

U.G./P.G. ENTRANCE EXAMINATION, APRIL 2021

MICROBIOLOGY

Time : Two Hours

Maximum : 100 Marks

Answer all the questions.

1. The addition of micro-organism which favours health benefits :
 - (a) Probiotics.
 - (b) Antibiotics.
 - (c) Prebiotics.
 - (d) Adjuvants.
2. The site of action of Penicillin is :
 - (a) 50s ribosome.
 - (b) 30s ribosome.
 - (c) Nucleic acid.
 - (d) Cell wall.
3. The group which is no longer considered under fungi is :
 - (a) Ascomycetes.
 - (b) Basidiomycetes.
 - (c) Chytridomycetes.
 - (d) Oomycetes.
4. One gene one enzyme hypothesis detected in which organism :
 - (a) E. coli.
 - (b) Saccharomyces servecea.
 - (c) Neurospora crassa.
 - (d) Caenorhabditis elegans.
5. Miso is a fermented product of :
 - (a) Rice.
 - (b) Wheat.
 - (c) Barley.
 - (d) Soybean.
6. In prokaryotes, IF2 binds to :
 - (a) Initiator t RNA and GTP.
 - (b) Aminoacyl t RNA and ATP.
 - (c) Ribosome and mRNA.
 - (d) mRNA and 30s subunit of ribosome.
7. T cells are :
 - (a) Neutrophils.
 - (b) Basophils.
 - (c) Eosinophils.
 - (d) Lymphocytes.

Turn over

8. Who put forward 3 domain classification ?
- (a) Whittaker. (b) Haeckel.
(c) Linnaeus. (d) Woese.
9. The temperature used in UTH is :
- (a) 115°c for 25 min. (b) 71.7° for 15sec.
(c) 141° for 2sec. (d) 115°10 min.
10. The 1st bacterial genome to be completely sequenced :
- (a) *E. coli*. (b) *Mycobacterium*.
(c) *Bacillus subtilis*. (d) *Haemophilus influenza*.
11. Molecular taxonomy determined by DNA base composition is based on :
- (a) % of G + C. (b) % of A + T.
(c) % of A + T + G + C. (d) All of the above.
12. The source of illumination in Fluorescent microscope is:
- (a) Electron beam. (b) Light rays.
(c) UV rays. (d) Infrared rays.
13. First amino acid commercially produced by fermentation :
- (a) Glutamic acid. (b) L-Lysine.
(c) Phenyl alanine. (d) Aspartic acid.
14. Disease that affects many people at different countries is termed :
- (a) Sporadic. (b) Pandemic .
(c) Epidemic. (d) Endemic.
15. Downs syndrome is occurring due to :
- (a) Triploid. (b) Trisomy-21.
(c) Monosomy-18. (d) Trisomy-18.
16. The first antibody to contact invading micro-organisms was :
- (a) IgG. (b) IgM.
(c) IgA. (d) IgD.

17. The largest protozoa is :
- (a) *Balantidium coli*. (b) *Entamoeba coli*.
(c) *Trichomonas vaginalis*. (d) *Toxoplasma gondii*.
18. Discontinuous heating for sterilization is called :
- (a) Sterilization. (b) Pasteurization.
(c) Tyndallisation. (d) Fermentation.
19. Which one of the following organisms is used for the large-scale production of recombinant insulin ?
- (a) *Plasmodium*. (b) *Agrobacterium*.
(c) *Rhizobium*. (d) *E. coli*.
20. Burkitt's lymphoma is caused by :
- (a) Cytomegalovirus. (b) B. Burgdorferi.
(c) Epstein-Barr virus. (d) Lymphogranuloma venereum.
21. Natural competency for transformation occur on :
- (a) *E. coli*. (b) *Bacillus subtilis*.
(c) *Bacillus licheniformis*. (d) *Pseudomonas aeruginosa*.
22. Which type mutation is deletion ?
- (a) Missense mutation. (b) Frame shift mutation.
(c) Point mutation. (d) Nonsense mutation.
23. A non-protein amino acid :
- (a) Ornithine. (b) Proline.
(c) Tyrosine. (d) Arginine.
24. Micro-organisms indigenous to a given ecosystem are called :
- (a) Zymogenous. (b) Autochthonous.
(c) Allochthonous. (d) Autogenous.
25. Bacillary dysentery is caused by :
- (a) *Entamoeba histolyticum*. (b) *Shigella*.
(c) *Salmonella*. (d) *Listeria*.

Turn over

26. Role of micro-organisms in fermentation was discovered by :
- (a) Louis Pasteur. (b) Robert Koch.
(c) Joseph Lister. (d) Alexander Fleming.
27. Phylogenetic relationship can be shown by :
- (a) Dendrogram. (b) Gene Bank.
(c) Data retrieving tool. (d) Data Search tool.
28. Name the Oxidative organelle :
- (a) Mitochondria. (b) Endoplasmic reticulum.
(c) Ribosome. (d) Golgi complex.
29. MPN test is used for analysis of :
- (a) Water. (b) Meat.
(c) Blood. (d) Fish.
30. Which one is bio preservative ?
- (a) Acetic acid. (b) Sulphuric acid.
(c) Nitric acid. (d) Hydrochloric acid.
31. Which among is thermoduric Bacteria ?
- (a) E. coli. (b) Bacillus.
(c) Pseudomonas. (d) Flavobacterium.
32. Clostridium perfringens poisoning is associated with :
- (a) Vegetables. (b) Meat product.
(c) Canned food. (d) Fish products.
33. The major carrier of Salmonellosis :
- (a) Meet and Egg. (b) Egg and Fish.
(c) Fruit and Egg. (d) None of the above.
34. Mesophilic has growth optimum at :
- (a) 20–45°C. (b) 0–15°C.
(c) 55–65°C. (d) 20–30°C.

35. Which among is Penicillin resistant micro-organism ?
- (a) Mycoplasma. (b) Staphylococcus.
(c) Mycobacterium. (d) E.coli.
36. When Gram-ve bacteria treated with lysozyme which type of cells obtained :
- (a) Tonoplast. (b) Spheroplast.
(c) Protoplast. (d) Mycoplasma.
37. Cluster of flagella at one end is called :
- (a) Lophotrichous flagella.
(b) Peritrichous flagella.
(c) Amphitrychous flagella.
(d) Polar flagella.
38. Which group of organisms use reduced inorganic substance as their electron source ?
- (a) Phototroph. (b) Lithotroph.
(c) Chemotroph. (d) Organotroph.
39. The term vaccine was coined by :
- (a) Robert Koch. (b) Pasteur.
(c) Leeuwenhoek. (d) Ehrlich.
40. The phenomenon of phagocytosis was developed by :
- (a) Jenner.
(b) Metchnikoff.
(c) Lister.
(d) Beijerinck.
41. Mordant used in Gram staining is :
- (a) Ethyl alcohol.
(b) Crystal violet.
(c) Safranin.
(d) Grams iodine.

Turn over

42. Which organism is used biological indicator of autoclave ?
- (a) *Bacillus thermophilus*.
 - (b) *E. coli*.
 - (c) *Bacillus cereus*.
 - (d) *Bacillus stearothermophilus*.
43. The anticodon is present in :
- (a) DNA.
 - (b) mRNA.
 - (c) tRNA.
 - (d) rRNA (e) protein.
44. BOD used for the measurement of :
- (a) Atmospheric pollution.
 - (b) Nuclear pollution .
 - (c) Sewage pollution.
 - (d) Thermal pollution.
45. The direction of energy flow is :
- (a) Unidirectional.
 - (b) Cyclic .
 - (c) Bidirectional.
 - (d) Any of these.
46. Aerobic method used for waste water treatment ?
- (a) Trickling filter.
 - (b) Septic Tank.
 - (c) USAB.
 - (d) USSB.
47. A non-symbiotic nitrogen fixing Anaerobic bacteria :
- (a) Rhizobium.
 - (b) Desulfovibrio.
 - (c) Azatobacter.
 - (d) Bacillus.
48. First genetically engineered and biotechnologically produced vaccine was against :
- (a) AIDS.
 - (b) Small pox.
 - (c) Herpes simplex.
 - (d) Hepatitis B.

49. The method to sterilize serum :

- (a) Boiling.
- (b) Autoclaving.
- (c) Hot air oven.
- (d) Membrane filtration.

50. 1st vaccine developed through animal cell culture :

- (a) Hepatitis Vaccine.
- (b) Influenza Vaccine.
- (c) Small pox Vaccine.
- (d) Polio Vaccine.

(50 × 2 = 100 marks)

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