

Masters in Public Health
Entrance Examination – 2017

Hall Ticket Number

Time: 2 hours

Total Marks: 100

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE ANSWERING.

INSTRUCTIONS

1. This booklet has (18) pages. Please check thoroughly for all the pages.
 2. Enter the Hall Ticket number on the first page of this booklet as well as on the OMR sheet.
 3. There is negative marking for questions in Part A. For each wrong answer 0.33 marks will be deducted.
 4. There are two PARTS in the question paper – PART A (Question numbers 1-25) and PART B (Question numbers 26 -100). In case of a tie, marks obtained in PART A will be considered for resolving the tie.
 5. Calculators are not permitted.
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PART A

1. Anatomy is the branch of science that deals with
 - A. Functioning of body
 - B. Plant cells and tissues
 - C. The structure of organisms and their parts
 - D. Animal behavior

2. Zymogens are inactive
 - A. enzymes
 - B. hormones
 - C. nucleotides
 - D. glycosides

3. Pollen grains are rich in
 - A. Nutrients
 - B. Water
 - C. Salt
 - D. Starch

4. Total volume of blood in a normal adult human being is
 - A. 5-6 liters
 - B. 3-4 liters
 - C. 8-10 liters
 - D. 10-12 liters

5. What reaction combines small molecules to form large molecules
 - A. Anabolic reaction
 - B. Catabolic reaction
 - C. Anabolism
 - D. Hydrolase reaction

6. What are the tubular structures present in xylem
 - A. Tracheids and vessels
 - B. Xylem parenchyma
 - C. Sieve tubes
 - D. Xylem fibers

7. Which one of the following is **not** correct
 - A. Insulin : Pancreas
 - B. Epinephrine : Adrenal gland
 - C. Prolactin : Pituitary gland
 - D. Oxytocin : Thyroid gland

8. Kidneys maintain blood pressure by regulating
- A. Salt and fluid levels in the body
 - B. Nutrient levels in the body
 - C. Toxin levels in the body
 - D. Lipids and proteins in the body
9. Which of the following salt is formed when nitric acid is neutralized using potassium hydroxide
- A. Potassium sulphate
 - B. Potassium chloride
 - C. Sodium nitrate
 - D. Potassium nitrate
10. Chips cook faster than boiled potatoes due to the chips having a
- A. Smaller surface area and cooking at a lower temperature
 - B. Larger surface area and cooking at a lower temperature
 - C. Larger surface area and cooking at a higher temperature
 - D. Smaller surface area and cooking at a higher temperature
11. The stages of a malignant disease (cancer) is recorded using the symbols 0, I, II, III, IV. We say that the scale used is:
- A. Alphanumeric
 - B. Numerical
 - C. Ordinal
 - D. Nominal
12. The result of a statistical test, denoted p , shall be interpreted as follows:
- A. the null hypothesis H_0 is rejected if $p < 0.05$
 - B. the null hypothesis H_0 is rejected if $p > 0.05$
 - C. the alternate hypothesis H_1 is rejected if $p > 0.05$
 - D. the null hypothesis H_0 is accepted if $p < 0.05$
13. A circle divided into sectors proportional to the frequency of items shown is called
- A. Bar chart
 - B. Pie chart
 - C. Frequency polygon
 - D. Histogram

14. Which of the metals below is most reactive
- A. Zinc
 - B. Copper
 - C. Magnesium
 - D. Iron
15. Which one of them is a correct pair:
- A. Glucose: ADP
 - B. Process does not require oxygen: Anaerobic
 - C. Adenosine diphosphate: Autotrophs
 - D. Organisms that make their own food: $C_6H_{12}O_6$
16. Infantile deaths are taken only below:
- A. 7 days
 - B. 1 month
 - C. 1 year
 - D. 2 years
17. DDT (Dichlorodiphenyltrichloroethane) acts by
- A. Contact poison
 - B. Repellent
 - C. Stomach poison
 - D. All of them
18. Aedes Egypti mosquito is responsible for
- A. Malaria
 - B. Kala azar
 - C. HIV
 - D. Dengue fever
19. SDG is an acronym for
- A. Survival Development Goals
 - B. Sustainable Development Goals
 - C. Standard Developmental Goal
 - D. Selective Development Goals

20. A drinking water well must be _____ feet away from a source of contamination
- A. 25
 - B. 50
 - C. 75
 - D. 100
21. Strength of sewage is expressed in terms of _____
- A. Biological Oxygen Demand (BOD)
 - B. Chemical Oxygen Demand (COD)
 - C. Suspended solids
 - D. E. Coli count
22. The following are the best indicators of the level of air pollution except:
- A. Sulphur dioxide
 - B. Smoke index
 - C. Carbon monoxide
 - D. Suspended particles
23. Which one of the following is organophosphorous poison:
- A. Physostigmine
 - B. Dyflos
 - C. Tacrine
 - D. Edrophonium
24. In pregnancy:
- A. Plasma fibrinogen levels are increased
 - B. Fibrinogen levels are decreased
 - C. Thyroglobulins are decreased
 - D. IgD are markedly increased
25. The response graded by an observer on an agree or disagree continuum is based on:
- A. Visual analog scale
 - B. Guttman Scale
 - C. Likert Scale
 - D. Adjectival scale
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PART B

26. Human body requires the following macronutrients
- A. Calcium, phosphorus, magnesium
 - B. Carbohydrates, Proteins, Fats
 - C. Potassium, Chloride, Sodium
 - D. Oxygen, water, sunlight
27. Hydrophobia is another name for _____.
- A. Anthrax
 - B. Mad cow disease
 - C. Brucellosis
 - D. Rabies
28. All the following are common diseases transmitted by mosquitoes, except:
- A. Filaria
 - B. Diptheria
 - C. Japanese encephalitis
 - D. Chikunganya
29. Bile acids are formed from:
- A. Cholesterol
 - B. Amino acids
 - C. Bilirubin
 - D. Lipoproteins
30. All the following are characteristics of a Normal or Gaussian distribution except:
- A. Half the measurements lie above and half lie below the mean.
 - B. Most of the measurements are concentrated around the mean.
 - C. The mean, median and mode do not coincide
 - D. The mean \pm 2 Standard Deviations include 95% of all values
31. The classical signs of inflammation are the following except
- A. Pain - Dolor
 - B. Heat - Calor
 - C. Redness - Rubor
 - D. Paleness - Pallor

32. Incubation period (in days) of seven polio cases are (8, 6, 5, 8, 6, 4, 5). Calculate the mean Incubation period.
- A. 6
 - B. 5
 - C. 7
 - D. 8
33. The list of each and every individual in the population is called as
- A. Sampling frame
 - B. Sampling error
 - C. Sampling ratio
 - D. Sampling procedure
34. Medical Termination of Pregnancy Act was passed by the Indian Parliament in the year:
- A. 1971
 - B. 1989
 - C. 1995
 - D. 2001
35. The International women's Day is celebrated every year on:
- A. 1st May
 - B. 1st December
 - C. 8th March
 - D. 7th April
36. The level of immunity that is present in a population against an infectious agent is known as
- A. Innate immunity
 - B. Acquired immunity
 - C. Selective immunity
 - D. Herd immunity
37. What term is used to describe the motion when a body part is moved away from the body?
- A. Flexion
 - B. Extension
 - C. Abduction
 - D. Adduction

38. Hyponatremia is the term used to describe deficiency of which mineral in the blood?

- A. Sodium
- B. Potassium
- C. Calcium
- D. None of the above

39. KATA thermometer is mainly used for measuring

- A. Heat stress
- B. Cooling power of the air
- C. Humidity of air
- D. Wind direction

40. Sullivan's index measures

- A. Disability
- B. Life expectancy free of disability
- C. Free of disability
- D. GNP

41. First vaccine for humans was developed by

- A. Edward Jenner
- B. Louis Pasteur
- C. James Watson
- D. Ulf von Euler

42. E-coli index of potable water should not exceed

- A. 11
- B. 18.1
- C. 10
- D. 8

43. The percentage of methyl alcohol recommended for sterilization is

- A. 70.01
- B. 72.8
- C. 73.66
- D. 79.22

44. Nalgonda technique is used for
- A. Parboiling of rice
 - B. De-fluoridation of water
 - C. Composting of solid waste
 - D. Disinfection of water sources
45. The pathogen of the typhoid is directly transmitted through
- A. Urine
 - B. Water
 - C. Blood
 - D. Cerebrospinal fluid
46. Which of the following disease is eradicated from the world?
- A. Dengue
 - B. Small Pox
 - C. Yellow Fever
 - D. Poliomyelitis
47. ICDS scheme is delivered in villages through
- A. Auxiliary nurse and midwives
 - B. Multipurpose workers
 - C. Accredited social health activists
 - D. Anganwadi workers
48. Burkitt's lymphoma is caused by
- A. HIV
 - B. Retrovirus
 - C. E-B virus
 - D. D. None of the above
49. One of the following is used for treatment of thyroid cancer
- A. U238
 - B. Ra-224
 - C. C-14
 - D. I-131
50. What enzyme is required for the polymerase chain reaction (PCR)

- A. Taq polymerase
- B. Paq polymerase
- C. DNA polymerase
- D. Polymerase

51. Which of the following is not a water-soluble vitamin?

- A. Vitamin B
- B. Vitamin C
- C. Vitamin E
- D. None

52. What is acetyl-CoA split into in the Krebs cycle

- A. Hydrogen and oxygen
- B. Oxygen and carbon
- C. Carbon dioxide and hydrogen
- D. Carbon and hydrogen

53. If a series of values consists of 21 numbers, then, for finding the median, we ordered the series ascending and we use:

- A. The 11th value in the ordered series
- B. The mean between the 10th and 11th values
- C. The mean between the 11th and 12th values
- D. The 10th value in the ordered series

54. Find the mode in the following data set (10, 11, 12, 13, 14, 14, 15)

- A. 10
- B. 13
- C. 12.5
- D. 14

55. One of the following is mainly infected by HIV:

- A. Helper T-lymphocytes
- B. Killer T-lymphocytes
- C. Cytotoxic T-lymphocytes
- D. Memory T-lymphocytes

56. Which of the following infection control measures is directed toward reducing or eliminating the source or reservoir of infection?

- A. Prophylactic antimicrobial therapy
 - B. Passive immunization
 - C. Social distancing
 - D. Pasteurization of milk
57. The first recorded biological warfare attack occurred in
- A. Washington, DC
 - B. Tokyo
 - C. Caffa
 - D. Madrid
58. An infection that is caused by an agent derived from the microbiota of a patient is called
- A. Autogenous infection
 - B. Endogenous infection
 - C. Exogenous infection
 - D. None of the above
59. In DOTS strategy 'D' and 'O' stand for which of the following
- A. Drug out
 - B. Directly observed
 - C. Daily observed
 - D. Daily order
60. Father of Epistemology is
- A. Rene Descartes
 - B. Xenophanes
 - C. Adam Smith
 - D. Auguste Comte
61. What does VVVF stand for?
- A. Variant Voltage Vile Frequency
 - B. Variable Velocity Variable Frequency
 - C. Very Very Vicious Frequency
 - D. Variable Voltage Variable Frequency
62. Incidence is:
- A. $\frac{\text{The number of new cases arising from a defined population in a specified time period}}{\text{number in defined at risk population over same period of time}}$

- B. The number of new cases arising from a defined population in a specified time period \div total person time observation
- C. The number of cases at a given time \div number in population at that time
- D. The number of deaths per year occurring within the first year of life \div total number of live births in the year
63. A state of complete physical, mental and social well being and not merely the absence of disease or infirmity is called
- A. Sickness
 - B. Health
 - C. Hygiene
 - D. Disability
64. Haemophilia is
- A. Genetic disease
 - B. Infectious disease
 - C. Occupational disease
 - D. Metabolic disorder
65. Human papilloma virus may cause cancer of
- A. Stomach
 - B. Uterine cervix
 - C. Liver
 - D. Urinary bladder
66. Malaria is caused by the following:
- A. Ascaris
 - B. Plasmodium
 - C. Entamoeba
 - D. Trypanosoma
67. Enzyme responsible for replication of HIV is:
- A. RNA polymerase
 - B. DNA ligase

- C. DNA polymerase
- D. Reverse transcriptase

68. Anaemia is mainly due to deficiency of

- A. Ca
- B. Fe
- C. Na
- D. Mg

69. Kwashiorkor and beri-beri are

- A. Communicable diseases
- B. Infectious diseases
- C. Deficiency diseases
- D. None of the above

70. Pneumonia that infects lung alveoli is caused by

- A. Streptococcus species
- B. Plasmodium species
- C. Salmonella
- D. Haemophilus

71. Insulin deficiency causes

- A. Diabetes insipidus
- B. Goitre
- C. Diabetes mellitus
- D. All of the above

72. Who separated medicines from religion, superstition and philosophy?

- A. Aristotle
- B. Hippocrates
- C. Edward
- D. Darwin

73. The headquarters of World Health Organization (WHO) is located at

- A. Hague
- B. New York
- C. Geneva
- D. London

74. Human body has _____ number of bones

- A. 100
- B. 140
- C. 206
- D. 260

75. Malaria affects all the following organs except:

- A. Brain
- B. Heart
- C. Liver
- D. Spleen

76. Sarcoma is cancer of

- A. Epithelial tissue
- B. Mesodermal tissue
- C. Blood
- D. Endodermal tissues

77. Pandemic is a disease

- A. which has been noticed for the first time in a country
- B. which has occurred in a country after 10 years
- C. epidemic which breaks out across many countries
- D. which is endemic in many countries

78. When the number of educated females is expressed as a percentage of total females present in a village. It is known as:

- A. Proportion
- B. Rate
- C. Ratio
- D. Frequency

79. Prophylactic administration of vitamin K in breast fed babies is an example of:
- A. Health Promotion
 - B. Treatment
 - C. Specific protection
 - D. Rehabilitation
80. A woman brings her child to hospital for mongolism. The possible agent of the disease is:
- A. Infectious agent
 - B. Nutritional factor
 - C. Hormonal factor
 - D. Chromosomal factor
81. An outbreak of brucellosis in cattle is reported, threatening the health of human population. This outbreak is:
- A. Epizootic
 - B. Epornithic
 - C. Enzootic
 - D. Exotic
82. At Delhi Grammar School a student of class II developed mumps. He was isolated from other children till swelling subsided and his brother of class IV who looked apparently healthy was also advised to be away from school for about a fortnight. His brother's type of carrier state is most likely to be:
- A. Incubatory
 - B. Convalescent
 - C. Temporary
 - D. Chronic
83. In a poor community, there is high prevalence of acute diarrhea cases. The best method for preventing this health problem in the long run is:
- A. Anti-diarrheal drugs
 - B. Immunization against cholera and typhoid
 - C. Provision of sanitary latrine
 - D. Use of boiled water
84. In study carried out in the hospital ward, every 10th admitted patient was included in the sample, which sampling procedure is this:

- A. Random sampling
- B. Stratified sampling
- C. Convenient sampling
- D. Systematic sampling

85. Which of the following vitamin deficiency causes night blindness

- A. Vitamin A
- B. Vitamin B
- C. Vitamin C
- D. Vitamin D

86. Two standard deviation (Mean + 2 S.D) includes _____% of values in normally distributed data:

- A. 68
- B. 75
- C. 95
- D. 85

87. Early diagnosis and prompt treatment is focused on:

- A. Disease identification
- B. Host factors
- C. Environmental factors d) Restoration of ability
- D. Behaviour modification

88. An expert in the field of public health is required to estimate the magnitude of a health problem. Which rate would he calculate for this?

- A. Incidence
- B. Prevalence
- C. Case fatality
- D. Cause specific mortality

89. Anaplasia is

- A. Transfer of cancer cells
- B. Formation of tumour
- C. Loss of cell differentiation
- D. Action of lysosomes over cells

90. Swine Flu is caused by

- A. HIV
- B. H1N1

- C. Herpes zoster
- D. Mumps virus

91. Social mobility is:

- A. Movement in socio-economic strata
- B. Rural to urban areas for work
- C. Industrialization
- D. Interaction between cultures

92. Which one of the following diseases is communicable:

- A. Rickets
- B. Amoebiasis
- C. Diabetes
- D. Cancer

93. Which of these is a viral disease

- A. Diabetes
- B. Tuberculosis
- C. Leprosy
- D. Poliomyelitis

94. AIDS (Acquired Immuno Deficiency Syndrome) is spread due to

- A. Blood transfusion
- B. Placental transmission
- C. Sexual contact
- D. All of the above

95. Metastasis is connected with

- A. Benign tumour
- B. Malignant tumour
- C. Both A and B
- D. None of the above

96. Deficiency of iodine causes

- A. Tetany
- B. Cretinism
- C. Myxodema
- D. Goitre

97. Correlation coefficient is a number between

- A. -1 and +1

- B. +1 and +2
- C. 0 and +1
- D. -1 and 0

98. Vaccine which is given at the earliest:

- A. BCG
- B. DPT
- C. MMR
- D. Measles

99. Detection of missed cases is

- A. Sentinel surveillance
- B. Multiple surveillance
- C. High screening
- D. Systematic screening

100. Zero population growth rate is seen in

- A. Sweden
- B. USA and USSR
- C. France and Japan
- D. No country in the world so far