



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

Public Health

Instructions / Note:

1. Answer all the questions. Each question carries one mark.
2. No negative marks for wrong answers.
3. Read each question carefully and answer in the OMR sheet provided for each question with only blue/ black pen to fill the circles in the OMR Sheet.
4. Return the question paper along with the OMR sheet.

Time: 90 Minutes

Venue: _____.

[35X1=35]

Part - B

1. Who is known as 'First True Epidemiologist' in history of medicine?
 - A. John Snow
 - B. Hippocrates
 - C. James Lind
 - D. Joseph Lister
2. Quarantine was first applied for:
 - A. HIV/AIDS
 - B. Tuberculosis
 - C. Leprosy
 - D. Plague
3. Natural history of disease is best studied by:
 - A. Cross sectional study
 - B. RCT
 - C. Case-control study
 - D. Cohort study
4. Not allowing the emergence or development of the risk factor itself is which level of prevention?
 - A. Primordial
 - B. Primary
 - C. Secondary
 - D. Tertiary



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

5. Incidence of a disease in a population of 30,000 and 300 new cases is:
 - A. per 1000
 - B. 10 per 1000
 - C. 100 per 1000
 - D. 1 per 1000
6. All are true for Point source epidemic except:
 - A. Epidemic curve rises and falls sharply
 - B. Clustering of cases within a short period of time
 - C. Person-to-person transmission
 - D. All cases usually develop within one incubation period
7. The ratio between the incidence of disease among exposed and non-exposed is called:
 - A. Causal risk
 - B. Relative risk
 - C. Attributable risk
 - D. Odds ratio
8. Confounding can be eliminated by all except:
 - A. Matching
 - B. Blinding
 - C. Randomization
 - D. Multivariate analysis
9. A test for hepatitis C is performed for 200 patients with biopsy-proven disease and 200 patients known to be free of the disease. The test shows positive results on 180 of the patients with the disease, and negative results on 150 of the patients without the disease. Among those tested, this test therefore:
 - A. Has a positive predictive value of 90%
 - B. Has a negative predictive value of 75%
 - C. Has a sensitivity of 90%
 - D. Has a specificity of 82.5%
10. Maternal Mortality Rate is calculated by:
 - A. Maternal deaths/live birth
 - B. Maternal deaths/1000 live births
 - C. Maternal deaths/100000 live births
 - D. Maternal deaths/100000 population
11. Positive predictive value is most affected by:
 - A. Prevalence
 - B. Sensitivity
 - C. Specificity
 - D. Relative risk



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

12. Which of the following is the initial-most step in investigation of an epidemic ?
 - A. Defining the population at risk
 - B. Confirmation of existence of an epidemic
 - C. Verification of diagnosis
 - D. Rapid search for all cases and their characteristics
13. In establishing Causal Association, most essential criterion is
 - A. Consistency of relationship
 - B. Temporal relationship
 - C. Duration of relationship
 - D. Strength of relationship
14. 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
15. Gold standard study for Clinical research is
 - A. Randomised double-blind trial
 - B. Systematic meta-analysis
 - C. Ecological study
 - D. Retrospective cohort study
16. Definition of Population attributable risk
 - A. Risk of disease among exposed as compared to non exposed
 - B. Difference in risk of exposed and non-exposed groups
 - C. Estimate of amount of disease that can be reduced if risk factor is modified/ eliminated
 - D. Extent to which disease can be attributed to risk factor under study
17. Berksonian bias is a type of
 - A. Selection bias
 - B. Interviewer bias
 - C. Information bias
 - D. Recall bias
18. True about case control studies is –
 - A. Minimal problems of bias
 - B. Time consuming & expensive to carry out
 - C. Easy to measure incidence
 - D. Suitable to investigate rare diseases
19. In a study of 200 smokers & 300 non-smokers were followed up over a period of 10 yrs to find out incidence of hypertension. Out of 200 smokers, 60 developed hypertension, as compared to 600 non-smokers of which 30 developed hypertension. The risk ratio of the study
 - A. 3
 - B. 30
 - C. 1/3
 - D. 6



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

20. Hawthorne effect is seen in:
- A. Case-control study
 - B. Cohort study
 - C. Cross-sectional study
 - D. Retrospective cohort study
21. Which of the following is ideal to ensure similarity between experimental & control groups:
- A. Randomization
 - B. Matching
 - C. Stratified randomization
 - D. Cross over study
22. Specificity of a screening test is the ability of a test to detect:
- A. True positives
 - B. False positives
 - C. False negatives
 - D. True negatives
23. Sensitivity of a test is:
- A. $\frac{\text{True positive}}{\text{True positive} + \text{false negative}}$
 - B. $\frac{\text{True positive}}{\text{False positive} + \text{true negative}}$
 - C. $\frac{\text{True negative}}{\text{True negative} + \text{false positive}}$
 - D. $\frac{\text{True negative}}{\text{False negative} + \text{true positive}}$
24. True statement about PPV is
- A. It increases with prevalence
 - B. It decreases with prevalence
 - C. No relation with prevalence
 - D. Doubles with decrease in prevalence
25. All are true regarding Critical Path Method (CPM) except:
- A. Is a part of Input-Output analysis
 - B. Visualised in graphical representation of all events/activities carried out
 - C. Is the longest part of the network
 - D. Any delay in CP delays whole project
26. PERT is a type of:
- A. Input-output analysis
 - B. System analysis
 - C. Network analysis
 - D. Research Technique
27. Measurement of blood pressure is which type of data:
- A. Nominal
 - B. Ordinal
 - C. Interval
 - D. Continuous



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM

(Deemed to be University under section 3 of the UGC Act 1956)

28. An investigator into the life expectancy of IV drug abusers divides a sample of patients into HIV-positive and HIV-negative groups. What type of data does this division constitute?
- A. Nominal
 - B. Ordinal
 - C. Interval
 - D. Ratio
29. Under RNTCP, a patient who was initially sputum smear +ve, who began treatment and who remained or became smear +ve again at 5 months or later during course of treatment is a:
- A. New case
 - B. Relapse
 - C. Failure case
 - D. Defaulter
30. India is in which phase of demographic cycle?
- A. High stationary
 - B. High expanding
 - C. Low stationary
 - D. Late expanding
31. A 40 year old man working in a coal mine since 15 years developed cough, dyspnoea on exertion and chest pain. His X-ray showed "snow – storm" appearance in lung fields. The most likely diagnosis is:
- A. Anthracosis
 - B. Silicosis
 - C. Asbestosis
 - D. Siderosis
32. Saddleback fever is known as
- A. Brucellosis
 - B. Dengue fever
 - C. Malaria fever
 - D. Typhoid fever
33. A 2-year-old female child was brought to a PHC with a history of cough and fever for 4 days with inability to drink for last 12 hours. On examination, the child was having weight of 5 kg and respiratory rate of 45/minute with fever. The child will be classified as suffering from:
- A. Very severe disease
 - B. Severe Pneumonia
 - C. Pneumonia
 - D. No Pneumonia
34. Sullivan's Index:
- A. Measures disability
 - B. Measures life years adjusted with death
 - C. Measures life expectancy free of disability
 - D. Measures life expectancy



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

35. Rejecting a null hypothesis when it is true is called as:

- A. Type 1 error
- B. Type 2 error
- C. Type 3 error
- D. Type 4 error



MLT

Part – B

[35x1=35]

1. Mycobacterium Leprae is demonstrated by

- a. PTAH Technique
- b. AFB
- c. Fite- Feracco
- d. GMS

2.Example of a coagulant fixative

- a. Chromium trioxide
- b. Formaldehyde
- c. Osmium tetroxide
- d. Ethyl alcohol

3.Metabolic acidosis is characterized by

- a. \downarrow HCO₃⁻
- b. \uparrow HCO₃⁻
- c. \downarrow pCO₂
- d. \uparrow pCO₂

4.Elevated level of one of the following enzyme serves as a marker of chronic alcoholism

- a. ALT
- b. CEA
- c. GGT
- d. 5'nucleotidase

5.Elevated level of the following lipoprotein is considered to be cardio-protective.

- a. Chylomicrons
- b. VLDL
- c. LDL



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

- d. HDL
- 6. Albumin is exclusively synthesized by
 - a. Liver
 - b. Kidneys
 - c. Spleen
 - d. Skeletal muscle
- 7. A suppressed TSH and a raised free T₃ and T₄ indicate
 - a. Thyrotoxicosis
 - b. Myxoedema
 - c. Cretinism
 - d. All the above
- 8. The presence of CEA in Serum is detected in
 - a. Hepatoma
 - b. Germ cell tumor of the testis
 - c. Colorectal cancer
 - d. Choriocarcinoma
- 9. In liver cirrhosis the electrophoretic pattern of separation of plasma protein show
 - a. Reduced band of albumin and pre albumin
 - b. Decreased γ - globulin
 - c. Increased β - globulin
 - d. All the above
- 10. Bilirubin is not excreted in urine in
 - a. Obstructive jaundice
 - b. Hepatic jaundice
 - c. Haemolytic jaundice
 - d. All the above
- 11. All the following are hyperglycemic hormone except
 - a. Insulin
 - b. Cortisol
 - c. Epinephrine
 - d. Glucagon
- 12. Following agent is used in chemical sterilization method.



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

- a. Pasteurization
 - b. Dyes
 - c. Radiation
 - d. Sonic vibrations
13. Which of the following bacterial species is commonly used as a microbiological test of dry heat efficacy.
- a. Escherichia coli
 - b. Pseudomonas aeruginosa
 - c. Clostridium tetani
 - d. Candida albicans
14. Which of the following culture media is used for the cultivation of fungus?
- a. Nutrient agar
 - b. Sabouraud dextrose agar
 - c. Robertson's Cooked Meat medium
 - d. Peptone water
15. Identify the correct characteristics of *Staphylococcus aureus*.
- a. Gram-positive cocci, Catalase-positive, Coagulase-positive
 - b. Gram-negative cocci, Catalase-negative, Coagulase-negative
 - c. Gram-negative bacilli, Catalase-positive, Coagulase-positive
 - d. Gram-negative bacilli, Catalase-negative, Coagulase-negative
16. Extrachromosomal genetic element capable of autonomous replication is _____
- a. Bacteriophage
 - b. Chromosome
 - c. Mutagen
 - d. Plasmid
17. Rickettsia is the causative agent of _____
- a. Typhus fever
 - b. Cholera
 - c. Dysentery
 - d. Typhoid fever
18. Albert stain is used to _____
- a. Differentiate bacteria into Gram-positive and Gram-negative bacteria



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

- b. Demonstrate the metachromatic granules
- c. Identify Mycobacterium species
- d. Identify motile bacteria

19. Reticulocytes can be easily demonstrated with the following stain_____

- a. Leishman stain
- b. New methylene blue
- c. Haematoxylin
- d. Giemsa stain

20. Osmotic fragility is increased in _____

- a. Hereditary spherocytosis
- b. Thalassemia
- c. Sickle cell anaemia
- d. Iron deficiency anaemia

21. Organisms which are ordinarily aerobic but can also grow in the absence of oxygen are

- a. Obligate anaerobes
- b. Facultative anaerobes
- c. Obligatory aerobes
- d. Microaerophilic bacteria

22. Generation time for E. coli is

- a. 20 hours
- b. 24 hours
- c. 20 minutes
- d. 24 hours

23. _____ is an example for microaerophilic bacteria.

- a. Helicobacter pylori
- b. Escherichia coli
- c. Salmonella
- d. Klebsiella

24. _____ is a bacterial enzyme that directly damages host tissue.

- a. Acid phosphatase



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

- b. Alkaline phosphatase
- c. Hyaluranidase
- d. Lactate dehydrogenase

25. Cross infections occurring in hospitals is called as

- a. Reinfection
- b. Iatrogenic infection
- c. Nosocomial infection
- d. Focal infection

26. In which condition Charcot-Leyden crystals are seen in stool?

- a. Bacterial dysentery
- b. Amoebiasis
- c. Intestinal hemorrhage
- d. Indigestion

27. _____ is used for recovery of dried tissues.

- a. Formalin
- b. Chloroform
- c. Formol-glycerol
- d. Formaldehyde

28. _____ pigment is identified by Prussian blue reaction.

- a. malachite
- b. haemosiderin
- c. bilirubin
- d. melanin

29. _____ immunoglobulin provides mucous membrane protection.

- a. IgA
- b. IgG
- c. IgM
- d. IgE

30. Which of the following cell produces antibodies?

- a. Neutrophils



- b. T lymphocytes
 - c. Plasma cells
 - d. Basophils
31. Which of the following type of Hypersensitivity is IgG mediated response?
- a. Type I
 - b. Type II
 - c. Type III
 - d. Type IV
32. Which leukocyte in immunity plays a main role in phagocytosis of parasites?
- a. Basophils
 - b. Neutrophils
 - c. Eosinophils
 - d. Monocytes
33. Which of the following simple fixative widely used in electron microscopy?
- a. Picric acid
 - b. Formalin
 - c. Mercuric bromide
 - d. Osmium tetroxide
34. Use of cedar wood oil in Tissue processing can be
- a. Impregnation
 - b. Clearing
 - c. Staining
 - d. Embedding
35. Which of the following Hematoxylin staining doesn't compose of iron as a mordant?
- a. Weigert's
 - b. Heidenhain's
 - c. Verhoeff's
 - d. Ehrlich's

