LIFE SCIENCE
(Final)

1. *Escherichia coli* fully labelled with ^{15}N is allowed to grow in ^{14}N medium. The two strands of DNA molecule of the first generation bacteria have

   (A) different density and do not resemble parent DNA
   (B) different density but resemble parent DNA
   (C) same density and resemble parent DNA
   (D) same density but do not resemble parent DNA

2. Codon of mRNA and anticodon of tRNA is made-up of

   (A) a set of three out of U, A, C and G nucleotides
   (B) a set of three and two nucleotides, respectively
   (C) a set of two nitrogen bases
   (D) three and one nitrogen bases, respectively

3. Double stranded DNA virus with 20,000 base pairs has a total number of nucleotides

   (A) 20,000 (B) 10,000
   (C) 666 (D) 40,000

4. Circular DNA is present in

   (A) endoplasmic reticulum (ER) and ribosomes
   (B) ribosomes and chloroplasts
   (C) ribosomes and mitochondria
   (D) mitochondria and chloroplasts

5. In split genes, the coding sequences are called

   (A) Exons (B) Introns
   (C) Cistrons (D) Operons

6. Nuclear DNA sends information for cytoplasmic protein synthesis through

   (A) tRNA (B) mRNA
   (C) rRNA (D) miRNA

7. Which is not always true for DNA?

   (A) A + G = C + T (B) A + T = G + C
   (C) A = T (D) G = C

8. The number of different types of gametes produced from a plant with genotype AaBbCc is

(A) one
(B) two
(C) four
(D) sixteen

9. Gregore Johannes Mendel could not find recombination and crossing over as

(A) traits he chose were either present on different chromosomes or were far apart
(B) traits chosen by him were not influenced by gene
(C) he did not have a high power microscope
(D) he selected only pure types

10. The bacteria grown in the medium containing S^{35} as lone source of sulphur show its incorporation in the

(A) DNA
(B) Protein
(C) RNA
(D) Glycerol

11. Haploids are preferred over diploids for mutation studies because in haploids

(A) recessive mutations express immediately
(B) dominant mutations express immediately
(C) mutations are readily induced
(D) tissue culture is easy

12. The phenomenon of exchange of segments between paternal and maternal chromosomes is termed as

(A) linkage
(B) recombination
(C) crossing over
(D) segregation

13. Mutation in which one base is replaced by another base, is termed as

(A) addition
(B) deletion
(C) translocation
(D) substitution

14. Jumping genes are also known as

(A) Transposons
(B) miRNA
(C) Exon
(D) Intron

15. Isoelectric focussing method for separation of proteins works on the principle of

(A) electrophoretic separation based on relative content of acidic and basic residues
(B) mass of the protein molecules
(C) number of amino acids
(D) coagulation capacity of protein molecules

16. The use of colchicine is involved in the production of

(A) somaclonal variation
(B) haploids
(C) hybrids
(D) polyploids

17. Production of secondary metabolites (new term being: specialized metabolites) requires the employment of

(A) protoplast cultures
(B) apical meristem cultures
(C) auxillary bud cultures
(D) cell suspension cultures

18. What role do opines play in crown gall disease?

(A) source of carbon, nitrogen and energy for the *Agrobacterium tumefaciens*
(B) transfer of T-DNA to plant cell
(C) attachment of *Agrobacterium tumefaciens* to the host plant
(D) induction of the expression of *vir* genes

19. In Plant tissue culture studies, one of the major problems is the production of polyphenols in the growth media. This can be tackled to varying degrees by the inclusion in the medium of

(A) Agar-agar
(B) Vitamins
(C) Sucrose
(D) Polyvinylpyrrolidine (PVP)

20. *Datura metal* anther cultures regenerate plants. What would be the ploidy of the regenerants?

(A) Haploid
(B) Both haploid and diploid
(C) Diploid
(D) Polyploid

21. Hormone pair required for a callus to differentiate is

(A) Auxin and cytokinen
(B) Auxin and gibberellin
(C) Ethylene and gibberellin
(D) Cytokinin and gibberellin

22. Commonly used reporter gene in plant expression vector is

(A) *Ti* plasmid gene of *Agrobacterium tumifaciens*
(B) GUS gene
(C) β - Lactamase gene
(D) α - anylase gene

23. Cybrids are produced by

(A) fusion of two different nuclei from two different species
(B) fusion of two same type nuclei from same species
(C) nucleus of one species but cytoplasm from both the parent species
(D) fusion of two chloroplasts from the same species

24. The phytohormone producing apical dominance is

(A) Auxin
(B) Gibberellin
(C) Ethylene
(D) Cytokinin

25. Which of the following phytohormone is connected with cell division?

(A) Kinetin
(B) 2, 4 - D
(C) Gibberellic acid (GA_3)
(D) IAA

26. Why plant cells and tissue need external carbon source in the culture medium?

(A) because of lack of autotrophic ability
(B) because of lack of absorption ability
(C) because of lack of regeneration ability
(D) because of lack of endosmosis in cultures

27. Mitotic spindle is formed by bundles of

(A) microtubules
(B) microfilaments
(C) microbodies
(D) intermediate filaments

28. Which of the following are essential fally acids?

(A) Linoleic and linolenic acid
(B) Stearic acid
(C) Oleic acid
(D) Palmitic acid

29. The most important part of cell-cycle which is not observed under light microscope is called

(A) Interphase
(B) Anaphase
(C) Metaphase
(D) Telophase

30. How many primary spermatocytes will form 400 spermatozoa?

(A) 400
(B) 200
(C) 100
(D) 50

31. Competitive inhibition is due to

(A) protein poison
(B) substrate analogue
(C) non-availability of activation energy
(D) short wave irradiation

32. End product inhibition is called

(A) substrate regulation
(B) feed-back regulation
(C) irreversible inhibition
(D) non-competitive inhibition

33. Some antibiotics act as ionophores, which means that they

(A) interfere directly with bacterial cell-wall synthesis
(B) inhibit only translation
(C) increase cell membrane permeability to specific ions
(D) inhibit both translation and transcription

34. Which one among the following enzymes was first isolated and purified in the form of crystals?

(A) Urease
(B) Pepsin
(C) Amylase
(D) Ribonuclease

35. The release of adenyl cyclase from the cell membrane converts

(A) ATP into ADP
(B) ADP into ATP
(C) cAMP into ATP
(D) ATP into cAMP

36. The enzyme used to dissolve blood clot in coronary artery is

(A) Thrombokinase
(B) Renin
(C) Streptokinase
(D) Tyrosinase

37. The plant enzyme that acts both as carboxylase at one time and oxygenase at another time is

(A) carbonic anhydrase
(B) PEP-carboxylase
(C) RUBP-carboxylase
(D) Peptidase

38. The amount of heat required to raise the temperature of 1 kg of water through $1^{o}C$ is termed as

(A) Kilocalorie
(B) Calorie
(C) Joule
(D) Calorie / ^{o}C

39. A protein is known to form a tetramer at a specific pH. One of the following techniques could be suitably used to authenticate the tetrameric nature:

(A) SDS-polyacrylamide gel electrophoresis (SDS-PAGE)
(B) Cation-exchange chromatography
(C) Anion-exchange chromatography
(D) Gel filtration chromatography

40. The neuron that releases acetylcholine is

(A) Cholinergic
(B) Adrenergic
(C) Diuretic
(D) Ionophoric

41. Thiamine deficiency in human beings leads to a condition known as

(A) Pellagra
(B) Scurvy
(C) Beri-beri
(D) White muscle disease

42. The C value denotes the total amount of DNA in a

(A) aneuploid
(B) diploid
(C) haploid
(D) polyploid

43. In the conversion of glucose to fructose, which one of the following immobilized enzymes is used in the industry?

(A) α-amylase
(B) Lactase
(C) Glucoamylase
(D) Glucose isomerase

44. Somatic embryogenesis is a procedure in plant tissue culture methodology described best for the

(A) formation of both shoot and root meristem
(B) formation of zygotic embryos
(C) formation of axillary buds
(D) formation of tertiary roots

45. All the cells that participate in immune responses originate from a population of

(A) Neutrophils
(B) Stem cells
(C) Macrophages
(D) Lymphocytes

46. Parthenogenetic embryos in plants are those which are formed by

(A) unfertilized eggs
(B) fertilized eggs
(C) sporophytic cells
(D) male gametophytes

47. Which one of the following is the phytohormone used for growth of cells, tissues and organs in plant tissue culture?

(A) Cysteine
(B) Cytokinin
(C) Cytidylate
(D) Cyclic AMP

48. To produce plants that are homozygous for all traits, the best choice is

(A) protoplast culture
(B) cell suspension culture
(C) anther and pollen culture
(D) apical meristem culture

49. DAHP synthetase catalyses the condensation of

(A) erythrose-4-phosphate
(B) phosphoenol pyruvate
(C) Both (A) or (B)
(D) phenylalanine

50. Most of the energy in aerobic respiration of glucose is captured by

(A) substrate level phosphorylation
(B) electron transport of electrons from NADH
(C) long-chain fatty acid oxidation
(D) the enzyme forming-hydrogen lyase

51. Dolichole phosphate is

(A) complex lipid involved in docking vesicles with the plasma membrane
(B) the anchor, on which sugars assemble before transfer to proteins
(C) a chaperone used in protein folding
(D) a product of phospholipase C activation

52. If G of a chemical reaction is positive in value and K_{eq} is less than 1, then the chemical reaction will

(A) proceed in reverse direction
(B) proceed in forward direction
(C) not take place in any of the direction
(D) None of the above

53. When acetate is the sole source of carbon for some microorganisms, the cycle which is used is called

(A) pentose phosphate pathway
(B) glycolytic pathway
(C) glyoxylate pathway
(D) oxaloacetate pathway

54. Mendal emasculated garden pea plant. Emasculation is the

(A) removal of flower buds
(B) removal of anthers before dehiscence
(C) removal of carpals before dehiscence
(D) removal of mature plants

55. Crossing over in diploid organism in responsible for

(A) dominance of games
(B) segregation of alleles
(C) recombination of linked genes
(D) linkage between genes

56. The introduction of remedial gene to bone marrow cells comes under

(A) germ line therapy
(B) somatic cell therapy
(C) Both (A) or (B)
(D) corrective gene therapy

57. Patau's syndrome occurs due to

(A) trisomy of 13^{th} chromosome
(B) trisomy of 18^{th} chromosome
(C) trisomy of 21^{st} chromosome
(D) trisomy of 22^{nd} chromosome

58. Identify a Mandelian disorder from the following

(A) Down's syndrome
(B) Klinefelter's syndrome
(C) Turners syndrome
(D) Polyketronuria

59. Xeroderma pigmentosum is a disease due to

(A) production of guanine –guanine dimmers in the DNA
(B) defective DNA repair
(C) auto immunity
(D) defective melanin metabolism

60. A gene showing co- dominance

(A) has one allele dominant to the other
(B) has both alleles independently expressed in the heterozygote
(C) has alleles tightly linked on the same chromosome
(D) has alleles expressed at the same time in development

61. Natural humoral immune response against a pathogen leads to the production of

(A) polyclonal antibodies
(B) monoclonal antibodies
(C) macrophages
(D) None of the above

62. HGPRT mutant cells are raised by inducing mutations using

(A) 5-bromouracil
(B) 8-azaguanine
(C) Cochicine
(D) 6-methyl isocyanate

63. Injection of anti-venom against snake bite is an example of

(A) active immunity
(B) passive immunity
(C) non-specific immunity
(D) phagocytic immunity

64. Alternate pathway of complement system is activated by

(A) antibody-antigen complexes
(B) antigen
(C) microorganisms or its toxins
(D) antigens bound to MHC

65. Which of the following is not coded by MHC genes?

(A) Glycoproteins
(B) Antigen presenting proteins
(C) Complements of complement pathway
(D) Immunoglobulins

66. Which of the following is a combined vaccine?

(A) Hepatitis B vaccine
(B) Hib vaccine
(C) Var vaccine
(D) DPT vaccine

67. Activation of B cell receptor by the binding of an epitope result in the formation of

(A) plasma cells and T cytotoxic cells
(B) memory cells and T cytotoxic cells
(C) plasma cells for antibody production and memory cells for primary response
(D) plasma cells for antibody production and memory cells for secondary response

68. Cyclosporine is an immunosuppressive drug given to avoid transplant rejection which acts by

(A) inhibition of T cells
(B) inhibition of B cells
(C) inhibition of immune system
(D) inhibition of complement system

69. Which of the following is the central molecule in complement pathway?

(A) C1
(B) C2
(C) C3b
(D) C.5

70. Compared to the secondary antibody response, the primary response

(A) attains a higher IgG titer
(B) has a longer lag phase
(C) persists for a longer plateau period
(D) produces antibodies with a higher affinity for antigen

71. A 30 year old women has non bloody diarrhea for the past 14 hours. Which one of the following organisms is least likely to cause this illness?

(A) *Streptococcus pyogens*
(B) *Clostridium difficile*
(C) *Shigella dysenteriae*
(D) *Salmonella enteritidis*

72. Which of the following disease is best diagnosed by serologic means?

(A) Pulmonary tuberculosis
(B) Gonorrhea
(C) Actinomycosis
(D) Q fever

73. Each of the following agent is a recognized cause of diarrhea EXCEPT

(A) *Clostridium perfringens*
(B) *Vibrio cholerae*
(C) *Enterococcus faecalis*
(D) *Escheichia coli*

74. Which type of antibody is most effective in activating complement?

(A) IgG1 (B) IgG2
(C) IgG3 (D) IgM

75. Which of the following does not play a role in antigen presentation?

(A) MHC class I molecules (B) MHC class II molecules
(C) MHC class III molecules (D) None of the above

76. In a chronic carrier of hepatitis B virus (HBV), which positive test is most indicative of high infectivity?

(A) Hepatitis B surface antigen (HbsAg)
(B) Hepatitis B core antigen (HbcAg)
(C) Hepatitis B e antigen (HbeAg)
(D) AntiHSBsAg

77. All of the following picornaviruses are resistant to the acidity of the stomach except

(A) Coxsackie virus A (B) Coxsackie virus B
(C) Echo virus (D) Rhinovirus

78. The number of double bonds in Arachidonic acid is

(A) 1 (B) 2
(C) 3 (D) 4

79. The retention signal of proteins of endoplasmic reticulum consists of amino acids

(A) Gly-Asp-Glu-Leu at the N – terminus
(B) Lys-Asp-Glu-Leu at the N terminus
(C) Gly-Asp-Glu-Leu at the C-terminus
(D) Lys-Asp-Glu-Leu at the C-terminus

80. Vitamin E prevents

(A) formation of vitamin D in skin
(B) secretion of superfluous enzymes
(C) keratinisation of epidermal cells
(D) absorption of harmful enzymes

81. Some of the enzymes, which are associated in converting fats into carbohydrates are present in

(A) liposomes (B) golgi bodies
(C) glyoxysomes (D) microsomes

82. Irreversible inhibitors often form covalent bonds with

(A) any amino acid residues at or near the active site
(B) tryptophane and phenylalanine residues at or near the active site
(C) positively charged residues at or near the active site
(D) ser or Cys residues at or near the active site

83. A 1.0 M solution of a compound with 2 ionizable groups(pka's = 6.2 and 9.5; 100 ml total) has a pH of 6.8. If a biochemist adds 60 ml of 1.0 M HCl to this solution, the solution will change to pH

(A) 5.60 (B) 8.90
(C) 9.13 (D) 9.32

84. During muscle contraction, hydrolysis of ATP results in a change in the

(A) conformation actin
(B) conformation of myosin
(C) structure of the myofibrils
(D) structure of the sarcoplasmic reticulum

85. Layer of atmosphere in which ozone layer lies is

(A) exosphere (B) mesosphere
(C) trophosphere (D) stratosphere

86. A high Biological Oxygen Demand (BOD) indicates that

(A) water is pure
(B) absence of microbial action
(C) low level of microbial pollution
(D) high level of microbial pollution

87. In which state of matter, the distance between the molecules is minimum?

(A) solid (B) liquid
(C) gas (D) plasma

88. Which of the following is a renewable source of energy?

(A) coal (B) petroleum
(C) plants (D) uranium

89. Acid rains are produced by

(A) excess NO_2 and SO_2 from burning fossil fuels
(B) excess production of NH_3 by industry and coal gas
(C) excess release of carbon monoxide by incomplete combustion
(D) excess formation of CO_2 by combustion and animal respiration

90. The relation between algae and fungi in lichen is

(A) symbiosis
(B) parasitism
(C) commensalism
(D) protocooperation

91. Germinating pollen grain is a rich source of

(A) cytokinine
(B) gibberellin
(C) auxin
(D) rennin

92. Sessile flowers have

(A) no scent
(B) irregular shape
(C) no pedicles
(D) no petals

93. Tropical plants like sugarcane show high efficiency of CO_2 fixation because of

(A) Calvin cycle
(B) Hatch and Slack cycle
(C) EMP pathway
(D) TCA cycle

94. Chlorophyll 'e' is generally present in

(A) thallophytes
(B) rhodophytes
(C) mycophytes
(D) xanthophytes

95. In cyclic photophosphorylation which one of the following is formed?

(A) NADP and ATP
(B) ATP
(C) $NADH_2$ and O_2
(D) $NADPH_2$, ATP and O_2

96. Which of the following is the most suitable for extraction in a system having very low density difference?

(A) Centrifugal extractor
(B) Pulsed extractor
(C) Mixed-settler extractor
(D) Packed extraction tower

97. In a solution containing 0.30kg mole of solute and 600 kg of solvent, the molality is

(A) 1.0
(B) 0.50
(C) 0.60
(D) 2.0

98. Drying operation under vacuum is carried out to

(A) dry those materials which have very high unbound moisture content
(B) reduce drying temperature
(C) increase drying temperature
(D) dry materials having high bound moisture content

99. To increase the absorption factor, (where, G=gas flow rate; S= solvent flow rate)

(A) increase both 'G' and 'S'
(B) increase'S'and decrease'G'
(C) increase'G' and decrease'S'
(D) decrease both'G' and 'S'

100. The mouth part of honey bee used to mould wax and adhere pollen is

(A) ligula
(B) labium
(C) labellum
(D) labrum

101. The larger poison claws of the centipede are

(A) mandibles
(B) maxillepeds
(C) maxillae
(D) Telson

102. Levels of which of the following hormones are increased in post-menopausal women?

(A) Estrogen
(B) FSH
(C) Progesterone
(D) Cortisone

103. The strongest ligament in the body is

(A) inguinal ligament
(B) lacunar ligament
(C) ligamentum flavum
(D) iliofemoral ligament

104. Receptors of pressure present in deep layers of skin are

(A) Corpulscles of ruffini
(B) Meissner's corpuscles
(C) Krause's end bulb
(D) Pacinian corpuscles

105. Clinical fever in malaria is due to

(A) erythrocyte gametogony
(B) erythrocytic schigony
(C) pre-erythrocytic schizogony
(D) exo-erythrocytic schizogony

106. Myxoedema in adults is caused due to

(A) hyperthyroidism
(B) deficiency of PTH
(C) over production of PTH
(D) deficiency of thyroid hormone

107. Oxytoxin stimulates the contraction of

(A) lung
(B) ovary
(C) heart
(D) uterus

108. Smooth endoplasmic reticulam is the site of

(A) protein synthesis
(B) carbohydrate synthesis
(C) amino acid synthesis
(D) lipid synthesis

109. Experiments demonstrating the importance of the nucleus in controlling the growth of the cell were performed in

(A) star fish
(B) acetabularia
(C) neurospora
(D) leucocytes

110. Pectin is stained using

(A) Sudan III
(B) acetocarmine
(C) Ruthenium red
(D) iodine

111. Which of the following organelle is involved in cell wall synthesis?

(A) Mitochondria
(B) Chloroplast
(C) Golgi apparatus
(D) Lysosome

112. Which aspect of mitosis is affected by colchicine in inducing polyploidy?

(A) DNA duplication
(B) Spindle formation
(C) Cell plate formation
(D) Chromosome doubling

113. During cell division, sometimes there will be failure of separation of sister chromatids. This event is called

(A) interference
(B) coincidence
(C) fusion
(D) non-disjunction

114. In the cell cycle, DNA synthesis takes place during

(A) G1 phase
(B) G2 phase
(C) S phase
(D) prophase

115. During which stage of prophase I, the crossing over takes place?

(A) Pachytene
(B) Leptotene
(C) Zygotene
(D) Diplotene

116. What is the most common cause of aseptic meningitis of viral etiology?

(A) Enteroviruses
(B) Herpesviruses
(C) Arboviruses
(D) Retroviruses

117. Viruses that can remain latent (usually in neurons) for many years are most likely

(A) Togoviruses
(B) Herpes viruses
(C) Enteroviruses
(D) Retroviruses

118. Enteroviruses differ from rhinoviruses mainly in their

(A) type of nucleic acid
(B) size
(C) capsid shape
(D) ability to survive acidic conditions

119. A complex mixture of brown amorphous and colloidal substaces synthesized by various soil organisms is referred to as

(A) compost
(B) humus
(C) FYM
(D) peat super compost

120. A soil, which has pH more than 8.5, ESP more than 15 and EC less than 4 mmhos/cm at 25 C, is called

(A) saline soil
(B) alkaline soil
(C) saline alkaline soil
(D) latterite soil

121. A surface horizon, which has very high organic matter is

(A) hisitic epipedon
(B) ochric epipedon
(C) umbric epipedon
(D) None of the above

122. Absorption of ions in plants occurring with the aid of metabolic energy is termed

(A) passive absorption
(B) active absorption
(C) metabolic absorption
(D) mass flow absorption

123. Acid soils can be reclaimed by

(A) $CaCO_3$
(B) H_2SO_4
(C) $CaSO_4.2H_2O$
(D) HNO_3

124. Which of the following fungus is a nematophagous fungi?

(A) *Beauveria bassiana*
(B) *Fusarium sp.*
(C) *Arthrobotrys oligospora*
(D) *Alternaria sp*.

125. Treatment of municipal water supplies is based upon

(A) coagulation, filtration,chlorination
(B) chlorination, filtration, coadulation
(C) filtration, coagulation, chlorination
(D) coagulation, chlorination, filteration

126. The death of a river by environmental pollutants ultimately results from

(A) the over production of algae
(B) the over abundance of toxic proteins
(C) the depletion of oxygen
(D) the build up of sediment on the river bottom

127. Which of the following acid will have higher bacteriostatic effect at a given pH?

(A) acetic acid
(B) tartaric acid
(C) citric acid
(D) maleic acid

128. Which of the following is least likely to have a rigid cell wall?

(A) Bacterium
(B) Archaean
(C) Fungus
(D) Protozoa

129. Which of the following test indicates the susceptibility to Streptococcal pyogenic exotoxin?

(A) Schick test
(B) Disk test
(C) ASO test
(D) Precipitation test

130. All are genome sequencing strategies, except

(A) Edman degradation method
(B) short gun library
(C) whole genome short gun sequencing
(D) directed gene sequencing

131. Which of the following is not a gene expression data base?

(A) Gene Bank
(B) Flyview
(C) Seed genes
(D) Body map

132. The term genomics was coined by

(A) Thomas Cech
(B) T.H. Morgan
(C) Thomas Roder
(D) Craig Venter

133. DNA sequencing followed by genome annotation are steps of

(A) Comparative genomics
(B) Structural genomics
(C) Functional genomics
(D) Transcriptomics

134. Milk is a colloidal system in which

(A) water is dispersed in fat
(B) fat is dispersed in water
(C) fat and water are dispersed in each other
(D) fat is dissolved

135. Which of the following alkali metals has highest specific heat?

(A) Caesium
(B) Rubidium
(C) Potassium
(D) Lithium

136. The genus Candida reproduce by

(A) arthrospore formation
(B) blastospore formation
(C) sexual spores
(D) ascospore formation

137. The primary pathogenic change in malaria is

(A) destruction of erythrocytes
(B) destruction of lymphocytes
(C) anoxemic impairment of tissues
(D) venous congestion

138. Food poisoning caused by S. aureus is due to the production of

(A) hemolysin
(B) enterotoxin
(C) endotoxin
(D) leukocidin

139. Pneumococcal capsules tend to be largest

(A) during lag phase
(B) during exponential phase
(C) during stationary phase
(D) after death phase

140. Campylobacter

(A) are sensitive to low pH
(B) can cause enteritis in humans
(C) exhibit a characteristic darting motion in wet mounts
(D) are very difficult to isolate from cases of enteritis

141. Which is the technique suited for the separation of large DNA fragments?

(A) AGE
(B) PAGE
(C) PFGC
(D) SDS-PAGE

142. Aminobenzyloxymethyl filter paper is commonly used for transfer in

(A) Western blotting
(B) Southern blotting
(C) Northern blotting
(D) Dot blotting

143. Which of the following is best suited method for production of virus free plants?

(A) Embryo culture
(B) Meristem culture
(C) Ovule culture
(D) Anther culture

144. Expression vectors differ from a cloning vector in having

(A) an origin of replication
(B) suitable marker genes
(C) unique restriction sites
(D) control elements

145. For glycoproteins, most commonly used probe is

(A) antibody
(B) lectin
(C) antogems
(D) interferons

146. Which of the following detergent is commonly used to release integral proteins from its membranes?

(A) Urea
(B) Dimethyl sulphoxide
(C) Triton X 1000
(D) Cyanogens bromide

147. The blastocoele becomes the

(A) amniotic cavity
(B) extra embryonic coelom
(C) primary yolk sac
(D) chorionic cavity

148. Which of the following structures is believed to be a primary organizer or inducer during organogenesis?

(A) somites
(B) notochord
(C) metanephric blastema
(D) lens placode

149. When the amount of amniotic fluid exceeds two liters, the condition is called

(A) oligohydramnios
(B) polyhydramnies or hydramnies
(C) amniotitis
(D) hydrogravida

150. The loading of phloem during translocation means

(A) elongation of phloem cells
(B) separation of phloem parenchyma
(C) strengthening of phloem fibres
(D) pouring of sugars in phloem

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