

BIOTECHNOLOGY
(FINAL)

1. In RNAi, genes are silenced using
 - (A) ss DNA
 - (B) ds DNA
 - (C) ds RNA
 - (D) ss RNA

2. The mass of P_4O_{10} that will be obtained from the reaction of 1.33 gram of P_4 and 5.07 gram of oxygen is
 - (A) 2.05 gram
 - (B) 3.05 gram
 - (C) 4.05 gram
 - (D) 5.05 gram

3. The octane number of zero is assigned to
 - (A) 2-methyl octane
 - (B) n-heptane
 - (C) iso-octane
 - (D) 3-methyl octane

4. The metal that is used as a catalyst in the hydrogenation of oils is
 - (A) Ni
 - (B) Pb
 - (C) Cu
 - (D) Pt

5. The monomer of polythene is
 - (A) vinyl chloride
 - (B) ethylene
 - (C) ethyl alcohol
 - (D) None of the above

6. The gas used in the manufacture of vanaspati from vegetable oil is
 - (A) hydrogen
 - (B) oxygen
 - (C) nitrogen
 - (D) carbon dioxide

7. The high reactivity of fluorine is due to
- (A) Its high electro negativity
 - (B) Small size of fluorine atom
 - (C) Availability of d-orbitals
 - (D) Strong f – f bond
8. The main chemical constituent of clay is
- (A) Silicon oxide
 - (B) Aluminium borosilicate
 - (C) Zeolites
 - (D) Aluminium silicate
9. Bar eye character of *Drosophila* is due to
- (A) duplication in region of 16A of X chromosome
 - (B) deletion in region of 16A of X chromosome
 - (C) due to the presence of additional X-chromosome
 - (D) due to a point mutation in eye-locus
10. Transmission of a gene from male parent to female child and male grand child is known as
- (A) holandric inheritance
 - (B) quantitative inheritance
 - (C) criss-cross inheritance
 - (D) maternal inheritance
11. Using Bovine Papilloma Virus (BPV) derived vectors, permanent cell lines can be obtained carrying a recombinant DNA
- (A) episomally only
 - (B) integrated only
 - (C) either episomally or integrated at high copy number
 - (D) either episomally or integrated at low copy number
12. Yeast Episomal plasmids (YEP) were constructed using
- (A) 2 μ m yeast plasmid, fragments of yeast nuclear DNA and *E coli* vector pMB 9
 - (B) 2 μ m yeast plasmid, fragments of yeast nuclear DNA and *E coli* vector pBR 322
 - (C) 2 μ m yeast plasmid and *E coli* vector pBR 9
 - (D) 2 μ m yeast plasmid and *E coli* vector pBR 322

13. Recombinant SV40 virus introduces the foreign DNA into cells
- (A) with the DNA mediated transfection
 - (B) without the DNA mediated transfection
 - (C) with the RNA mediated transfection
 - (D) without the RNA mediated transfection
14. Any system that is **NOT** at equilibrium
- (A) is thermodynamically unstable, although it may be kinetically stable
 - (B) is kinetically unstable, although it may be thermodynamically stable
 - (C) is rushing toward equilibrium at a very rapid rate
 - (D) requires an enzyme to reach equilibrium
15. Which is **NOT** true about a photon?
- (A) It is a packet of light energy
 - (B) The shorter the wavelength, the greater the energy of the photons
 - (C) It is trapped by photosynthetic unit
 - (D) It donates electron to reduce carbon dioxide to glucose
16. Why do some redox reactions in cells result in the transfer of electrons from a reductant with higher standard redox potential to an oxidant with a lower standard redox potential?
- (A) Redox potentials are defined under standard conditions, and cellular conditions are typically not standard conditions
 - (B) The rule governing oxidation and reduction apply only in vitro, and not in vivo
 - (C) Electrons always go from reductants with high redox potentials to oxidants with low redox potentials
 - (D) None of the above
17. Pine, fir, spruce, cedar, larch and cypress are famous timber-yielding plants, of which several are found widely in the hilly regions of India. All these belong to
- (A) Angiosperms
 - (B) Gymnosperms
 - (C) Monocotyledons
 - (D) Dicotyledons
18. Pollination is best defined as
- (A) transfer of pollen from anther to stigma
 - (B) germination of pollen grains
 - (C) growth of pollen tube in ovule
 - (D) visiting flowers by insects

19. The composition of the inner mitochondrial membrane is most like that of
- (A) the outer mitochondrial membrane
 - (B) the cell's plasma membrane
 - (C) some bacterial plasma membrane
 - (D) the nuclear membrane
20. N_2 content is kept constant in the biosphere due to
- (A) N_2 fixation
 - (B) industrial pollution
 - (C) nitrogen cycle
 - (D) absorption of N_2
21. Which molecule serves as a carrier of fatty acids in mitochondria?
- (A) Acetyl-CoA
 - (B) Carnitine
 - (C) Dolichol
 - (D) Malonyl-CoA
22. Osmosis is the flow of solution from higher concentration to a solution of lower concentration through a semi permeable membrane. What is **INCORRECT** in this statement?
- (A) Exact concentration of solution is not given
 - (B) Character of semi permeable membrane is not given
 - (C) The flow of solution is not possible through semi permeable membrane
 - (D) All are incorrect
23. Photo-oxidation is
- (A) Photorespiration
 - (B) Photolysis
 - (C) Light and oxygen induced breakdown
 - (D) All of the above
24. *Neurospora* is used as an experimental material in genetic studies because
- (A) it has short life cycle of 10 days
 - (B) the product of single meiosis can be easily analysed
 - (C) meiotic products are linearly arranged in the form of ordered tetrads
 - (D) it is a diploid fungus

25. Radial vascular bundles are those in which
- (A) Xylem is surrounded by phloem
 - (B) Phloem is surrounded by xylem
 - (C) Xylem and phloem occur on the same radius
 - (D) Xylem and phloem occur on different radii
26. Which of the following is **NOT** a function of the large central vacuole present in plant cells?
- (A) Storage of food
 - (B) Support
 - (C) Locomotion
 - (D) Waste disposal
27. Which of the following experimental results does **NOT** support Mitchell's chemiosmosis theory?
- (A) Electron transport in isolated mitochondria was shown to result in acidification of the medium
 - (B) Addition of dinitrophenol to isolated mitochondria was shown to inhibit electron transport, but had no effect on ATP synthesis
 - (C) Addition of dinitrophenol to isolated mitochondria during electron transport was shown to inhibit acidification of the medium
 - (D) An artificial proton gradient across the inner mitochondrial membrane drives ATP synthesis in the absence of electron transport
28. The number of d-electron in Fe^{2+} ($Z = 26$) is **NOT** equal to that of
- (A) p-electrons in Ne ($Z = 10$)
 - (B) s-electrons in Mg ($Z = 12$)
 - (C) d-electrons in Fe ($Z = 26$)
 - (D) p-electrons in Cl ($Z = 17$)
29. The half life period of an isotope is 2 hours. After 6 hours what fraction of the initial quantity of the isotope will be left behind?
- (A) $1/6$
 - (B) $1/3$
 - (C) $1/8$
 - (D) $1/4$

30. The number of atoms present in 21.6 gram of silver (atomic weight = 108) are same as the molecules in
- (A) 108 gram of H_2O
 - (B) 12 moles of KMnO_4
 - (C) 0.6 N H_2SO_4
 - (D) 4.6 gram of $\text{C}_2\text{H}_5\text{OH}$
31. Equal masses of oxygen, hydrogen and methane are kept under identical conditions. The ratio of the volumes of gases will be
- (A) 2 : 16 : 2
 - (B) 2 : 16 : 1
 - (C) 1 : 16 : 2
 - (D) 1 : 1 : 1
32. The mass number of an atom is equal to the number of
- (A) protons
 - (B) protons and electrons
 - (C) nucleons
 - (D) neutrons
33. The method of concentrating the ore which makes use of the difference in density between ore and impurities is called
- (A) liquation
 - (B) leaching
 - (C) levigation
 - (D) magnetic separation
34. The ionic radii of N_3^- , O_2^- , F^- and Na^+ follow the order
- (A) $\text{N}_3^- > \text{O}_2^- > \text{F}^- > \text{Na}^+$
 - (B) $\text{N}_3^- > \text{Na}^+ > \text{O}_2^- > \text{F}^-$
 - (C) $\text{Na}^+ > \text{O}_2^- > \text{N}_3^- > \text{F}^-$
 - (D) $\text{O}_2^- > \text{F}^- > \text{Na}^+ > \text{N}_3^-$
35. The graphite rods in the nuclear reactor
- (A) react with U to release energy
 - (B) produce neutrons
 - (C) undergo combustion which triggers the nuclear fission
 - (D) convert fast moving neutrons into thermal neutrons

36. The octane number of zero is assigned to
- (A) 2-methyl octane
 - (B) n-heptane
 - (C) iso-octane
 - (D) 3-methyl octane
37. Montocot root differs from dicot root in having
- (A) open vascular bundles
 - (B) scattered vascular bundles
 - (C) well developed pith
 - (D) radially arranged vascular bundles
38. A deficiency of the enzyme Hypoxanthine Guanine Phosphoribosyl Transferase (HGPRT) may cause
- (A) Gaucher's disease
 - (B) Ehlers-Danlos syndrome
 - (C) Lesch-Nyhan syndrome
 - (D) Klinefelter's syndrome
39. The Southern blotting technique depends on
- (A) similarities between the sequences of probe DNA and experimental DNA
 - (B) similarities between the sequences of probe RNA and experimental RNA
 - (C) similarities between the sequences of probe protein and experimental protein
 - (D) the molecular mass of proteins
40. Which of the following triggers the division of activated T lymphocytes?
- (A) FGF
 - (B) Interlukin 2
 - (C) PDGF
 - (D) Erythropoietin
41. Which of the following is semi-continuous (diploid) cell line?
- (A) HeLa
 - (B) HEp-2
 - (C) WI-38
 - (D) KB

42. The protein that has been produced from a transgenic sheep and is used for replacement therapy for individuals at risk from emphysema is
- (A) Plasminogen activator (tPA)
 - (B) α -anti trypsin (AAT)
 - (C) Casein
 - (D) Amyloid precursor proteins
43. The success of embryo transplantation depends upon the ability to obtain an increased number of embryos from animals of superior genetic qualities. This can be achieved by the use of
- (A) exogenous gonadotrophic hormones
 - (B) endogenous gonadotrophic hormones
 - (C) both (A) and (B)
 - (D) FSH (Follicle Stimulating Hormone)
44. Which of the following established cell lines originate from a mouse embryo?
- (A) 3T3
 - (B) BHK
 - (C) HeLa
 - (D) BTK
45. Which of the following *vir* genes are constitutively expressed and control the plant induced activation of other *vir* genes?
- (A) *vir* A and *vir* G
 - (B) *vir* C and *vir* D
 - (C) *vir* B and *vir* E
 - (D) *vir* A and *vir* B
46. The left segment of octopine T-DNA (TL) is necessary for
- (A) enzymes involved in agropine biosynthesis
 - (B) tumour formation
 - (C) conjugative transfer
 - (D) All of the above
47. A transgenic event is characterized by
- (A) copy number and site of integration
 - (B) presence of a transgene
 - (C) production of transgene mRNA
 - (D) translation into protein

48. A degenerate primer is generally designed from
- (A) DNA sequence
 - (B) Amino acid sequence
 - (C) RNA sequence
 - (D) cDNA sequence
49. *Ac* transposon is a
- (A) Non-autonomous element
 - (B) Autonomous element
 - (C) Retrotransposon
 - (D) Intron
50. An expression vector will have
- (A) Suppressor
 - (B) Mutator
 - (C) Enhancer
 - (D) Promoter
51. *npt* II gene imparts resistance to
- (A) Ampicillin
 - (B) Hygromycin
 - (C) Kanamycin
 - (D) Chloramphenicol
52. Most commonly used technique for proteomics is
- (A) 2-D Gel electrophoresis
 - (B) RACE
 - (C) SAGE
 - (D) *In vitro* pull down assay
53. Most commonly used promoter for expression of transgenes in plants is
- (A) CaMv 35S
 - (B) *npt* II
 - (C) nos
 - (D) *prn*

54. Pseudodominance may be observed in heterozygotes for
- (A) Deletion
 - (B) Duplication
 - (C) Linkage
 - (D) Translocation
55. The microarray analysis is **NOT** appropriate for
- (A) monitoring individual gene expression
 - (B) tentatively assigning gene functions
 - (C) observing patterns of gene expression
 - (D) determining phylogenetic relationships
56. The technique used to identify genes which are transcribed in a particular cell line is
- (A) Gene expression profiling
 - (B) DNA variation screening
 - (C) Microarray comparative genomic hybridization
 - (D) Transcription-mediated amplification
57. AGO proteins are associated with
- (A) Histone complex
 - (B) RNAi effector complex
 - (C) SOS mechanisms
 - (D) Tryptophan operon
58. Fusion between protoplasts can be enhanced by
- (A) subjecting to high temperature
 - (B) low temperature
 - (C) high intensity of electric current
 - (D) high light intensity
59. Agrobacterium mediated transformation of monocots require the use of for the induction of *Vir* genes
- (A) Agarose
 - (B) Acetophenone
 - (C) Acetosyringone
 - (D) Cefatoxime

60. Which among the following is **NOT** a PCR based marker?
- (A) RAPD
 - (B) SSR
 - (C) RFLP
 - (D) STS
61. Sanger's method of sequencing involves the use of
- (A) Chemicals to cleave DNA
 - (B) ddNTP
 - (C) Pyridine
 - (D) Pyridoxine
62. A representative collection of all the DNA fragments from a given source cloned in vectors, is described as
- (A) DNA library
 - (B) cDNA library
 - (C) Subcloning
 - (D) Cloning
63. Seed dormancy is mainly controlled by the hormone
- (A) Gibberellic acid
 - (B) Abscissic acid
 - (C) Cytokinin
 - (D) Ethylene
64. A genetic unit that codes a complete functional polypeptide is termed as
- (A) Intron
 - (B) Exon
 - (C) Cistron
 - (D) Recon
65. Which of the following properties is **NOT** associated with DNA polymerase –I ?
- (A) 5'-3' exonuclease activity
 - (B) 3'-5' exonuclease activity
 - (C) 5'-3' endonuclease activity
 - (D) 5'-3' polymerase activity

66. The DNA fingerprinting process involves
- (A) Chain termination
 - (B) Degenerate oligonucleotides
 - (C) VNTR loci
 - (D) RFLPs
67. Genes whose product are constantly needed for cellular activity are called
- (A) Regulator genes
 - (B) Structural genes
 - (C) Housekeeping genes
 - (D) Smart genes
68. Translation occurs in the
- (A) Nucleus
 - (B) Nucleolus
 - (C) Cytoplasm
 - (D) Lysosomes
69. In genetic engineering, a chimera is
- (A) a plasmid that contains foreign DNA
 - (B) an enzyme that links DNA molecules
 - (C) a virus that infects bacteria
 - (D) a fungus
70. The vectors commonly used for sequencing human genome is
- (A) YAC
 - (B) Plasmids
 - (C) M13
 - (D) PAC
71. CRISPR refers to repeated sequences located in the
- (A) Viral DNA
 - (B) Bacterial DNA
 - (C) Fungal DNA
 - (D) Viral RNA

72. All are intermediates of glycolysis, except
- (A) Glucose-6-phosphate
 - (B) Fructose-1,6-bisphosphate
 - (C) Glycerol-3-phosphate
 - (D) Fructose-6-phosphate
73. The effectiveness of many chemical preservatives on food depends primarily on
- (A) pH
 - (B) Temperature
 - (C) Water content
 - (D) Acidity
74. Chromosome movement during cell division is regulated by
- (A) Microfilaments
 - (B) Microtubules
 - (C) Intermediate filaments
 - (D) All of the above
75. Flowers in the members of the family *Asteraceae* are **NOT**
- (A) ebracteate
 - (B) pentamerous
 - (C) actinomorphic
 - (D) hypogenous
76. Inflorescence of the family *Asteraceae* is called as
- (A) Verticillaster
 - (B) Capitulum
 - (C) Cyathium
 - (D) Catkin
77. Alternation of generations is exhibited by
- (A) Bryophytes
 - (B) Pteridophytes
 - (C) Gymnosperms
 - (D) All plants

78. Zooidogamy is seen in
- (A) *Cycas*
 - (B) *Marchantia*
 - (C) *Selaginella*
 - (D) Angiosperms
79. Vascular bundles in a dicot stem are
- (A) open, collateral, exarch
 - (B) closed, collateral, exarch
 - (C) open, collateral, endarch
 - (D) closed, collateral, endarch
80. Light reaction of photosynthesis occurs in
- (A) Grana
 - (B) Thylakoids
 - (C) Stroma
 - (D) Mitochondria
81. Sclerenchymatous bundle sheath is present in
- (A) Grass
 - (B) Mango
 - (C) Banyan
 - (D) Brinjal
82. The fruit of plants in the family Fabaceae is
- (A) Siliqua
 - (B) Etaerio
 - (C) Nut
 - (D) Pod
83. The lateral roots generally originate from
- (A) Cork cambium
 - (B) Cortex
 - (C) Pericycle cells lying against protoxylem
 - (D) Endodermal cells lying against protoxylem

84. Xylem consists of
- (A) Tracheids, vessels, fibres and parenchyma
 - (B) Tracheids, vessels and companion cells
 - (C) Tracheids, fibres and parenchyma
 - (D) Tracheids, vessels, sieve cells and companion cells
85. The dominant generation in Pteridophytes is
- (A) Haploid
 - (B) Diploid
 - (C) Triploid
 - (D) Gametophytic
86. Chlorosis in plants occurs due to the deficiency of
- (A) Zn
 - (B) Ca
 - (C) Cl
 - (D) B
87. The most advanced order in gymnosperms is
- (A) Coniferales
 - (B) Gnetales
 - (C) Cycadales
 - (D) Taxales
88. Nodulated roots are characteristic of the family
- (A) *Fabaceae*
 - (B) *Poaceae*
 - (C) *Asteraceae*
 - (D) *Solanaceae*
89. In cyclic photophosphorylation, the high-energy electrons are driven out from
- (A) P700
 - (B) P870
 - (C) Chlorophyll a 673
 - (D) Chlorophyll a 683

90. Stomata open at night and close during the day time in

- (A) Xerophytes
- (B) Succulents
- (C) Mesophytes
- (D) Hydrophytes

91. Dark reaction is traced by

- (A) $^{14}\text{CO}_2$
- (B) X-rays
- (C) P^{32}
- (D) O^{19}

92. How many distinct body sections do Crustaceans have?

- (A) One
- (B) Two
- (C) Three
- (D) Four

93. Nereis is commonly called as

- (A) Earthworm
- (B) Ringworm
- (C) Roundworm
- (D) Clamworm

94. Bipinnaria larva is found in the development of

- (A) Sea-star
- (B) Starfish
- (C) Sea-cucumber
- (D) Sea lily

95. Parasitic protozoan are

- (A) Holozoic
- (B) Holophytic
- (C) Coprozoic
- (D) Saprozoic

96. Ecdysteroids are required for
- (A) moulting
 - (B) mating
 - (C) walking
 - (D) feeding
97. The excretory organ of *Ascaris* is
- (A) Ectoderm
 - (B) Mesoderm
 - (C) Endoderm
 - (D) Meso-endoderm
98. Placoid scales are present in
- (A) Salmons
 - (B) Lamprey
 - (C) Sharks
 - (D) Hag fishes
99. Which of the following is referred to as the Peanut Worm?
- (A) Sipuncula
 - (B) Annelida
 - (C) Echiura
 - (D) Hirudina
100. *Tricholygasorbillans* (Uzi fly) is a
- (A) Predator of silkworms
 - (B) Pest of silkworms
 - (C) Parasite in the silkworms
 - (D) None of the above
101. Soto is caused by
- (A) *Beauveria*
 - (B) *Streptococcus*
 - (C) *Bacillus*
 - (D) *Aspergillus*

102. Bone deformities occur due to the excess intake of
- (A) Phosphorus
 - (B) Fluorine
 - (C) Fatty acid
 - (D) Potassium
103. Foot and mouth disease in bovids is caused by
- (A) Phytoreo virus
 - (B) Picorna virus
 - (C) Una virus
 - (D) Adenovirus
104. Sahiwal is a breed of
- (A) Buffalo
 - (B) Cow
 - (C) Goat
 - (D) Sheep
105. Atoms having the same mass number and different atomic numbers are known as
- (A) Isotopes
 - (B) Isotones
 - (C) Isomers
 - (D) Isobars
106. The atomic theory was proposed by
- (A) John Dalton
 - (B) Neils Bohr
 - (C) Robert Millikan
 - (D) J. J. Thomson
107. The octet rule is observed in
- (A) PCl_5
 - (B) CO_2
 - (C) BCl_3
 - (D) SF_6

108. Sulphate ion is
- (A) square planar
 - (B) pyramidal
 - (C) rhombic
 - (D) tetrahedral
109. Which of the following is the poorest conductor of heat?
- (A) Lead
 - (B) Mercury
 - (C) Silver
 - (D) Copper
110. Which among the following is an example of an alicyclic compound?
- (A) Cyclohexane
 - (B) Cyclohexene
 - (C) Tetrahydrofuran
 - (D) All of the above
111. Identify the chiral molecule among the following
- (A) 2-pentanol
 - (B) Isopropyl alcohol
 - (C) 1-bromo 3-butene Isobutyl alcohol
 - (D) Isobutyle alcohol
112. A water drop is spherical in shape due to
- (A) Surface tension
 - (B) Poise
 - (C) Reflection
 - (D) Viscosity
113. The unit of rate constant of zero-order reactions is
- (A) s^{-1}
 - (B) $L\ mol^{-1}\ s^{-1}$
 - (C) $L^2\ mol^{-2}\ s^{-1}$
 - (D) $mol\ L^{-1}\ s^{-1}$

114. In the reaction $2A + B \rightarrow A_2B$, if the concentration of A is doubled and that of B is halved, then the rate of the reaction will
- (A) increase 2 times
 - (B) increase 3 times
 - (C) increase 4 times
 - (D) remain the same
115. The catalyst used in the Haber-Bosch process is
- (A) iron with molybdenum as a promoter
 - (B) platinized asbestos
 - (C) alumina
 - (D) copper oxide
116. A catalyst alters
- (A) Entropy
 - (B) Enthalpy
 - (C) Internal energy
 - (D) Activation energy
117. Which of the following is a natural rubber?
- (A) Lexan
 - (B) Silk
 - (C) Kevlar
 - (D) Bakelite
118. The primary substance used for vulcanizing rubber is
- (A) Sulphur
 - (B) Ammonium hydroxide
 - (C) Isoprene
 - (D) Zinc oxide
119. Aniline is separated from a mixture by
- (A) Fractional crystallization
 - (B) Fractional distillation
 - (C) Vacuum distillation
 - (D) Steam distillation

120. The interchange of amino group of an amino acid with keto group is called
- (A) Deamination
 - (B) Transamination
 - (C) Nitrogen transfer
 - (D) Oxidation
121. Compounds with same name and chemical structure but with different optical properties are called
- (A) Isomers
 - (B) Epimers
 - (C) Anomers
 - (D) Enantiomers
122. Which one of the following immune cells produces antibodies?
- (A) Killer cells
 - (B) T-Lymphocytes
 - (C) B-Lymphocytes
 - (D) Thymocytes
123. A conical mass of cells developed at the wound of the regenerating organ is called as
- (A) Blastema
 - (B) Blastoderm
 - (C) Blastodisc
 - (D) Balfour's cyst
124. An insect hormone secreted by corpus allatum is
- (A) Juvenile hormone
 - (B) Ecdysone
 - (C) Moulting hormone
 - (D) Estrogen
125. A relatively small discarded nucleus of the maturing oocyte is
- (A) Pronucleus
 - (B) Epiblast
 - (C) Ootocyst
 - (D) Polar body

126. Which one of the following is **NOT** a type of holoblastic cleavage?

- (A) Discoidal cleavage
- (B) Bilateral cleavage
- (C) Radial cleavage
- (D) Spiral cleavage

127. The outermost membrane surrounding the foetus is

- (A) Columella
- (B) Allantois
- (C) Choroid fissure
- (D) Chorion

128. Spindle fibres formed during cell division are made up of

- (A) Microfilaments
- (B) Actin
- (C) Microtubules
- (D) Myosin

129. Distal saccules of Golgi complex give rise to

- (A) Lysosomes
- (B) Mitochondria
- (C) Nucleus
- (D) Endoplasmic reticulum

130. Polytene chromosomes are found in the salivary glands of

- (A) Coleopteran insects
- (B) Amphibians
- (C) Hemipteran insects
- (D) Dipteran insects

131. Any cell that undergoes meiosis is called

- (A) Meiosome
- (B) Meiocyte
- (C) Meioblast
- (D) Plastid

132. Inversion control of gene expression has been reported in
- (A) *Neurospora* and bacteria
 - (B) *Neurospora* and *Drosophila melanogaster*
 - (C) Bacteria
 - (D) Bacteria and bacterial viruses
133. The vir region of t-DNA comprises
- (A) 2 operons
 - (B) 4 operons
 - (C) 6 operons
 - (D) 8 operons
134. Which one of the following is a dominant trait?
- (A) Blood group O
 - (B) Rh⁺ blood group
 - (C) Rh⁻ blood group
 - (D) AB blood group
135. Molecular pathology of beta-thalassaemia does **NOT** involve
- (A) point mutation
 - (B) deletion
 - (C) inversion
 - (D) insertion
136. Generally, SRY gene activates
- (A) RSP01
 - (B) SOX9
 - (C) Fgf9
 - (D) Wnt
137. Which one of the following protozoans has the ability to synthesise long chain fatty acid?
- (A) *Perkin susmarinus*
 - (B) *Podophyra*
 - (C) *Toxoplasma gondii*
 - (D) *Giadria lamblia*

138. Which one of the following forms of *Trypanosoma* lacks flagellum?
- (A) Trypanosomal form
 - (B) Crithidia form
 - (C) Leptomonad form
 - (D) Leishmanial form
139. In *Taenia saginata*
- (A) Rostellum and hooks are absent
 - (B) Rostellum and hooks are present
 - (C) Head is absent
 - (D) Neck is absent
140. The infective stage of a liver fluke is
- (A) Miracidium
 - (B) Redia
 - (C) Cercaria
 - (D) Metacercaria
141. Which was absent in the atmosphere at the time of origin of life?
- (A) Oxygen
 - (B) Ammonia
 - (C) Methane
 - (D) Hydrogen
142. The random change in the frequency of alleles in a population is called
- (A) Genetic drift
 - (B) Genetic polymorphism
 - (C) Genetic load
 - (D) Genetic variation
143. Which of the following Salamanders does **NOT** possess hind legs?
- (A) Proteus
 - (B) Siren
 - (C) Triton
 - (D) Amphiuma

144. Alloy of Brass contains

- (A) Cu+Zn
- (B) Cu+Sn
- (C) Cu+Ni
- (D) Cu+Al

145. Which one is Rock salt?

- (A) KCl
- (B) NaCl
- (C) LiCl
- (D) CsCl

146. Which one of the following halogens is solid at room temperature?

- (A) Fluorine
- (B) Chlorine
- (C) Bromine
- (D) Iodine

147. Kjeldahl's method is used in the estimation of

- (A) Nitrogen
- (B) Carbon
- (C) Sulphur
- (D) Oxygen

148. Polymer of chloroethylene is

- (A) PVC
- (B) Teflon
- (C) Terrylene
- (D) Nylon

149. Fats and oils are

- (A) Esters
- (B) Acids
- (C) Alcohols
- (D) Ethers

150. Phenolphthalein is a good indicator for titrating

- (A) NaOH against $(\text{COOH})_2$
- (B) NaOH against HCl
- (C) NaOH against H_2SO_4
- (D) FeSO_4 against KMnO_4

FOR REFERENCE ONLY - CUSAT

FINAL ANSWER KEY

Subject Name: 601 BIOTECHNOLOGY

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