

**623-MICROBIOLOGY**  
(FINAL)

1. When a solution containing ds DNA is heated above its  $T_m$ , the change observed in uv-visible spectra before and after treatment is called
  - (A) Bathochromic shift
  - (B) Hypsochromic shift
  - (C) Hyperchromic shift
  - (D) Hypochromic shift
  
2. In an inducible operon, the genes are
  - (A) always expressed
  - (B) usually not expressed unless a signal turns them "on"
  - (C) usually expressed unless a signal turns them "off"
  - (D) never expressed
  
3. Which of the following bacterial cell wall contain pseudomurien or methanochondrotin as their constituents?
  - (A) Archaeobacteria
  - (B) Gram (-) ve
  - (C) Gram (+) ve
  - (D) Myxophyceae
  
4. Which one among the following is the best method of preservation of cultures?
  - (A) periodic transfer
  - (B) deep freezing
  - (C) Lyophilization
  - (D) mineral oil
  
5. Haemorrhagic fever is caused by
  - (A) Polio virus
  - (B) Hanta virus
  - (C) TMV
  - (D) Arbo virus

6. When bacterial cells are grown in low osmolarity medium, water
- (A) Enters into the cell
  - (B) Leaves the cell
  - (C) Maintained at equilibrium
  - (D) Water entry is blocked
7. Which of the following activities is **NOT** needed for replication of the *E. coli* chromosome?
- (A) Telomerase
  - (B) Ligase
  - (C) Primase
  - (D) Polymerase
8. What experimental technique was utilized to show that DNA replicated by a semiconservative process?
- (A) Gel electrophoresis
  - (B) Fiber autoradiography
  - (C) Electron microscopy
  - (D) Density gradient equilibrium centrifugation
9. The Lysogenic transcription is regulated by
- (A) Ci gene
  - (B) Cii gene
  - (C) Ciii gene
  - (D) LT gene
10. The first level of primary control in eukaryotic gene activity is ..... control.
- (A) Translational
  - (B) Transcriptional
  - (C) Post-transcriptional
  - (D) Post-translational
11. Rate of stirring in a fermenter is measured by
- (A) Tachometer
  - (B) Chacometer
  - (C) Rhadometer
  - (D) Amperometer

12. Bacterial cell communication is called as
- (A) Puorum
  - (B) Quorum sensing
  - (C) Sensorum
  - (D) Quenching
13. Dental plaque is due to
- (A) *Streptococcus mutans*
  - (B) *Streptococcus pyogenes*
  - (C) *Streptococcus aureus*
  - (D) *Streptococcus radians*
14. The fermentation medium used in the industrial production of beer is commonly known as
- (A) Wort
  - (B) Malt
  - (C) Must
  - (D) Mash
15. What is the chemical used in wine production to inhibit the growth of undesirable microorganisms?
- (A) CO<sub>2</sub>
  - (B) SO<sub>2</sub>
  - (C) HCl
  - (D) HNO<sub>3</sub>
16. Which of these biosensors are used to detect the change in mass of the component as a result of the reaction?
- (A) Calorimetric biosensor
  - (B) Potentiometric biosensor
  - (C) Acoustic biosensor
  - (D) Amperometric biosensors

17. Which of the following contributes the enzymes, amylases and proteases for the beer production?
- (A) Yeast
  - (B) Malt
  - (C) Wort
  - (D) Hops
18. Enrichment culture technique was designed by
- (A) Louis Pasteur
  - (B) Robert Koch
  - (C) Antonie van Leeuwenhoek
  - (D) Martinus Beijerinck
19. What is the name of the method used in the production of L-Ascorbic acid?
- (A) Reichstein Bruck synthesis
  - (B) Trickling filter synthesis
  - (C) Reichstein Grussner synthesis
  - (D) Chemical oxidation process
20. Which of the following can be used as antifoam?
- (A) PEG
  - (B) Glycerol
  - (C) Oxazoline
  - (D) Methanol
21. The desiccant used in lyophilization is
- (A) Silica gel
  - (B) Dimethyl sulfoxide
  - (C) Polyethylene glycol
  - (D) Methyl oxide
22. Which of the following elements is associated with the condition called “Gleying”?
- (A) Carbon
  - (B) Sulphur
  - (C) Iron
  - (D) Phosphorus

23. The Methanogenic bacteria help in the conversion of
- (A) Organic acids  $\rightarrow$  Acetate +  $\text{CO}_2$
  - (B) Formate/Acetate  $\rightarrow$   $\text{CH}_4$  +  $\text{CO}_2$
  - (C)  $\text{CO}_2$  +  $\text{H}_2$   $\rightarrow$  Acetic acid
  - (D) Starch  $\rightarrow$  Organic acids +  $\text{CO}_2$
24. Which of the following techniques can be patented?
- (A) Organ transplantation
  - (B) Implantation of heart valves
  - (C) Antibiotic and vitamin production
  - (D) Surgical methods used in cancer
25. The decision of patenting of life forms in 1980 (*Pseudomonas* strains against oil spills) by US court was associated with
- (A) R.C. Chaudhary
  - (B) Anand Chakraborty
  - (C) Saram Narang
  - (D) Milstein and Kohler
26. The first patent granted in USA for a maize plant for over producing tryptophan, in 1985, is popularly known as
- (A) Hibberd patent
  - (B) NGF patent
  - (C) Zea mays patent
  - (D) Pioneer Hi-Bred patent
27. Which of the following microorganisms play an important role in the biogeochemical cycling of iron?
- (A) *Leptospirillum*
  - (B) *Thiobacillus*
  - (C) *Pseudomonas*
  - (D) *Desulfuromonas*

28. Canning process is called as
- (A) Appertisation
  - (B) Pasteurisation
  - (C) Sterilisation
  - (D) Autoclaving
29. Starter culture used in the preparation of yogurt
- (A) *Streptococcus thermophilus*
  - (B) *Streptococcus thermophilus* and *Lactobacillus bulgaricus*
  - (C) *Lactobacillus bulgaricus*
  - (D) *Penicillin roquefortii*
30. The test to detect endogenous pyrogens in medical formulations
- (A) Single Challenge test
  - (B) MPN
  - (C) LAL test
  - (D) HACCP
31. Antibiotic having more penetration into the bones is
- (A) Penicillin
  - (B) Azithromycin
  - (C) Norfloxacin
  - (D) Lincomycin
32. Which of the following belongs to Aminoglycoside antibiotic?
- (A) Erythromycin
  - (B) Streptomycin
  - (C) Cephalexin
  - (D) Sulfamethoxyazole
33. Polyadenylation of mRNA is absent in
- (A) Histone mRNA
  - (B) Actin mRNA
  - (C) Globin mRNA
  - (D) Myocin mRNA

34. Indicate the order in which the following steps occur in the production of a mature mRNA.
- (A) Initiation of transcription, splicing, addition of 5' cap, addition of poly A tail, transport to cytoplasm
  - (B) Initiation of transcription, addition of 5' cap, splicing, addition of poly A tail, transport to cytoplasm
  - (C) Initiation of transcription, addition of poly A tail, addition of 5' cap, splicing, transport to cytoplasm
  - (D) Initiation of transcription, addition of 5' cap, addition of poly A tail, splicing, transport to cytoplasm
35. Gluconic acid is commercially produced from
- (A) *Aspergillus niger*
  - (B) *Penicillium chrysogenum*
  - (C) *Aspergillus terreus*
  - (D) *Aspergillus oryzae*
36. Electrophoresis is mainly dependent upon
- (A) Concentration
  - (B) Density
  - (C) e/m ratio
  - (D) Viscosity
37. The ion exchange capacity is expressed in terms of
- (A) gm/mL
  - (B) mL/gm
  - (C) meq/mL
  - (D) no units
38. The experimental organism in Transformation is
- (A) *Diplococcus pneumoniae*
  - (B) *Vibrio cholerae*
  - (C) *Staphylococcus aureus*
  - (D) *Streptococcus pyogenes*
39. DNA entirely restricted to chromosomes was revealed by
- (A) Swift techniques
  - (B) Feulgen techniques
  - (C) Swiss techniques
  - (D) Gorgen techniques

40. Wobble hypothesis was proposed by
- (A) Wobble
  - (B) Francis Crick
  - (C) Severo Ochoa
  - (D) Sydney Brenner
41. The famous molecular biologist H. G. Khorana was awarded Nobel Prize in 1968 for his contributions in
- (A) Artificial synthesis of the gene
  - (B) In vivo synthesis of the gene
  - (C) In vitro synthesis of the mRNA
  - (D) All the above
42. The ribosome is involved in all of the following except
- (A) Peptide bond formation
  - (B) Aminoacylation of tRNA
  - (C) Binding of aminoacyl tRNA to mRNA
  - (D) Binding of mRNA to initiation codon
43. The physical and informational link between the gene expression and the final gene expression product is
- (A) mRNA
  - (B) rRNA
  - (C) tRNA
  - (D) DNA
44. The Coulter Counter is useful in the accurate measurement of
- (A) RBC
  - (B) Fungal spores
  - (C) Bacterial population
  - (D) Algal cells
45. The Voges-Proskauer test gives positive result for
- (A) Homolactic fermentation
  - (B) Heterolactic fermentation
  - (C) Mixed acid fermentation
  - (D) Butanediol fermentation



46. Unidirectional mode of DNA replication was first demonstrated in
- (A) M13 phage
  - (B) G4 phage
  - (C) Col E1 plasmid
  - (D) *E.coli* cells
47. The removal of non-coding regions in the protein is called
- (A) Intein splicing
  - (B) Intron splicing
  - (C) Trimming
  - (D) Exon splicing
48. Plasmids code for one of the following enzymes that destroy the antibiotic, chloramphenicol
- (A) Beta-lactamases
  - (B) Acetyl transferases
  - (C) Trispeptidases
  - (D) Esterases
49. Acyclovir is converted to acyclovir triphosphate by
- (A) Thymidine kinase
  - (B) Thymidine Phosphorylase
  - (C) Acetyl transferase
  - (D) Carboxy Kinase
50. One among the following is a protease inhibitor
- (A) Stavudine
  - (B) Methisazone
  - (C) Zidovudine
  - (D) Saquinavir
51. A microbe belonging to biosafety level -4 is
- (A) Hendra virus
  - (B) West Nile virus
  - (C) Ebola virus
  - (D) Yellow fever virus

52. The glass substrate used for cultured cells is
- (A) Polyethylene
  - (B) Polystyrene
  - (C) Perspex
  - (D) Pyrex
53. The T-DNA in Ti Plasmid has genes involved in
- (A) Gibberellin synthesis
  - (B) Cell division
  - (C) Auxin, cytokinin and opine synthesis
  - (D) Auxin and gibberellin synthesis
54. The four kingdom system of classification which includes “Monera, Protocista, Metaphyta and Metazoa” was proposed by
- (A) Ernst Haeckel
  - (B) Carolus Linnaeus
  - (C) Herbert F. Copeland
  - (D) Robert Whittaker
55. The first person to be immunized against Rabies was
- (A) James Phopp
  - (B) Joseph Meister
  - (C) Jacob Henle
  - (D) James Meister
56. Which one among the following is a transport medium?
- (A) Wilson and Blair
  - (B) Deoxycholate citrate
  - (C) Stuarts
  - (D) Richards
57. Isolation of stringent anaerobes is done by
- (A) Plain-tube technique
  - (B) Roll-tube technique
  - (C) Rinse-tube
  - (D) Wash-tube technique

58. Which one among the following is used to prevent Ophthalmia neonatorum?
- (A)  $\text{AgNO}_3$
  - (B)  $\text{CaCl}_2$
  - (C)  $\text{CuSO}_4$
  - (D)  $\text{HgCl}_2$
59. Destruction of Carcasses is done by
- (A) Sterilization
  - (B) Air filtration
  - (C) Boiling
  - (D) Incineration
60. Berkefield filters are made up of
- (A) Asbestos
  - (B) Porcelain
  - (C) Diatomaceous earth
  - (D) Cellulose
61. High lipid content of acid-fast bacterial cell wall is due to the presence of
- (A) Glycolic acid
  - (B) Mycolic acid
  - (C) Sulphuric acid
  - (D) Ascorbic acid
62. The first written record of virus infection consists of
- (A) Paleozoic rocks
  - (B) Hieroglyph from mummies of Egypt
  - (C) Memmiphid body in paromuseum
  - (D) Mesozoic rocks
63. The organism used in Ames test is
- (A) *Salmonella*
  - (B) *Brucella*
  - (C) *Rhodococcus*
  - (D) *Staphylococcus*

64. Pellagra is caused by the deficiency of
- (A) Thiamine
  - (B) Niacin
  - (C) Ascorbic acid
  - (D) Folic acid
65. CAP of m-RNA is
- (A) 5-phosphate
  - (B) 5-methyl guanosine
  - (C) 5-hydroxyl
  - (D) 5-phosphate 7-methyl guanosine
66. *Rhodospirillum rubrum* is a
- (A) Purple sulfur bacteria
  - (B) Purple non-sulfur bacteria
  - (C) Green sulfur bacteria
  - (D) Sulfur bacteria
67. What is Edman's reagent?
- (A) Fluro dinitro benzene
  - (B) Dinitrophenyl benzene
  - (C) Phenyl isothiocyanate
  - (D) Methyl red
68. Example of synthetic fat is
- (A) Olestra
  - (B) Simplesse
  - (C) Caprein
  - (D) Terpenes
69. The electron source used in SEM is
- (A) Nitrogen
  - (B) Oxygen
  - (C) Sulphur
  - (D) Tungsten

70. The gas that is generally used as mobile phase in GLC is
- (A) Nitrogen
  - (B) Ammonia
  - (C) SF<sub>6</sub>
  - (D) Chlorine
71. Flame photometry is highly sensitive for
- (A) Transition metals
  - (B) Alkali and alkaline earth metals
  - (C) Inert compounds
  - (D) Volatile compounds
72. The inorganic solid scintillation detector used in nuclear radiations is
- (A) Diphenyl oxazole
  - (B) Silicon
  - (C) Butadiene
  - (D) NaI(Tl)
73. The isotope used in Brain Tumour location is
- (A) Ga<sup>68</sup>
  - (B) C<sup>14</sup>
  - (C) Cl<sup>35</sup>
  - (D) H<sup>1</sup>
74. The solvent used as reference in proton NMR is
- (A) Chloroform
  - (B) Benzene
  - (C) Tetramethyl silane
  - (D) Toulene
75. The light source in middle I.R. region is
- (A) Neon lamp
  - (B) Nernst glower
  - (C) Tungsten glower
  - (D) Hydrogen lamp

76. Na<sup>+</sup>/K<sup>+</sup> ATPase is a
- (A) Symport
  - (B) Uniport
  - (C) Antiport
  - (D) Multiport
77. The concept that water oxidation and CO<sub>2</sub> reduction were not obligately linked was first advanced by
- (A) Robert Hill
  - (B) Robert Emerson
  - (C) Hans Krebs
  - (D) Melvin-Calvin
78. Chlorophyll *b* molecule differs from Chlorophyll *a* by the
- (A) Presence of methyl group
  - (B) Presence of an aldehyde group
  - (C) Presence of carboxyl group
  - (D) Presence of keto group
79. Plasmoptysis of a bacterial cell is due to one among the following characters of the medium
- (A) High osmolarity
  - (B) Low osmolarity
  - (C) Low pH
  - (D) High pH
80. An analgesic codeine is obtained from
- (A) *Datura stramonium*
  - (B) *Catharanthus roseus*
  - (C) *Papaver somniferum*
  - (D) *Coptis japonica*
81. Flora of British India was published by
- (A) George Bentham
  - (B) Joseph Dalton Hooker
  - (C) John Hutchinson
  - (D) J S Gamble
82. Red data book gives the details of

- (A) Endangered and endemic plant species  
(B) Endemic plant species  
(C) Ornamental plant species  
(D) Exotic plant species
83. If the rate of an enzyme reaction proportionately increases with substrate concentration, such reaction is
- (A) Zero order  
(B) First order  
(C) Second order  
(D) Third order
84. Low  $K_m$  values represent
- (A) Strong binding  
(B) Weak binding  
(C) Moderate binding  
(D) Low binding
85. Which of the following cannot be used to determine growth?
- (A) Cell count  
(B) Turbidity  
(C) Determination of  $N_2$  content  
(D) Determination of Nucleic acid content
86. Where does gluconeogenesis occur?
- (A) Mitochondria  
(B) Cell membrane  
(C) Nucleus  
(D) Cytosol
87. Haploid plants from pollen grains were first produced by
- (A) Maheswari  
(B) Nitch  
(C) Carlson  
(D) Canning

88. Number of ATP molecules required for Nitrogen fixation
- (A) 10
  - (B) 14
  - (C) 16
  - (D) 20
89. Which is the coenzyme required for transamination reaction?
- (A) Thiamine pyrophosphate
  - (B) Coenzyme A
  - (C) Pyridoxal phosphate
  - (D) Biotin
90. Which one among the following is a phytohormone?
- (A)  $\text{CH}_4$
  - (B)  $\text{N}_2$
  - (C)  $\text{C}_2\text{H}_4$
  - (D)  $\text{C}_2\text{H}_2$
91. Now that several genomes have been sequenced, plans are in the works to collect massive amounts of data about 3-D protein structures. What technique yields this information?
- (A) Ion-exchange
  - (B) Affinity chromatography
  - (C) X-ray crystallography
  - (D) Rate sedimentation
92. Transpiration phenomenon was first observed by
- (A) Frederick Steward
  - (B) Stephen Hales
  - (C) Julius van Sachs
  - (D) Joseph Banks
93. Which of these is a symbiotic non-leguminous nitrogen fixing bacterium?
- (A) *Rhizobium*
  - (B) *Bradyrhizobium*
  - (C) *Klebsiella*
  - (D) *Frankia*



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94. *Metarhizium anisopliae* is an example of
- (A) Entomobacteria
  - (B) Entomofungi
  - (C) Entomovirus
  - (D) Parasitic insect
95. Azospirillum species occur in association with the roots of many plants belonging to the family
- (A) Fabaceae
  - (B) Malvaceae
  - (C) Graminaceae
  - (D) Palmaceae
96. The ascocarp which is completely closed is
- (A) Cleistothecium
  - (B) Perithecium
  - (C) Apothecium
  - (D) Ascostroma
97. Indian Forest Research Institute is located at
- (A) Hyderabad
  - (B) New Delhi
  - (C) Dehradun
  - (D) Coimbatore
98. Which of the following hormones can replace Vernalisation?
- (A) Auxin
  - (B) Gibberellins
  - (C) Ethylene
  - (D) Cytokinins

SEC-ZOOLOGY (99-120)

99. Bursa of Fabricius is
- (A) Central Lymphoid organ of reptiles
  - (B) Central Lymphoid organ of mammals
  - (C) Central Lymphoid organ of Amphibians
  - (D) Central Lymphoid organ of Aves

100. Thymus gland acquires Lymphoid appearance by the
- (A) 2<sup>nd</sup> month of gestation
  - (B) 3<sup>rd</sup> month of gestation
  - (C) 4<sup>th</sup> month of gestation
  - (D) 10<sup>th</sup> month of gestation
101. During antigenic stimulus
- (A) Germinal centers are developed in the cortex of spleen
  - (B) Germinal centers are developed in the Medulla of Spleen
  - (C) Germinal centers are developed in the Red Pulp
  - (D) Germinal centers are developed in the white pulp
102. The porcine differs from human insulin by the presence of alanine in place of
- (A) Methionine
  - (B) Valine
  - (C) Threonine
  - (D) Phenylalanine
103. Elevated levels of ammonia lead to
- (A) Kidney failure
  - (B) Brain damage
  - (C) Heart failure
  - (D) Lung dysfunction
104. A 1 $\mu$ g/ $\mu$ l solution is
- (A) 1.0 g %
  - (B) 0.1 g %
  - (C) 10 g %
  - (D) 0.01 g %
105. Which of the following tests is used for evaluating null hypothesis?
- (A) T-test
  - (B) F-test
  - (C) Chi square test
  - (D) E-test

106. Which of the following is an example of polymorphism in human population?
- (A) Blood Groups
  - (B) Melanism
  - (C) Albinism
  - (D) Autism
107. Enterokinase stimulates
- (A) Trypsin
  - (B) Trypsinogen
  - (C) Pepsin
  - (D) Pepsinogen
108. Which instrument is best suitable to cut sections of wax embedded tissues?
- (A) Rocking microtome
  - (B) Rotary microtome
  - (C) Sliding microtome
  - (D) Sledge microtome
109. Sperm lysins include
- (A) Hyaluronidase
  - (B) Pepsin
  - (C) Antifertilin
  - (D) Chymosin
110. Programmed Cell Death is
- (A) Necrosis
  - (B) Lysis
  - (C) Apoptosis
  - (D) Totipotency
111. The pace maker of the heart is
- (A) Ranviers node
  - (B) Hensens node
  - (C) Auriculo-ventricular node
  - (D) Sino-auricular node

112. The chromosome abnormality in individuals with Down's syndrome belongs to
- (A) Nullisomy
  - (B) Tetraploidy
  - (C) Trisomy
  - (D) Monosomy
113. IDDM is associated with
- (A) Diabetes
  - (B) Cancer
  - (C) Cystic Fibrosis
  - (D) Sclerosis
114. While preparing media, glucose is sterilized separately by
- (A) Filter sterilization
  - (B) UV- irradiation
  - (C) Autoclaving using low pressure
  - (D) Dissolving in alcohol
115. Which of the following is **NOT** involved in the process of initiation of translation in eukaryotes?
- (A) 5'Cap
  - (B) Shine-Dulgarno Sequence
  - (C) Kozak Sequence
  - (D) Poly A tail
116. In kidney, glucose reabsorption occurs in the
- (A) Henle's loop
  - (B) Distal tubule
  - (C) Proximal tubule
  - (D) Cortical collecting duct
117. The first genetic disorder that was successfully treated with gene therapy
- (A) SCID – ADA deficiency
  - (B) Cystic fibrosis
  - (C) Sarcoma
  - (D) Sickle cell anemia

118. Primary host of malarial parasite is
- (A) Human beings
  - (B) Mosquito
  - (C) Monkeys
  - (D) Protozoa
119. Respiratory organs in Scorpion
- (A) Lungs
  - (B) Trachea
  - (C) Skin
  - (D) Book lung
120. BRACA I and BRACA II are involved in the diagnosis of
- (A) Myeloma
  - (B) Carcinoma
  - (C) Breast cancer
  - (D) Teratoma
121. Alkaline phosphatase is active at pH range of
- (A) 1-2
  - (B) 4-6
  - (C) 8-10
  - (D) 13-14
122. Which one among the following is a base analogue causing transition?
- (A) 5-bromouracil
  - (B) Pseudouridine
  - (C) 1-methyl guanylic acid
  - (D) Inosine
123. Which one of the following is an intercalating agent?
- (A) Nitrous acid
  - (B) EMS
  - (C) Acridine
  - (D) Hydroxylamine

124. The biopesticides Vectobac, Tenkar, Skeetal are the commercially marketed products of
- (A) *Pseudomonas syringii*
  - (B) *Verticillium lecanii*
  - (C) *Bacillus thuringiensis*
  - (D) *Beauveria bassiana*
125. Nitragin was first patented in England and USA (1895) by
- (A) Nobbe and Hiltner
  - (B) Milstein and Kohler
  - (C) Miller and Grace
  - (D) Hood and Dubey
126. pEMBL8 is a
- (A) Cosmid
  - (B) YAC
  - (C) BAC
  - (D) Phagemid
127. A dideoxy nucleotide is a laboratory made chemical molecule that lacks a hydroxyl group at
- (A) 2' and 3' carbons
  - (B) 3' and 5' carbons
  - (C) 4' and 5' carbons
  - (D) 3' and 4' carbons
128. The first genome to be completely sequenced in 1975 was
- (A) TMV
  - (B) SV 40
  - (C)  $\phi$  X 174 bacteriophage
  - (D) pBR322
129. A collaborative venture of Human genome project under the name 'International Human genome sequencing Consortium' was headed by
- (A) Fredrick Sanger
  - (B) Craig ventor
  - (C) Francis Collins
  - (D) James Watson

130. Who was regarded as the father of DNA fingerprinting?

- (A) Lalji Singh
- (B) Alec Jeffrey
- (C) James Watson
- (D) Walter Sutton

131. 'AFLP' stands for

- (A) Alligned Fragment Length Polymorphism
- (B) Assorted Fragment Length Polymorphism
- (C) Amplified Fragment Length Polymorphism
- (D) Attained Fragment Length Polymorphism

132. The dye taken up by dead cells is

- (A) FDA
- (B) TTC
- (C) Evan's blue
- (D) Methylene Blue

133. Heat labile compounds like zeatin are sterilized by

- (A) Membrane filter
- (B) HEPA filter
- (C) Autoclave
- (D) Surface sterilization

134. The first transgenic bovine in the world

- (A) Holly the cow
- (B) Herman the bull
- (C) Belle the cow
- (D) Polly the pig

135. The name 'western blot' was given to the technique by

- (A) Mark Kamp
- (B) Edwin Southern
- (C) Neal Burnette
- (D) Barton Frank



136. RNA as genetic material was first proved by
- (A) Gierer and Schramm
  - (B) Conrat and Singer
  - (C) Watson and Crick
  - (D) Robert Holley
137. The termination codon which is referred as Ochre is
- (A) UAG
  - (B) UGA
  - (C) UAA
  - (D) AUG
138. The only amino acid other than methionine which is coded by a single codon
- (A) Tryptophan
  - (B) Tyrosine
  - (C) Threonine
  - (D) Valine
139. The isotope that is used by Meselson-Stahl to demonstrate semi-conservation mode of DNA replication
- (A)  $^{15}\text{N}$
  - (B)  $^{14}\text{N}$
  - (C)  $^3\text{H-TdR}$
  - (D)  $^{14}\text{C}$
140. The search engine available for access and retrieval of data in NCBI is
- (A) Medline
  - (B) Identifier
  - (C) ENTREZ
  - (D) COMMENT
141. In monoclonal antibody technology, tumor cells that can replicate endlessly are fused with mammalian cells that produce an antibody. The result of this cell fusion is a
- (A) myeloma
  - (B) hybridoma
  - (C) natural killer cell
  - (D) lymphoblast

142. T<sub>4</sub> Polynucleotide Kinase is used for
- (A) Strand labeling
  - (B) 5' end labeling
  - (C) 3' end labeling
  - (D) Non radioactive labeling
143. An enzyme purified from calf thymus is
- (A) Deoxynucleotidyl transferase
  - (B) klenow polymerase
  - (C) Deoxynucleotidyl peptidase
  - (D) RNA polymerase
144. The specific physical space occupied by an organism as well as its functional role in ecosystem is known as
- (A) Plankton
  - (B) Niche
  - (C) Nekton
  - (D) Population
145. A transition zone between two adjacent biomes is known as
- (A) Ecotone
  - (B) Ecotype
  - (C) Ecad
  - (D) Ecosystem
146. The magnitude of BOD is related to the amount of
- (A) Organic matter
  - (B) Inorganic matter
  - (C) Phosphates
  - (D) Nitrates
147. Which of these is removed in stripping during the final step of water treatment?
- (A) Phosphate
  - (B) Nitrogen
  - (C) Sulphate
  - (D) Carbonate
148. Sulphur is available in the sediment in the form of

- (A) Carbon sulphide
- (B) Hydrogen sulphide
- (C) Iron sulphide
- (D) Sulphuric acid

149. Freon gas is a/an

- (A) Water Pollutant
- (B) Soil Pollutant
- (C) Thermal Pollutant
- (D) Air Pollutant

150. Hydrogen fluoride is a pollutant associated with industries that produce

- (A) Aluminium and Arsenic
- (B) Zinc and Lead
- (C) Ferric and Copper
- (D) Zinc and Copper

FOR REFERENCE ONLY-CUSAT

## FINAL ANSWER KEY

**Subject Name: 623 MICROBIOLOGY**

SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key
1	C	31	D	61	B	91	C	121	C
2	B	32	B	62	B	92	B	122	A
3	A	33	A	63	A	93	D	123	C
4	C	34	D	64	B	94	B	124	C
5	B	35	A	65	D	95	C	125	A
6	A	36	C	66	B	96	A	126	D
7	A	37	C	67	C	97	C	127	A
8	D	38	A	68	A	98	B	128	C
9	A	39	B	69	D	99	D	129	C
10	B	40	B	70	A	100	A	130	B
11	A	41	A	71	B	101	A	131	C
12	B	42	B	72	D	102	C	132	C
13	A	43	A	73	A	103	B	133	A
14	A	44	A	74	C	104	B	134	B
15	B	45	D	75	D	105	C	135	C
16	C	46	C	76	C	106	A	136	A
17	B	47	A	77	A	107	B	137	C
18	D	48	B	78	B	108	B	138	A
19	C	49	A	79	B	109	A	139	A
20	C	50	D	80	C	110	C	140	C
21	A	51	C	81	B	111	D	141	B
22	C	52	D	82	A	112	C	142	C
23	B	53	C	83	B	113	A	143	A
24	C	54	C	84	A	114	C	144	B
25	B	55	B	85	D	115	B	145	A
26	A	56	C	86	D	116	C	146	A
27	D	57	B	87	A	117	A	147	B
28	A	58	A	88	C	118	B	148	C
29	B	59	D	89	C	119	D	149	D
30	C	60	C	90	C	120	C	150	A