ENT-33

Seat No.

Total No. of Pages : 26

P.G. Re Entrance Examination, 2024

M.Sc. (Microbiology / Pharmaceutical Microbiology / Industrial Microbiology)

Subject Code : 58717

Day and Date : Friday, 28-Jun-2024 **Total Marks : 100**
Time : 02.30 pm to 04.00 pm

Instructions :

1) All questions are compulsory.
2) Each question carries 1 mark.
3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
4) Follow the instructions given on OMR sheet.
5) Rough work shall be done on the sheet provided at the end of question paper.

1. _____ is a unique component of bacterial cell wall.

   A) Teichoic acid

   B) peptidoglycan

   C) lipoproteins

   D) phospholipids

2. Dessication is carried out by using _____

   A) Deep freezer

   B) Autoclave

   C) Boiler

   D) Lyophiliser

3. _____ acts as a base for all disinfectants

A) Chlorine

B) Beta- propiolactone

C) Phenol

D) Ethyl alcohol

4. A _____ is an organism that mustobtain its Carbon in an organic form.

A) Heterotroph B) Autotroph

C) Photoautotrophs D) Lithotroph

A) Protozoa

5. _____ organisms have specific growth requirement.

A) Photoautotrophs

B) Prototrophs

C) Fastidious

D) Photochemotrophs

5. _____ is an example of enriched medium.

A) Nutrient agar

B) MacConkey's agar

C) Milk agar

D) Nutrient broth

7. _____ type of medium is also called as empirical media.

A) Synthetic

B) Natural

C) Complex

D) Selective

8. In Glycolysis _____ is produced.

A) Pyruvate

B) Glucose

C) Sucrose

D) Lipid

9. Generally _____ material is used for construction of fermenter.

A) Stainless steel

B) Copper

C) Glass

D) Nanoparticles

10. _____ is the process of assigning names to units described in classification system

A) Nomenclature

B) Identification

C) Bifurcation

D) Cataloguing

11. _____ table is used as reference table in determining MPN of coliforms.

A) Mac Cradys

B) Mac Carty

C) Newtons

D) Mac Conkeys

12. The Hexokinase enzyme requires _____ ions for its activity.

A) Ca++ B) Mg++

C) Zn++ D) Na+

13. Molecule such as water enters the cell by process of _____

A) Diffusion

B) active transport

C) group translocation

D) passive diffusion

14. Simultaneous transport of two molecules by same carrier in the opposite direction across the membrane is called_____

A) Symport

B) Antiport

C) Uniport

D) Nonport

15. Major class of oxidative enzymes in the respiratory chain are_____

a) Electrons

b) Proteins

c) Chlorophylls

d) Cytochromes

16. Conversion of _____ is an example of substrate level phosphorylation.

A) Glu to Glu-6-P

B) Fru to Fro-6-P

C) PEP to pyruvate

D) Glu-1P to fru-6-P

17. A nucleotide requires-------A^0 space.

A) 34 B) 3.4

C) 340 D) 0.34

18. _____ mutation changes a codon specific for an amino acid to a codon specific for another amino acid.

A) Nonsense

B) Silent

C) Missense

D) Neutral

19. 5-Bromo uracil is an Keto form pairs with _____

A) Adenine

B) Guanine

C) Thymine

D) Cytosine

20. Substitution of adenine by thymine is a _____ mutation

A) Transversion

B) Transition

C) Insertion

D) Deletion

21. _____ phage mediates restricted transduction.

A) Lambda B) P22

C) T4 D) P1

22. _____ enzyme cut DNA at both sides of dimer,

A) Exonuclease

B) DNA polymerasel

C) Endonuclease

D) Ligase

23. _____ from erythrocytes enter in mosquito while feeding on blood of infected person.

A) Gametocytes

B) Sporozoites

C) Merozoites

D) Ookinete

24. Por, Opa, rmp are proteins occurs in outer membrane of _____organism.

A) T.pallidum

B) N.gonorrhoeae

C) HIV

D) Malarial parasites

25. HIV virus infects----cells.

A) CD1 B) CD2

C) CD3 D) CD4

26. Titanospasmin produced by Clostridium titani blocks_____

A) Neurotransmitters

B) Ganglioside

C) Sensory nerves

D) Payers patches

27. Combivir used in HIV treatment is_____ inhibitor.

A) NRTI B) NNRTI

C) Nuclease D) DNA transcriptase

28. Streptomyces griseus produces _____ antibiotic.

A) Erythromycin B) Gentamycin

C) Streptomycin D) Neomycin

29. Bacitracin blocks _____synthesis.

A) Cell wall B) Cell membrane

C) Protein D) PABA

30. Imidazole blocks_____synthesis.

A) Cell wall

B) Cell membrane

C) Protein

D) Nucleic acid

31. _____ belongs to second generation quinolones.

A) Moxifloxacin

B) Oxolinic acid

C) Gatifloxacin

D) Norfloxacin

32. Cefoxitin and Oxacillin disk screen test is used for detection of _____ resistant strains.

A) ESBL B) Penicillin

C) Chloramphenicol D) Tetracycline

33. For detection of antibiotic sensitivity _____ guide lines are used.

A) CSLI B) NCCS

C) NCL D) ATCC

34. In TCR a long cytoplasmic tail of beta chain made up of_____ amino acids.

A) 280 B) 282

C) 284 D) 286

35. Activating receptors occurs on_____cell.

A) Eosinophils B) NK

C) T helper cell D) Basophils

36. Killer cell requires presence of _____ for its functioning.

A) Antigen

B) Antibody

C) Complement

D) Fibronectin

37. _____ cells are the end cells of B cell division.

A) Plasma

B) Memory

C) Lymphoblast

D) Lymphoid

38. VDJ genes codes for synthesis of_____regions of antibody.

A) Hinge B) Variable

C) Constant D) Fc

39. Antibody produced in secondary immune response are_____

A) IgG B) IgM

C) IgD D) IgE

40. IL-4,5 causes class switching to _____ antibody.

A) IgG B) IgA

C) IgD D) IgM

41. Passive immunity is characterized by_____

A) Lag phase

B) Negative phase

C) No memory

D) Requires direct contact with pathogen

42. MF59 : a is an example of_____

A) Antigen

B) Virus

C) Buffer

D) Adjuvant

43. DPT and Oral Polio given at the age of weeks of life.

A) 2 B) 4

C) 6 D) 8

44. β-Propiolactone is used in preparation of _____ vaccine.

A) Live B) Killed

C) Toxoid D) Attenuated

45. Coombs test is performed to detect _____ compatibility.

A) Rh B) ABO

C) Mn D) Lewis

46. Lectin pathway is activated by_____

A) Mannan binding protein

B) Zymosan

C) Endotoxin

D) Ag-Ab complex.

47. _____ is a component of alternate complement pathway.

A) C1 B) C2

C) Factor-B D) C4

48. Myeloma cells used in hybridoma technique of monoclonal antibodies are- _____

A) HGPRT+

B) Ig+

C) $HGPRT^{-}$

D) $HGPRT^{-}$ Ig-

49. _____ is an example of lipid with esterified fatty acids

A) Bactophenol

B) Polyisoprenoid

C) PHB

D) Quinones

50. With odd numbered fatty acids, the final ß-oxidation cycle yields----

A) Acetyl-CoA and Propionyl-CoA

B) Propionyl-CoA and Succinyl-CoA

C) Methylmalonyl-CoA

D) Propionyl-CoA

51. In _____ organism PHB occurs as reserve food material.

A) Enterobacter aerogenes

B) Escherichia coli

C) Azotobacter venelandii

D) Pseudomonas aeruginosa

52. In amino acid deamination reaction L-glutamic acid is converted to _____

A) Oxaloacetate

B) Pyruvate

C) 2-oxoisovalerate.

D) α-Ketoglutataric acid

53. In reductive deamination reaction of amino acid, Aspartic acid is deaminated to _____ compound.

A) α -keto glutarate

B) Succinaic acid

C) Acetic acid

D) Malic acid

54. In amino acid decarboxylation reaction amino acid Histidine is decarboxylated to _____ compound.

A) Histamine

B) α -ketoglutarate

C) β- Aminobutyrate

D) β-ketoglutarate

55. In purine synthesis _____ serve as a source of ribose phosphate moiety.

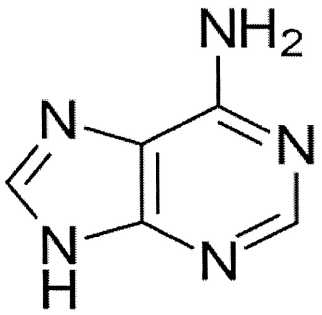
A) PRP

B) ARP

C) PRPP

D) ARPP

56. Identify the following structure.



A) Adenine

B) Guanine

C) Thymine

D) Cytosine

57. In biosynthesis of purine nucleotides 5-phosphoribosyl carboxamide formamloimidazole is converted to inosinic acid by IMP _____ enzyme.

A) Cyclohydrolase

B) Synthatase

C) Carboxylase

D) Transferase

58. In regulation of Glycolysis and gluconeogenesis _____ act as inhibitor for pyruvic kinase.

A) CTP B) DTP

C) ATP D) TTP

59. When two compounds simultaneously present in saturating concentration feed back inhibition caused called _____feed back inhibition.

A) Sequential

B) Covalent

C) Cumulative

D) Concerted

60. In photosynthetic electron transport chain electron is transferred to an acceptor molecule thus oxidizing the _____ and reducing the acceptor molecule.

A) P860 B) P870

C) P880 D) P890

61. Identify the following component

HOOC-CHOH-CH2-COOH

A) Succinate B) Pyruvate

C) Fumarate D) Malate

62. Saturated fatty acids are degraded by the stepwise reactions of ß oxidation, producing acetyl-CoA. Under aerobic conditions, how many ATP molecules would be produced as a consequence of removal of cach acetyl-CoA?

A) 2 B) 3

C) 4 D) 6

63. Location of photochemical apparatus in autotrophic bacteria is _____

A) Chloroplast membranes

B) Free in the cytosol

C) The outer edge of the nucleoid

D) The inner surface of the plasma membrane

64. Identify the this (CH3-CO-COOH) component.

A) Succinate

B) Pyruvate

C) Fumarate

D) Malate

65. _____is the primary acceptor of CO2 in assimilation of carbon.

A) Ribose 5-phosphate

B) Ribulose 5-phosphate

C) Ribulose 1,5-diphosphate

D) Ribose 1,5,diphosphate

66. _____ is the primary acceptor of CO2 in assimilation of carbon.

A) Ribose 5-phosphate

B) Ribulose 5-phosphate

C) Ribulose 1,5-diphosphate

D) Ribose 1,5, diphosphate

67. Truffles are the reproductive structure produced by _____

A) Endomycorrhizae

B) Ectomycorrhizae

C) Vascular plants

D) Actinomycetes

68. _____ is a fungal endophytic organism.

A) Paenibacillus polymyxa

B) Bacillus subtilis

C) Fusarium solani

D) Fusicoccum amygdali

69. _____ is used to determine nitrogen fixing capacity of Azotobacter.

A) Nitrate reduction test

B) Nitrite reduction test

C) Acetylene reduction test

D) Nitrogen reduction test

70. The total area above ground portion of plant is called _____ region of plant.

A) Rhizosphere B) Rhizoplane

C) Phyllosphere D) Lithosphere

71. As per MPCB standard the treated water intended to discharge on inland surface should have BOD less than _____ mg/L.

A) 15 B) 30

C) 45 D) 60

72. Eutrophic lake has _____ level of nutrients.

A) Low B) Moderate

C) High D) Intermediate

73. In waste water treatment, skimmers are used to remove _____ from waste water.

A) Grit B) Oil and Grease

C) Dissolved solids D) Colloidal solids

74. _____ enzyme is involved in bioluminescence.

A) Photolyase B) Luciferase

C) Photase D) Polymerase

75. Sediments in deep ocean floors contains _____ salts.

A) Nitrate B) Carbonate

C) Phosphate D) Sulfate

76. _____ test is designed to allow quantitative enumeration of bacteria and fungi which grows aerobically.

A) Preservative Efficacy

B) Microbial limit

C) Antibiotic

D) Environmental Monitoring

77 _____ is used as a bacterial bioinsecticide.

A) Bacillus subtilis

B) Bacillus moritae

C) Bacillus cereus

D) Bacillus megaterium

78. Gene expression occurs when the _____

A) Cell division occurs

B) DNA replication occurs

C) Replication, Transcription and Translation occurs

D) None

79. _____ form of the following DNA have 2bp repeating.

A) A DNA B) B DNA

C) Z DNA D) T DNA

80. _____ enzyme involved in prokaryotic DNA replication.

A) Helicase B) Primase

C) Polymerase D) All

81. _____ is called as Amber codon.

A) UAG B) UAA

C) UGA D) AUG

82. Immunoblotting is also called as _____

A) Northern blotting

B) Southern blotting

C) Eastern blotting

D) Western blotting

83. _____ of the following technique used for microbial phenotypic characterization.

A) PCR

B) Microbial array

C) Ribotyping

D) Serotyping

84. Quantitative measurement of an amplified product is carried out by _____ technique.

A) Reverse transcriptase PCR (RT-PCR)

B) Real-time PCR

C) Nucleic acid sequence-based amplification (NASBA)

D) Ligase chain reaction(LCR)

85. The recognition site of Type 1 restriction enzymes always has _____ sequence.

A) TIT B) TAC

C) TCA D) CCA

86. Viruses can be preserved for longer period of time using _____ technique.

A) Storage at-70°C B) Freeze-drying

C) Lyophilization D) Freeze drying and Lyophilization

87. _____ is a virus receptor destroying enzyme.

A) Neuraminidase

B) Transcriptase c

C) Reverse transcriptase

D) Hemagglutinin

88. Seller's stain is used for the demonstration of _____ virus in clinical sample.

A) Rabies B) CMV

C) Measles D) Herpes

89. 5-Hydroxymethyl cytosine is present in _____

A) Viruses B) T- even Phages

C) T-odd Phages D) Viroids

90. Hela cell line derived from human cancer is type of _____ cell culture.

A) Primary

B) Secondary

C) Diploid

D) Continuous

91. _____ is an opaque area on a transparent membrane. 91.

A) Pock B) Plaque

C) Lesion D) Tumour

92. Adenoviruses are _____ Viruses.

A) Enveloped B) Non-enveloped

C) Naked D) None of these

93. The malignancy in which cancer originates in epithelial tissues is called as _____

A) Sarcoma B) Carcinoma

C) Leukemia D) Adenoma

94. The interval between the entry of phage in to the cell and appearance of the first infectious intracellular phage particle is called_____

A) Latent period

B) Eclipse phase

C) Rise period

D) Burst phase

95. The hemagglutination inhibition test is used to detect and assay of _____ virus.

A) Influenza virus

B) Herpes virus

C) Entero virus

D) Rubella virus

96. _____ are the plasmids that produce proteins that inhibits growth of susceptible bacterial strains.

A) R-plasmids

B) Ti plasmids

C) Col plasmids

D) pBR-322

97. _____ procaryote lack the peptidoglycan layer,

A) Gram negative bacteria

B) Eubacteria

C) Cynobacteria

D) Archaebacteria

98. Genetic code determines _____

A) Structural pattern of organism

B) Morphological character

C) Sequence of amino acid in a protein

D) Sequence of nucleotides in a protein

99. Sharp instruments are disinfected with _____

A) Autoclaving

B) Simple boiling

C) Cidex

D) 20% Lysol

100. Phenol co-efficient is used to check _____

A) Efficiency of a disinfectant

B) Dilution of a disinfectant

C) Purity of disinfectant

D) Quantity of disinfectant

◆◆◆

ROUGH WORK