record as on P^t April 2015, giving a prevalence rate (PR) of 0.69 per 10,000 population.
- The detailed information on new leprosy cases detected during 2014-15 indicates the proportion of multibacillary cases was 52.82 per cent, proportion of female cases was 36.81 per cent, child case proportion was 9.04 per cent (which gives the child case rate of 0.88 per lac population), 4.59 per cent patient were with grade-II deformity, giving deformity rate of 0.448 per lac population

315. Waist to hip ratio which indicates obesity in men?

a) > 0.5

b) 0.85

c) > 0.93

d) > 1.0

Correct Answer - D

Ans. is 'd' i.e., > 1.0

Waist-Height ratio (WHtR): It is the best indicator of cardiovascular risk. It is independent of age and sex. Cut-off value is 0.5.

316. Which of the following conditions must be fulfilled for a PHC to become a first referral unit ?

a) 4-6 beds

b) 15 workers

c) Emergency obstetric care

d) Basic laboratory services

Correct Answer - C

Ans. is 'c' i.e., Emergency obstetric care [Ref Textbook of Indian Health care - 728]

Critical determinants of a first referral unit

- 24-hour delivery services including normal and assisted deliveries
- Emergency obstetric care including surgical interventions like caesarean sections and other medical interventions, New-born care, Emergency care of sick children, Full range of family planning services including laproscopic services, Safe abortion services, Treatment of STI / RTI, Blood storage facility, Essential laboratory services, Referral (transport) services.

317. Community development block covers a population of?

a) 3000-5000

b) 20000-30000

c) 30000-50000

d) 80000-120000

Correct Answer - D

Ans. is 'd' i.e., 80000-120000 [Ref: Textbook of preventive & community dentistry - 175]

- At present a community development block covers an area of about 620 sq km with around 100 villages and a population of about 100000 (80000 - 120000).

318. If 25 persons are working on a project for 30 years. There is how many person-years of employment.

a) 75

b) 750

c) 120

d) 1200

Correct Answer - B

Ans. is 'b' i.e., 750 [Ref Textbook of gross development in employment - 121]

- "10000 people working for 1 year would lead to 1000 person years of employment"
- Thus, 25 persons working for 30 years will lead to 750 person-years of employment.

319. Western equine encephalitis virus is transmitted by ?

a) Anophales mosquito

b) Culex mosquito

c) Sandfly

d) Aedes mosquito

Correct Answer - B

Ans. is 'B' i.e., Culex mosquito

320. Bimodal distribution is seen in ?

a) Thyroid carcinoma

b) Hodgkins lymphoma

c) Renal carcinoma

d) Liver carcinoma

Correct Answer - B

Ans. is 'b' i.e., Hodgkins lymphoma [*Ref Modern epidemiology p 716*]

- One important phenomenon in age distribution is bimodality, i.e. some disease show two peaks in different age groups. Diseases showing bimodality are Hodgkin's disease, leukaemia, and female breast cancer.

321. Process of mixing waste with cement before disposal is known as ?

a) Inertization

b) Controlled tipping

c) Sanitary landfill

d) Burial

Correct Answer - A

Ans. is 'a' i.e., Inertization [Ref Safe management of wastes from health-care activities - 126]

- The process of inertization involves mixing waste with cement and water substances before disposal to minimize the risk of toxic substances contained in the waste migrating into surface water or groundwater. It is especially suitable for pharmaceuticals and for incineration ashes with a high metal content (in this case, the process is also called "stabilization").

322. Rice is deficient in which amino acid ?

a) Serine

b) Threonine

c) Methonine

d) Cystone

Correct Answer - B

Ans. is 'B' i.e., Threonine *[Ref Read below]*

Cereals (wheat & rice) are deficient in lysine threonine. But in comparison to other cereals protein (e.g wheat) rice protein contains more lysine (though in lesser amounts) → thus rice proteins is considered to be better quality among cereals.

323. True about mosquito preventive nets are all except?

a) Hole size < 0.0475

b) 150 holes per square inch

c) Best pattern in circular

d) There should be no rent

Correct Answer - C

Ans. is 'c' i.e., Best pattern is circular [Ref Park 24th/e p. 810 & 23rd/e p. 773]

- The best pattern of mosquito net is the rectangular net.
- There should not be a single rent in the net.
- The Size of openings in the net is of utmost importance, the size should not exceed 0.0475 inch in any diameter.
- The number of holes in one square inch is usually 150..

324. Replacement & periodic examination in radiation industry is recommended ?

a) Every month

b) Every 2 months

c) Every 6 months

d) Every year

Correct Answer - B

Ans. is 'b' i.e., Every 2 months [*Ref Park 24th/e p. 846*]

Preventive measures in radiation industries

- Inhalation, swallowing or direct contact with the skin should be avoided.
- In case of X-rays, shielding should be used of such thickness and of such material as to reduce the exposure below allowable exposures.
- The employees should be monitored at intervals not exceeding 6 months by use of the film badge or pocket electrometer devices.
- Suitable protective clothing to prevent contact with harmful material should be used.
- Adequate ventilation of work-place is necessary to prevent inhalation of harmful gases and dusts.
- Replacement and periodic examination of workers should be done every 2 months. If harmful effects are found, the employees should be transferred to work not involving exposure to radiation.
- Pregnant women should not be allowed to work in places where there is continuous exposure.

325. Rice protein is deficient in ?

a) Methionine

b) Cysteine

c) Lysine

d) Tryptophon

Correct Answer - C

Ans. is c. i.e., Lysine [*Ref Textbook of protein foods - 55*]

"A rice diet is deficient in lysine and theronine"

326. Acceptable noise level in industries ?

a) 25-30 dB

b) 30-40 dB

c) 40-50 dB

d) 60-80 dB

Correct Answer - C

Ans. is 'c' i.e., 40 50 dB

327. Reagent used to detect the microorganism in milk before pasteurization ?

a) Crystal violet

b) Methylene blue

c) Phosphatase

d) Nitric acid

Correct Answer - B

Ans. is 'b' i.e., Methylene blue [Ref Park 24th/e p. 692 & 23rd/e p. 655]

- Methylene blue Reduction test' is an indirect test for detection of microorganism in milk. It is carried out on milk prior to the process of pasteurization and is not used to check the efficiency of pasteurization.
- Test to check the adequacy (efficiency) of pasteurization are : Phosphatase test (m.c. used), standard plate count, and coliform count.

328. Which of the following is not a goal of population based cancer registry?

a) Administrative information

b) Determination of cancer rates and trends

c) Patterns of care and outcomes

d) Cancer prevention

Correct Answer - A

Ans. is 'a' i.e., Administrative information

[Ref Cancer epidemiology : principles & methods - 385]

- The cancer registry is an organization for the systematic collection, storage, analysis, interpretation and reporting of data on subjects with cancer.

329. Which of the following has responsibility of data collection for active malaria surveillance at PHC level ?

a) DHO [District Health Officer]

b) MPW [Multipurpose worker]

c) MO-PHC [Medical Officer-PHC]

d) DMO [District Medical Officer]

Correct Answer - C

Ans. is 'c' i.e., MO-PHC [Medical Officer-PHC]

[Ref Park 24"/e p. 433]

- "The Medical Officer-PHC has the overall responsibility for surveillance and laboratory services, and also supervises the spray".

330. All vaccine reduce pneumonia induced mortality except?

a) Measles

b) Rebella

c) HIB

d) Pneumococcal

Correct Answer - B

Ans. is `b' i.e., Rebella [Ref Park 24th le p. 182]

- Measles vaccine, HIB vaccine (Haemophilus influenzae type B), Pneumococcal vaccines work to reduce the incidence of bacterial pneumonia.

331. Best tool to measure communicability of an infectious disease?

a) Secondary attack rate

b) Generation timeSerial interval

c) Serial interval

d) Incubation period

Correct Answer - A

Ans. is 'a' i.e., Secondary attack rate

[Ref Park 24th/e p. 105 & 23^d /e p. 100] Secondary attack rate

- SAR is defined as "the number of exposed persons developing the disease within the range of incubation period, following exposure to primary case.

332. Time period between primary case and secondary case is known as?

a) Generation time

b) Serial interval

c) Secondary attack rate

d) Incubation period

Correct Answer - B

Ans. is 'b' i.e., Serial interval

[Ref Park 24th /e p. 100, 105 & 23^d /e p. 100].

333. Cross-product ratio is estimated by ?

a) Cohort study

b) Case-control study

c) Cross sectional study

d) Field trial

Correct Answer - B

Ans. is 'b' i.e., Case-control study

[Ref Park's 24th ed p. 78]

Odds - ratio (cross product ratio)

- From a case control study odds ratio can be derived which a measure of the strength of association between risk factor and outcome.
- Odds ratio is closely related to relative risk (which is analysed in cohort study) 4 odds ratio represents only an estimate of relative risk.

334. Minimum Brick wall thickness of septic tank should be?

a) 2 inches

b) 9 inches

c) 18 inches

d) 25 inches

Correct Answer - B

Ans. is 'b' i.e., 9 inches

[Ref www.indiawaterportal.org; Park's 24' le p.797]

- "Wall built out of brick should not be less than 200 mm thick and should be plastered to a minimum thickness of 12 mm inside and outside with cement mortar not weaker than 1:3; where are built out of the stone masonry.
- A septic tank is usually provided with brick wall in which cement mortar [not less than 20 cm (9 inches)] thick and the foundation floor is of cement concrete 1:2:4.

335. True about factories Act?

a) Maximum hours of work per week is 40 hrs.

b) Maximum hours of work per week is 48 hrs.

c) Maximum working hours for adolescent is **72 hours per week**

d) Children are entitled for 2 holidays a week

Correct Answer - B

Ans. is 'b' i.e., Maximum hours of work per week is 48 hrs.

[Ref Park 24th/e p. 852] **Factories Act**

- The first Indian Factories act dates as far back as 1881.
- The act was revised and amended several times, the latest being the **factories (Amendment) act, 1987**

336. Lining of open sanitary well should be extended to a minimum depth of?

a) 5 feet [1.5 m]

b) 10 feet [3 m]

c) 15 feet [4.5 m]

d) 20 feet [6 m]

Correct Answer - D

Ans. is 'd' i.e., 20 feet [6 m] [Ref Park's 24thie p. 746]

- the well should be located not less than 15 m (50 feet) from likely sources of contamination. The well should be located at a higher elevation with respect to a possible source of contamination.

337. Criteria for wholesome water?

a) Free from pathogenic organisms

b) Should be colourless

c) Should be free of chlorine

d) Should be clear

Correct Answer - A

Ans. is 'a' i.e., Free from pathogenic organisms

[Ref Park 24th/e p. 743 & 23rd/e p. 706]

338. True of consanguineous marriages and genetic abnormalities are all except?

a) Increased risk of traits controlled by dominant genes

b) Increased risk of premature death

c) Phenylketonuria is an example

d) Lowering of consanguineous marriages will improve community health

Correct Answer - A

Ans. is 'a' i.e., Increased risk of traits controlled by dominant genes

[Ref Park's 24th M p. 865]

- Consanguineous marriages: When blood relatives marry each other there is an increased risk in the offspring of traits controlled by **recessive** genes, and those determined by polygenes.

339. Which of the following is correct regarding guidelines for drinking water?

a) Chloride < 200 mg/L

b) TDS < 600 mg/L

c) Colour < 10 TCU

d) Turbidity < 2 NTU

Correct Answer - B

Ans. is 'b' i.e., TDS < 600 mg/L [Ref: Park's 24th/e p. 759, 760] .

340. Tobacco/Smoking is considered as risk factor but not cause of cardiovascular disease because?

a) No temporal association

b) Long latent period

c) Multifactorial causation

d) Less sensitivity

Correct Answer - C

Ans. is 'c' i.e., Multifactorial causation

[Ref Park's 24thie p. 382]

- Most non-communicable chronic disease (e.g., cardiovascular diseases) are the result of multiple causes and rarely there is a simple one-to-one cause-effect relationship.
- In the absence of a known agent (i.e.- in multiple causes), the term "risk factor (s)" is used to describe certain factors which are involved in causation of the disease

341. Adequate Total per capita water for Urban domestic purposes?

a) 50-100 Liters

b) 100-150 Liters

c) 150-200 Liters

d) 200-250 Liters

Correct Answer - C

Ans. is 'c' i.e., 150-200 litres

[Ref Park 24thie p. 743 & 23rd/e p. 706]

- The basic physiological requirements for drinking water have been estimated at about 2 litres per head per day.
- A daily supply of **150-200 litres** per capita is considered as an adequate supply to meet the needs for all urban domestic purposes.

342. Crimean-Congo Haemorrhagic Fever [CCHF] is transmitted by?

a) Ticks -

b) Mites

c) Cat fish

d) Mosquitoes

Correct Answer - A

Ans. is 'a' i.e., Ticks

[Ref: Textbook of Microbiology by Park 24th/e p. 544]

- Crimean-Congo haemorrhagic fever (CCHF) is a widespread disease caused by a tick-borne virus (Nairovirus) of the Bunyaviridae family

343. The values of systolic BP in a given data are 120, 120, 130, 120, 110, 110, 200. Which of the following will be best to used for central tendency in the given data?

a) Mean

b) Median

c) Mode

d) Harmonic mean

Correct Answer - B

Ans. is 'b' i.e., Median

[Ref Park's 24th/e p. 884; Gupta 1st/e p. 191] Arithmetic mean

- It is the most commonly used statistical average.
- To calculate mean, add up the values of all individual observation and then divide by the number of observations.
- The process of adding together is called summation and is denoted by the sign Σ or Σ .

344. Which of the following bacteria is transmitted by Housefly?

a) Leptospira

b) Listeria

c) V. cholerae

d) Yersinia

Correct Answer - C

Ans. is 'c' i.e., V. cholerae [Ref Park's 24thie p. 805]

- Cholera can be transmitted by Housefly

**345. Scrub typhus caused by R-
tsutsugamushi is transmitted by?**

a) Flea

b) Chigger

c) Tick

d) Mosquito

Correct Answer - B

Ans. is 'b' i.e., Chigger

[Ref Park 24th le p. 317 & 23rd le p. 299]

- Scrub typhus is the most widespread Rickettsial disease.
- It is caused by **R. tsutsugamushi (orientia tsutsugamushi)** and the vector of its transmission is trombiculid mite (*Leptotrombidium delinense* and *L. akamushi*).

346. A pregnant female got infected with rubella virus at 22 weeks of pregnancy. The management of the Patient should be?

a) Rubella vaccination

b) Rubella immunoglobulin IM

c) Antiviral drug

d) Reassurance

Correct Answer - D

Ans. is 'd' i.e., Reassurance

[Ref Textbook of fetal medicine p. 214; Avery's Disease of Newborn - 508].

- Women with a serologic diagnosis of rubella infection in the first trimester should be counseled about the likely occurrence of an adverse outcome of the pregnancy.
- The given pregnant woman is infected after 20 weeks (at 22 weeks) and her immunization status has not been mentioned → She should be counseled appropriately that chances of congenital rubella syndrome are negligible.

347. A 32 years old male has got clean wound without laceration. He had booster dose of TT 6 years back. What is next line of management?

a) Wound care with single dose of tetanus toxoid

b) Wound care with Human Tet Ig with tetanus toxoid single dose

c) Wound care with complete course of tetanus toxoid

d) Wound care with no immunization

Correct Answer - A

Ans. is 'a' i.e., Wound care with single dose of tetanus toxoid

[Ref Park's 24th/e p. 331]

- The given patients belongs to category B (Booster dose between 5-10 years back). Thus, the requires wound care and single dose of TT.

348. Who among the following introduced the concept of relationship of environment with roman health?

a) Hippocrates

b) Louis Pasteur

c) David Moley

d) Ambroise Pare

Correct Answer - A

Ans. is 'a' i.e., Hippocrates [Ref: Park 23rd/e p. 2-8]

- **Hippocrates is considered as Fathers of Modern Medicine.**
- He introduced the concept of human health being closely related to environment

349. The pioneer in concept of specific protection by vaccine was ?

a) Chinese

b) Robert Koch

c) Ambroise Paré

d) Louis Pasteur

Correct Answer - A

Ans. is 'a' i.e., Chinese

- The **Chinese** were early **pioneers of immunizations**. They practiced variolation to prevent smallpox.
- Similar practice is also known to be prevalent in the early Ayurveda period, which was quoted by Edward Jenner to the Royal Society to get approval for first proposed smallpox vaccine.

350. The earliest public health law was promulgated in ?

a) Germany

b) Russia

c) China

d) England

Correct Answer - D

Ans. is 'd' i.e., England [Ref Park 23rd le p. I-11]

- First country to introduce compulsory sickness insurance → Germany.
- First country to socialize medicine completely → Russia.
- First country to start acupuncture → China
- First country to start family planning programme → India.
- **First country to start concept of health care & public health → England.**
- First country to start Blindness control programme → India.
- First country to start Pasteurization → France.
- First country to develop bath, sewers and aqueducts for sanitation → Rome.

351. According to classification by Human development index, India belongs to ?

a) High HDI

b) Medium HDI

c) Low HDI

d) Very Low HDI

Correct Answer - B

Ans. is 'b' i.e., Medium HDI

According to HDI countries are divided -

1. **Developed countries (High HDI - 0.8) → USA, Canada, Norway**
2. **Developing countries (medium HDI 4 0.5 - 0.79) → India**
3. **Underdeveloped countries (Low HDI 4 0.5) → Seiera, Ethopia**

352. Epornitic is defined as ?

a) Endemic in animals

b) Epidemic in animals

c) Endemic in birds

d) Epidemic in birds

Correct Answer - D

Ans. is 'd' i.e., Epidemic in birds

- Epizootic is an outbreak (epidemic) of disease in an animal population i.g., anthrax, brucellosis, rabies, influenza, Rift Valley fever, Q fever, Japanese encephalitis and equine encephalitis.
- **Enzootic** is an endemic occurring in animals e.g., anthrax, rabies, brucellosis, bovine tuberculosis, endemic typhus, tick typhus.
- **Epornithic** is an epidemic of disease in a bird population

353. Epidemic marker of TB ?

a) Sputum AFB positivity rate

b) Tuberculin test positivity rate

c) Chest x-ray positivity rate

d) None of the above

Correct Answer - A

Ans. is 'a' i.e., Sputum AFB Positivity rate

- Case finding tool of choice for TB is sputum microscopy & sputum AFB positivity
- Case finding tools in TB are :?
- Sputum microscopy
- It is the **method of choice**.
- Sputum culture
- **It is 2nd** in importance (after sputum microscopy) in a case finding programme.
- Mass miniature radiography
- It **has been stopped** as a general measure of case finding.
- 4) Tuberculin test
- It is of little value as a case finding tool as it has no diagnostic value.
- The number of bacilli seen in a smear reflects disease severity and patient infectivity.
- Therefore, it is important to record the number of bacilli seen in each smear.

354. In RNTCP, One tubercular unit covers how much population ?

a) 100000

b) 500000

c) 30000

d) 1000

Correct Answer - B

Ans. b. 500000

355. A 1 month old infant presenting with cough and sneezing, respiratory rate 40 per minute, and there is no chest indrawing. The management is?

a) Urgent referral to hospital

b) IV antibiotics

c) Frequent breast feeding

d) Oral antibiotic syrup

Correct Answer - C

Ans. is 'c' i.e., Frequent breast feeding [Ref Park 23rdie p. 796 & 22nd ie p. 741]

- Classification of acute respiratory tract infection (ARTI) is very important because each class has a corresponding treatment plan.
- Before going ahead for classification of ARTI, one should know the definition of fast breathing. As the children get older, their breathing rate slows down.
- Therefore, the cut-off point of fast breathing will depend on the age of the child.

356. Color of kit 3 for STD under AIDS control programme?

a) Red

b) Blue

c) White

d) Green

Correct Answer - C

Ans. is 'c' i.e., White

Pre-packed colour coded STI/RTI kits have been provided for free supply to all designated STI/RTI clinics :

- Kit 1 4 Grey, for urethral discharge, ano-rectal discharge, cervicitis.
- Kit 2 - Green, for vaginitis
- Kit 3 4 White, for genital ulcers
- Kit 4 - Blue, for genital ulcers
- Kit 5 - Red, for genital ulcers
- Kit 6 4 Yellow, for lower abdominal **pain**
- Kit 7 - Black, for scortal swelling.

357. Species of Anopheles causing malaria in Andaman & Nicobar island ?

a) Anopheles stephensi

b) Anopheles dirus

c) Anopheles culicifacies

d) Anopheles epiroticus

Correct Answer - D

Ans. is 'd' i.e., Anopheles epiroticus [Ref Park 22nd ed p. 236]

- Vector for malaria is female anopheline mosquito.
- **There are six primary vectors of malaria in India : ?**
- **An. culicifacies** : - It is the main vector in rural and periurban areas.
- **An. Stephensi** : - Responsible for malaria in urban and industrial areas.
- **An fluvitalis** : - Main vector in hilly areas, forests and forests fringes, especially in the east.
- **An. minimum** : - Vector in the the foot hills of North-Eastern states.
- **An. dirus** : - **Vector in** the forest of North-East.
- **An. epiroticus** : - Restricted to Andaman and Nicobar Islands.

358. A community has total population 10000. Children ranging 0-6 years are 2000. Literate persons among > 7 years old are 4000. What is effective literacy rate ?

a) 20%

b) 40%

c) 50%

d) 60%

Correct Answer - B

Ans. is 'b' i.e., 40% [Ref Park 23/e p. 485]

- Literacy rate is used for population relating to seven years and above - In the given population this accounts for 8000.
- Out of 8000, 4000 are literate → literacy rate is 50%

359. Most common cancer in females in India ?

a) Breast

b) Cervix

c) Ovary

d) Uterus

Correct Answer - A

Ans. is 'a' i.e., Breast [Ref Park 24th/e p. 401]

- Overall cancers in world : Breast > Prostate > Colorectal > Lung > Cervix
- Cancers in males in world : Prostate > Colorectum > Lung > Stomach > Urinary bladder
- Cancers in females in world : Breast > Colorectum > Cervix > Uterus > Thyroid
- Overall cancers in India : Breast > Cervix > Lip / oral cavity > Colorectum > Prostate
- Cancers in males in India : Lip / oral cavity > Prostate > Colorectum > Pharynx (other than nasopharynx) > Larynx
- Cancer in females in India : Breast > Cervix > Ovary > Uterus > Colorectum

360. Unmet need for contraception in a 35 years female is for ?

a) Spacing birth

b) Limiting birth

c) Improve maternal health

d) Improve family health

Correct Answer - B

Ans. is 'b' i.e., Limiting birth [Ref Park 22ndle p. 472]

- Many women who are sexually active would prefer to avoid pregnancy, but nevertheless are not using any method of contraception.
- These women are considered to have 'unmet need' for family planning.
- The concept is usually applied to married women.
- According to the National Family Health Survey-3, Unmet need for family planning is highest (27.1%) among women below 20 years age and is almost entirely for spacing the births rather than for limiting the births.
- It is also relatively high for women in age group 20-24 years (21.1%) with 75% need for spacing and 25% for limiting the birth.
- Unmet need for contraception among women aged 30 years and above are mostly for limiting

361. Maximum calories are found in which fruit ?

a) Banana

b) Mango

c) Orange

d) Pear

Correct Answer - A

Ans. is 'a' i.e., Banana [Ref Internet]

- Energy in important fruits (per piece): Avocado (150 Cal) > Banana (107 cal) > apple (95 cal) > orange (65 cal) > Pear (45 cal) > mango (40 Cal).

362. Brick incinerator is used for ?

a) Waste sharp

b) Discarded medicine

c) Infectious waste

d) Disposable items

Correct Answer - C

Ans. is 'c' i.e., Infectious waste [Ref www.who.int]

- Drum (or field) incinerator and brick incinerator should be used only as a last resort, as it is difficult to burn the waste completely without generating potentially harmful smoke.
- The option is appropriate only in emergency situations during acute outbreaks of communicable diseases and should be used only for infectious waste.

363. Workshop is ?

a) Discussion of 4-8 experts in front of audience

b) Discussion between 6-12 members

c) Series of four **or more** meetings

d) Series of speeches on given subject

Correct Answer - C

Ans. is 'c' i.e., Series of four or more meetings [Ref Park 23rd/e p. 864-866] Workshop

- It consists of a series of meeting usually four or more, with emphasis on individual work, within the group, with the help of consultants and resource personnel.
- The total workshop may be divided into small groups and each group will solve and discuss a problem with the help of consultants.

364. Denominator in sensitivity is ?

a) Total number of healthy people

b) Total number of diseased people

c) Total number of people showing positive results

d) Total number of people showing negative results

Correct Answer - B

Ans. is 'b' i.e., Total number of diseased people [Ref Park 23rdie p. 139]

i) Sensitivity

- It is the percentage of diseased people that who are diagnosed as having disease.
- Total number of diseased people = True positive + False negative.
- Number of people (among diseased people) diagnosed as having disease = True positives.

ii) Specificity

- It is the percentage of healthy people who are identified as healthy.
- Total number of healthy people = True negatives + False positives
- Number of healthy people who are identified as healthy = True negatives

365. $IA/A+CI \times 100$ in the given table is :-

Test result	Persons with disease	Persons without disease	Total
Positive	A	B	A + B
Negative	C	D	C + D

a) Specificity

b) Sensitivity

c) PPV

d) NPV

Correct Answer - B

Ans. is 'b' i.e., Sensitivity

366. In RMNCH+A Strategy, what is plus ?

a) Adolescent health

b) Reproductive health

c) DPT Vaccination

d) Newborn health

Correct Answer - A

Ans. is 'a' i.e., Adolescent health [Ref Park's 24th ed p. 469]

- The RMNCH+A strategy is based on provision of comprehensive care through the five pillars, or thematic areas, of reproductive, maternal, neonatal, child, and adolescent health, and is guided by central tenets of equity, universal care, entitlement, and accountability. The "plus" within the strategy focusses on :
 - Including adolescence for the first time as a distinct life stage.
 - Linking maternal and child health to reproductive health, family planning, adolescent health. HIV, gender, preconception and prenatal diagnostic techniques.
 - Linking home and community-based services to facility-based care.
 - Ensuring linkages, referrals, and counter-referrals between and among health facilities at primary (primary health centre), secondary (community health centre), and tertiary levels (district hospital).

367. Not done in RMNCH + A ?

a) Linking maternal health to Reproductive health

b) Linking home & community based service to facility based care

c) Referral to PHC

d) Involvement of private organizations

Correct Answer - D

Ans. is 'd' i.e., Involvement of private organizations [Ref Park's 24th ed p. 469]

368. Dangerous type of Herpes virus ?

a) Herpes simplex-2

b) Cytomegalo virus

c) Epstein barr virus

d) Herpes virus simiae

Correct Answer - D

Ans. is 'd' i.e., Herpes virus simiae [Ref Text book of public biohazard p. 332]

- Herpes Virus Simiae (Monkey B Virus) is biohazard risk group-4 virus which can cause serious or lethal human diseases.

369. Personal services rendered by doctors to patients in hospital, nursing home and at home is ?

a) Health care

b) Medical care

c) Domiciliary care

d) Nursing care

Correct Answer - B

Ans. is 'b' i.e., Medical Care

- The term 'medical care' is not synonymous with health care.
- Health care means, 'services provided to individuals or communities by agents of the health services or professions for the purpose of promoting, maintaining, monitoring or restoring health'.
- It takes into consideration factors such as basic sanitation, adequate food, healthy life styles, housing, protection against environmental hazards and communicable diseases.
- It includes medical care.

370. Target health indicators of 12th five year plan are all except -

a) Reduce MMR to 100

b) Reduce TFR to 2.1

c) Reduce IMR to 20

d) Reduce prevalence of leprosy to $< 1/10000$

Correct Answer - C

Ans. is 'c' i.e., Reduce IMR to 20

- The twelfth plan will work towards national health outcome goals with following target health indicators :?
- Reduction of infant mortality rate to 25.
- Reduction of maternal mortality rate to 100.
- Reduction of total fertility rate to 2.1.
- Prevention and reduction of under-nutrition in children under 3 years to half of NFHS-3 (2005-06) level.
- Prevention and reduction of anaemia among women aged 15-19 years to 28%.
- Raising child sex ratio in 0-6 years age group from 914 to 950.
- Reduction of poor household's out-of-pocket expenditure.
- viii) Prevention and reduction of burden of communicable and non-communicable diseases and injuries.

371. Source and reservoir are same for which infection -

a) Rabies

b) Tetanus

c) Typhoid

d) Measles

Correct Answer - B

Ans. is 'b' i.e., Tetanus [*Ref Park 23rd/e p. 96 & 22nd/e p. 93*]

- Source & reservoir are same → Tetanus spores survive in soil (reservoir) and a person acquires infection directly from soil (source). So, soil acts as reservoir as well as source.
- Source & reservoir different → In typhoid, bacillus survives and multiplies inside human cases or carriers (act as reservoir), but immediate source of infection is feces or urine of patients, or contaminated food, water or milk (act as source).

372. Reading and writing skills of a moderately mental retarded child

a) Reasonable

b) Basic

c) Minimal

d) None

Correct Answer - B
Ans. is 'b' i.e., Basic

373. Surveillance every Fortnight is according to which malaria programme

a) Urban malaria scheme

b) National malaria control programme

c) Modified plan of operation

d) Malaria eradication programme

Correct Answer - C

Ans. is 'c' i.e., Modified plan of operation [Ref Park 23rd/e p. 384-87]

- According to modified plan of operation active and passive surveillance should be done every fortnight.
- Under The modified plan of operation, the endemic areas were reclassified according to annual parasite incidence (API)
- with different strategy for control measures.
- The report of the consultative committee of experts indicated that in order to stabilize the malaria situation in the country,
- areas with API 2 and above should be taken up for regular spray operations (every 6 weeks).

374. RMNCH+A Strategy, Goals for 2017 are all except

a) Reduction of IMR to 25

b) Reduction of MMR to 100

c) Reduction of TFR to 2.1

d) Reduce anemia in adolescents at 6% annual rate

Correct Answer - D

Ans. is 'd' i.e., Reduce anemia in adolescents at 6% annual rate [Ref Park 23rd/e p. 73]

- Reduce anemia at 6% annual rate in adolescent is coverage target (not goal) for RMNCH + A
- Goals and Targets**
- The 12th Five Year Plan has defined the national health outcomes and the three goals that are relevant to RMNCH+A strategic approach are as follows :
 - Reduction of Infant Mortality Rate (IMR) to 25 per 1,000 live births by 2017.
 - Reduction in Maternal Mortality Ratio (MMR) to 100 per 100,000 live births by 2017.
 - Reduction in Total Fertility Rate (TFR) to 2.1 by 2017.

375. Mission Indradhanush was started in

a) Jan 2005

b) July 2010

c) Dec 2014

d) March 2016

Correct Answer - C

Ans. is 'c' i.e., Dec 2014

- The Government of India launched Mission Indradhanush on 25th December 2014, to cover children who are either unvaccinated or partially vaccinated against seven vaccine **preventable** diseases, i.e., **diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis B.**
- **The goal is to vaccinate all under-fives by the year 2020. Under the programme, four special vaccination campaigns will be conducted between January and June 2015. Intensive planning and monitoring experience of pulse polio immunization programme will be used.**

376. Provision of PHC was done by

a) Bhore Committee

b) Chadah Committee

c) Shrivastava Committee

d) Bajaj Committee

Correct Answer - A

Ans. is 'a' i.e., Bhore Committee [Ref Park 23rd le p. 874]

Bhore Committee

- It is also known as '*Health Survey and Development Committee*'. Its recommendations were :
 - 1) Integration of preventive and curative services at all administration levels
 - 2) Short term and long term recommendations
- Short term : PHC to cater to a population of 40,000
- Long term (*3 million plan*) : PHC units to be set up with 75 bedded hospital for each 10,000 to 20,000 population
 - 3) Major charger in medical education including 3 months training in social and preventive medicine to prepare 'social physicians'.

377. Endemic disease is defined as -

a) Disease occurring regularly in expected frequency

b) Disease occurring irregularly

c) Disease occurring in excess of expected frequency

d) Disease affecting a large population

Correct Answer - A

Ans. is 'a' i.e., Disease occurring regularly in expected frequency [Ref Park 23rd/e p. 93 & 22nd/e p. 89]

Sporadic → Disease occurring irregularly from time to time.

Endemic → Disease occurring regularly in expected frequency.

Epidemic → Disease occurring in excess of expected frequency.

Pandemic → Epidemic affecting a large proportion of population over a wide geographic area.

378. Not transmitted by mite

a) Scabies

b) Scrub typhus

c) Rickettsial pox

d) Kyasanur forest disease

Correct Answer - D

Ans. is 'd' i.e., Kyanasur Forest disease [Ref Park 23/e p. 768 & 22"/e p. 712]

Mites are the vectors for the following diseases :-

Diseases	Vector
Scabies	Itch mite
Scrub Typhus	Trombiculid mite
Rickettsial pox	Trombiculid mite.

379. The study for correlation of genetic disease to consanguinity -

a) Case Contral Study

b) Cohort study

c) Cross-sectional study

d) Case report

Correct Answer - A

Ans. is 'a' i.e., Case Control Study [Ref www.instudyepidemiology.com]

- " The association of consanguinity with complex disorders can be studied using different approaches.
- For example, epidemiological surveys could compare the frequency of a disorder in the progeny of first cousin parents with that of unrelated parents, whereas case-control studies could compare the rates of first cousins among affected individuals and controls".

380. Bangalore method is

a) Controlled tipping

b) Aerobic Composting

c) Anaerobic Composting

d) Sanitary landfill

Correct Answer - C

Ans. is 'c' i.e., Anaerobic Composting [Ref: Park 23rd ed p. 754-758]

There are two methods of composting :

- Bangalore method (Anaerobic hot fermentation process) : Alternate layers of refuse and night soil in proportion of 3:1, with refuse layer both as lowermost as well as uppermost (topmost).
- Indore method or mechanical composting (aerobic process).

381. Not a synthetic pyrethroid insecticide

a) Propoxur

b) Permethrin

c) Cypermethrin

d) Etofenoprox

Correct Answer - A

Ans. is 'a' i.e., Propoxur

Insecticides are divided into :

- Fumigants : Hydrogen cyanide, SO₂, methyl bromide, carbon disulphate.
 - Stomach poisons : Paris green, Sodium fluoride.
 - Contact (nerve) poisons : These are divided into
 - Natural : Pyrethrum, rotenone, Derris, nicotine, mineral oil.**
 - Synthetic : These are -**
1. Organophosphates : Malathion, parathion, fenthion, diazinon, fenitrothion, abate, chlorthion, dioxathion, chlorpyrifos, trichlorfon.
 2. Carbamates : Carbaryl, propoxur, dimetilan, pyrolon.
 3. Organochlorine : DDT, BHC (HCH), dieldrin, aldrin, chlordane, lindane, heptachlor.
 4. Synthetic pyrethroid (pyrethrum derivatives) : Pothrin, resmethrin, permethrin, biopermethrin, cypermethrin, cyphenothrin, cycloprothrin, deltamethrin, cyfluthrin, etofenoprox

382. Parboiling is done for

a) Milling process

b) Polishing of rice

c) Preservation of nutrition

d) Storage of rice

Correct Answer - C

Ans. is 'c' i.e., Preservation of nutrition [Ref Park 23/e p. 627-629]

- Parboiling (*partial cooking in steam*) is technique of preserving the nutritive value of rice.
- In parboiling, greater parts of vitamins and minerals present in outer layer of the rice grain are driven into the deeper layers.
- With subsequent milling the nutrient are not removed.

383.

True about cross section study -

a) Prevalence study

b) Useful for chronic disease

c) Simple study

d) All of the above

Correct Answer - D

Ans. is 'd' i.e., All of the above [Ref Park 23rd ed p. 69 & 22nd ed p. 67]

Cross - sectional studies

- Cross sectional study is the simplest form of an observational study.
- It is also known as prevalence study.
- It is based on a single examination of a cross - section of population at one point of time.
- Results of this examination can be projected on the whole population.
- Cross-sectional study tells about the distribution of a disease rather than its etiology.
- Cross-sectional studies can be thought of as providing a snapshot of the frequency and characteristic of a disease in a population at a particular point in time.
- Cross-sectional study is more useful for chronic disease.
- As population is studied at once, no follow-up is required.

384. True about cohort study -

a) Descriptive study

b) Incidence study

c) Proceeds from effect to cause

d) All are correct

Correct Answer - B

Ans. is 'b' i.e., Incidence study [Ref Park 23rd ed p. 79]

- Cohort study is a type of analytic observational study (like case control study).
- Cohort study proceeds forward from cause to effect, i.e., disease has not occurred in subjects (In contrast to case-control study which proceeds backward from effect to cause).
- It is also known as Prospective study, longitudinal study, Incidence study, forward looking study.
- The features of cohort studies are :
- The cohorts are identified prior to the appearance of the disease under investigation.
- The study groups, so defined, are observed over a period of time to determine the frequency of disease among them.
- The study proceeds forward from cause to effect.

385. National iron plus initiative includes

a) Biweekly supplementation of iron & FA to 6-60 months of age

b) Biweekly supplementation of iron & FA to pregnant & lactating woman

c) Biweekly supplementation of iron & FA to adolescent girls

d) All of the above are parts of initiative

Correct Answer - A

Ans. is 'a' i.e., Biweekly supplementation of iron & FA to 6-60 months of age [Ref nrhmhp.gov.in]

→ **Under national Iron + Initiative, the following age groups are covered for lifelong supplementation of iron from the age of 6 month onwards:**

- Bi-weekly 20 mg elemental iron and 100 microgram (mcg) folic acid per ml of liquid formulation and age appropriate de-worming for preschool children of 6-59 months.
- Weekly supplementation of 45 mg elemental iron and 400 mcg folic acid per child per day for children from 1st to 5th grade in govt. & Govt. Aided schools, and at AWC for out of school children (6 to 10 years).
- Weekly dose of 100 mg elemental iron and 500 mcg folic acid with biannual de-worming in adolescents (10-19 years) under WIFS
- Weekly supplementation for woman in reproductive age, Pregnant and lactating women.

386. Infectious agent is transmitted to susceptible host from -

a) Source

b) Reservoir

c) Carrier and Case

d) All of these

Correct Answer - D

Ans. is 'd' All of these [Ref Park 23^{ra}/e p. 92-97]

- Actually infectious agent can be transmitted to susceptible host by all the given options.
- But all are then classified as source of infection to the host.
- Source is 'the person, animal, object or substance from which infectious agent passes to host', i.e. man acquires infection from source.
- Reservoir is 'any person, animal, insect, plant, soil or substance in which an infectious agent lives and multiplies'.
- Infectious agent is dependent on reservoir for survival. From reservoir it can be transmitted to susceptible host.
- Thus a reservoir may act as a source of infection when a person acquires infection directly from a reservoir.

387. Carbohydrate reserve of human body

a) 350 gm

b) 600 gm

c) 950 gm

d) 1500 gm

Correct Answer - A

Ans. is 'a' i.e., 350 gm

- Carbohydrate store of body is approximately 350 grams (70 grams hepatic glycogen and 280 grams muscle glycogen).

388. Fibers are maximum in

a) Wheat

b) Oat

c) Rice

d) Corn

Correct Answer - D

Ans. is 'd' i.e., Corn [Ref Textbook of nutrition p. 338]

Wheat bran 42.2

Oat bran 22.2

Soy bran 70.0

Corn bran 82.3

Rice bran 38.0

Barley bran 70.0

389. First step in control of cholera epidemic -

a) ORS therapy

b) Provision of safe water

c) Verification of diagnosis

d) Chemoprophylaxis

Correct Answer - C

Ans. is 'c' i.e., Verification of diagnosis [Ref Park 23rdie p. 230-233]

- First step in control of any epidemic is verification of diagnosis.
There are following steps in the investigation of an epidemic :
- 1. Verification of diagnosis : This is the first step in investigation of an epidemic.
- 2. Confirmation of existence of an epidemic : By comparing with disease frequencies during same period in previous years.
- 3. Defining the population at risk.
- 4. Rapid search for all cases and their characteristics : Search for new cases is carried out everyday, till the area is declared free of epidemic; this period is usually taken as "twice the incubation period of the disease since the occurrence of last case".
- 5. Data analysis.
- 6. Formulation of hypothesis.
- 7. Testing of hypothesis.
- 8. Evaluation of ecological factors.
- 9. Further investigation of population at risk.
- 10. Writing the report.

390. Tuberculin conversion index is a measure of -

a) Incidence of case

b) Prevalence of case

c) Incidence of infection

d) Prevalence of infection

Correct Answer - C

Ans. is 'c' i.e., Incidence of infection [Ref Park 23rd/e p. 183] Incidence of infection (Annual infection rate)

- It is the percentage of population under study who will be newly infected by M.tuberculosis among the non-infected of the preceding survey during the course of one year.
- It expresses the attacking force of tuberculosis and is also known as tuberculin conversion index i.e. percentege of new people becoming tuberculin positive.
- In developing countries, every 1% of annual infection rate is said to correspond to 50 new cases of smear positive pulmonary TB, per year, for 100000 general population.
- It is the best indicator for evalution of TB problem and its trend.
- In India, annual infection rate/tuberculin conversion index is 1.7%.

391. Highest fat content is found in -

a) Wheat

b) Rice

c) Maize

d) Bajra

Correct Answer - D

Ans. is 'd' i.e., Bajra

- Among cereals (maize, wheat, rice), maize has highest fat content.
- Amongst millets, bajara has highest fat content
- Bajra has more fat (5gm/100gm) than maize (4.5-4.7 gm/100 gm).

392. Frist priority age group for vaccination of german measles -

a) 1-14 years male children

b) 1-14 years female children

c) 15-34 years female

d) 15-34 years male

Correct Answer - C

Ans. is 'c' i.e.,15-34 years female [Ref: Park 23rd le p. 151]

- German measles is rubella.
- First priority is to protect women of child bearing age (15 - 34 or 39 years)
- Next priority is to vaccinate all children currently 1 - 14 years of age (to intercept transmission)
- Next priority is to vaccinate all children at one year of age (To intercept transmission)

393. In India a child is

a) < 8 years

b) < 10 years

c) < 14 years

d) < 18 years

Correct Answer - C

Ans. is 'c' i.e., < 14 years [Ref www.childindia.org.in]

- "The census of India Considers Children to be any person below the age of 14, as do most government programmes"

394. For tuberculosis screening which test is done -

a) Sputum microscopy

b) Sputum culture

c) Tuberculin test

d) Lymph node biopsy

Correct Answer - C

Ans. is 'c' i.e., Tuberculin test [Ref Sadhana Gupta p. 479]

"Tuberculin test is done with purified protein derivation (PPD) and important screening test for TB".

Tests for tuberculosis screening are :-

1. Tuberculin test (Mantoux test).
2. Interferon-gamma release assay (e.g. Quantiferon TB assay).

395. Best representation of a population with age variation

a) Life table

b) Correlation coefficient

c) Population pyramid

d) Bar chart

Correct Answer - C

Ans. is 'c' i.e., Population pyramid [Ref Park 23rd/e p. 482 & 22nd/e p. 444]

- The age and sex distribution of a population is best represented by population pyramid
- In countries with high birth rates as ours, it is broad based conical pyramid because of high birth rate and tapering of population with increase in age.
- In developed countries with low birth rate, the pyramid swells in the middle and is narrow at the base and is not so conical at the top. (dumb bell shaped).

396. Chimney Sweepe's Cancer is also known as -

a) Carcinoma Scrotum

b) Carcinome urinary bladder

c) Carcinoma testis

d) Carcinoma penis

Correct Answer - A

Ans. is 'a' i.e., Carcinoma scrotom [Ref Internet]

"Chimney Sweepe's Cancer, also called soot wort, is a squamous cell carcinoma of the skin of the scrotum".

397.

ICD - 10 chapter 1 describes ?

a) Poisoning and consequences

b) Diseases of the nervous system

c) Infectious and parasitic diseases

d) Psychiatric diseases

Correct Answer - C

Ans. is 'c' i.e., Infectious and parasitic diseases [Ref ICD- 10 classification online resource]

- The ICD-10 is arranged in 21 major chapters.

21 Chapters and their contents

- Chapter I includes 'Infectious and parasitic diseases'
- Chapter II includes 'Neoplasms'
- Chapter III includes 'Diseases of blood & immune system'
- Chapter IV includes 'Endocrine, nutritional and metabolic disorders'
- Chapter V includes 'Mental & behavioral disorders'
- Chapter VI includes 'Diseases of nervous system'
- Chapter VII includes 'Diseases of eye'
- Chapter VIII includes 'Diseases of ear and mastoid'
- Chapter IX includes 'Diseases of CVS'
- Chapter X includes 'Diseases of respiratory system'
- Chapter XI includes 'Diseases of digestive system'
- Chapter XII includes 'Diseases of skin & subcutaneous tissue'
- Chapter XIII includes 'Diseases of musculoskeletal system'
- Chapter XIV includes 'Diseases of genitourinary system'
- Chapter XV includes 'Pregnancy childbirth and perperium'
- Chapter XVI includes 'Conditions of perinatal period'

- Chapter XVII includes 'Congenital malformation and genetic disorders'
- Chapter XVIII includes 'Clinical and laboratory findings not included elsewhere'
- Chapter XIX includes Injury, poisoning and other consequences of external causes.
- Chapter XX includes 'External causes of morbidity and mortality'
- Chapter XXI (21) includes Factors influencing health status and contact with health services

398. Medical sociology views illness as ?

- a) Purely medical problem
- b) Medical and environmental problem
- c) Medical and psychosocial problem
- d) Psychosocial problem

Correct Answer - C

Ans. is 'c' i.e., Medical and psychosocial problem [Ref Park 22nd ed p. 632, 622]

- Medical sociology is a specialization within the field of sociology.
- Its main interest is in the study of health, health behaviour and medical institutions.
- As a specialized field, it was first proposed by Charles McIntire in 1894.
- It is defined as "professional endeavour devoted to social epidemiology, the study of cultural factors and social relations in connection with illness, and the social principles in medical organization and treatment."
- Broadly speaking medical sociology includes studies of the medical profession, of the relationship of medicine to public, and of the social factors in the aetiology, prevalence, incidence and interpretation of disease.

399. WHO immunization evaluation coverage survey is normally done in what age group?

a) 0-12 months

b) 6-12 months

c) 12-23 months

d) 9-12 months

Correct Answer - C

Ans. is 'c' i.e., 12-23 months [Ref Health policies & programme in India 4th/e p. 45]

- WHO used 30 x 7 technique (total = 210 children) for cluster sampling in which there are 30 clusters, each containing 7 children
- who are 12 - 23 months old and are completely immunized for primary immunization (till measles vaccine at 9 month).

400. API > 2 criteria and management of it?

a) Regular 2 round of Insecticide spray

b) Surveillance every fortnight

c) Presumptive treatment of all fever cases

d) All of above

Correct Answer - D

Ans. is 'd' i.e., All of above

Areas having Annual Parasite Index (API) > 2

- Regular 2 rounds of insecticidal spray with DDT/Malathion/Synthetic Pyrethroids at the dose of 1, 2, 0-5 mg/sq meter respectively.
- Entomological assessment for vector behavior and development of insecticidal resistance
- Active and passive surveillance is carried out on regular basis every fortnight.
- Presumptive Treatment to all fever cases and radical treatment to all slide positive cases is given

Areas having Annual Parasite Index(API) < 2

- Regular spray is not carried out but focal' spray is carried out around falciparum cases detected during surveillance
- Regular passive surveillance once in a fortnight
- Treatment -All positive cases to receive radical treatment
- Follow up-All positive cases to be followed up for 1 year at monthly intervals after completion of radical treatment
- Epidemiological investigation of all malaria positive cases. This may also include mass blood survey.

401. Empowered action group is applicable for all states except -

a) Madhya Pradesh

b) Jharkhand

c) Rajasthan

d) Assam

Correct Answer - D

Ans. is 'd' i.e., Assam [Ref Park 22nd/e p. 417]

- The Empowered Action Group (EAG) set up to facilitate preparation of area-specific programmes in eight states, namely, Bihar, Jharkhand, MP, Chhatisgarh, Orissa, Rajasthan, UP and Uttarakhand, which have lagged behind in containing population growth to manageable levels.

402. True about varicella vaccine is ?

a) Poorly immunogenic

b) Duration 4-6 months

c) Avoid salicylates for 4-6 weeks

d) Given to child < 12 months when they do not have chicken pox

Correct Answer - C

Ans. is 'c' i.e., Avoid salicylates for 4-6 weeks [Ref Park 22nd/e p. 137]

- A live attenuated varicella virus vaccine is safe and currently recommended between 12-18 months of age who have not had chicken pox.
- The vaccine is very immunogenic, sero-conversion occurs in 95% of children after a single dose.
- A duration of immunity is not known, but is probably 10 years.

403. Obesity predisposes to all, except ?

a) Diabetes

b) Colon cancer

c) Lung cancer

d) Breast cancer

Correct Answer - C

Ans. is 'c' i.e., Lung cancer

Obesity increases the risk of following diseases :-

- Greatly increased risk : NIDDM, gall bladder disease, insulin resistance, dyslipidaemia, sleep apnea and breathlessness.
- Moderately increased risk : Type-2 DM, hypertension, CHD, osteoarthritis (knee), hyperuricemia and gout.
- Slight increased risk : Cancers (breast, endometrium, colon), PCOD, impaired fertility, low back pain, and fetal defects.

404. The 'Year of Great divide' with regard to population growth in India is ?

a) 1921

b) 1931

c) 1941

d) 1951

Correct Answer - A

Ans. is 'a' i.e., 1921 [Ref Park 22nd/e p. 443]

- India's population has been steadily increasing since 1921. *The year 1921 is called the "big divide" because the absolute number of people added to the population during each decade has been on the increase since 1921.*

405. Family planning became as voluntary from which year?

a) 1977

b) 1953

c) 1992

d) 1997

Correct Answer - A

Ans. is 'a' i.e., 1977 [Ref Park 22nd/e p. 455]

- National population policy was further modified and re-announced in 1977. In this new policy, what was reinforced was education and health. The latter component of the reformulated policy included the general as well as maternal and child health both. A voluntary family planning was also introduced here on.

406. All are monitoring indices of leprosy control project except -

a) New case detected per year

b) Rate of new cases with disability

c) Lepromin test positive population

d) Treatment completion rate

Correct Answer - C

Ans. is 'c' i.e., Lepromin test positive population [Ref Park 22nd/e p. 301-302]

Core indicators for monitoring the progress of leprosy eradication programme are :

1. Number and rate of new cases detected per 100000 population per year.
2. Rate of new cases with grade-2 disabilities per 100000 population.
3. Treatment completion/cure rate.

407. Main period of communicability of whooping cough?

a) Incubation period

b) Paroxysmal stage

c) Catarrhal stage

d) Convalescent stage

Correct Answer - C

Ans. is 'c' i.e., Catarrhal stage [Ref: Park 22nd ed p. 155,156]

- Pertussis, also called '*100 day cough*', is caused by *Bordetella pertussis* (only 5% cases are caused by *B. parapertussis*).
- there is **no cross immunity** between *B. pertussis* and *B. parapertussis*.
- Period **of infectivity (communicability)** extends from a week after exposure to about 3 weeks after the onset of paroxysmal stage. **Catarrhal stage is most infective. Secondary attack rate is high, i.e. 90%.**

408. Partial-Birth Abortion Ban Act pas passed in ?

a) 1995

b) 2000

c) 2003

d) 2008

Correct Answer - C

Ans. is 'c' i.e.,2003 [Ref Oxford encyclopedia of women in world history p. 4]

- Partial-Birth Abortion Ban act was a bill **introduced** in the congress of united states in 1995.
- It was **passed** in **2003**.

409. Secondary prevention is applicable to ?

a) Causal factors

b) Early stage of disease

c) Late stage of disease

d) None of the above

Correct Answer - B

Ans. is 'b' i.e., Early stage of disease [Ref Park 22nd/e p. 41, 42]

- Primordial prevention → Before risk factor present.
- Primary prevention → Before onset of disease (risk factor present).
- Secondary prevention → In early stage of disease.
- Tertiary prevention → Late stage of disease.

410. Right to life ?

a) Is a moral principle

b) Signifies that every human being has the right to live

c) Advocates against the unjust killing of one human being by another

d) All the above

Correct Answer - D

Ans. is 'd' i.e., All of the above [Ref Wikipedia] Right to life:

- The right to life is a moral principle based on the belief that a human being has the right to live and, in particular, should not to be unjustly killed by another human being. The concept of a right to life is central to debates on the issues of euthanasia, capital punishment, abortion, self-defense and the morality of war.

411. Dracanculosis elimination program, which of the following activities is not evaluated to know the extent of goal achievement ?

a) Provision of protected water sources

b) Health education

c) Chemical disinfection of water sources

d) Registration of new cases

Correct Answer - D

Ans. is 'd' i.e., Registration of new cases

The extent to which Dracanculosis Medinensis Elimination program goals are achieved can be determined by calculating the percentage of planned activities that are actually carried out. A list of these activities is as follows:

- Provision of protected water sources.
- Health education
- Chemical disinfection of the water sources
- Treatment of patients
- Training

412. Who takes care of the blind data surveys register ?

a) District Health Society

b) State Health Society

c) Central Program Division, DGHS

d) Village Health Guide

Correct Answer - A

Ans. is 'a' i.e., District Health Society [Ref <http://npcb.nic.in/writereaddata/mainlinkfile/File106.pdf>]

Composition of the district health society

- The District Health Society has a maximum of 15 members. Chairman, Vice-Chairman, Member Secretary, Technical Advisor, and other Members like Medical Superintendent! Civil Surgeon of Distt. Hospital, District Education Officer, Representatives from NGOs engaged in eye care services, District Mass media/ IEC officer, Prominent practicing eye surgeons.