118

QUESTION PAPER SERIES CODE
B

Registration No. : | | | | | | |

Centre of Exam. : _____

Name of Candidate : _____

_____
Signature of Invigilator

COMBINED ENTRANCE EXAMINATION, 2017

M.V.Sc. ANIMAL BIOTECHNOLOGY

[Field of Study Code : MVS]

Time Allowed : 3 hours *Maximum Marks* : 240

INSTRUCTIONS FOR CANDIDATES

Candidates must read carefully the following instructions before attempting the Question Paper :

(i) Write your Name and Registration Number in the space provided for the purpose on the top of this Question Paper and in the Answer Sheet.

(ii) **Please darken the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

(iii) The Question Paper is divided into two Parts : Part—A and Part—B. Both Parts have multiple-choice questions. All answers are to be entered in the Answer Sheet provided with the Question Paper for the purpose.

(iv) Part—A consists of 60 questions and all are compulsory. Answer all the questions in the Answer Sheet provided for the purpose by darkening the correct choice, i.e., (a) or (b) or (c) or (d) with BALLPOINT PEN only against each question in the corresponding circle. Each correct answer carries *1* mark. **There will be negative marking and ⅓ mark will be deducted for each wrong answer.**

(v) Part—B consists of 100 questions. **Answer any 60 questions** in the Answer Sheet by darkening the correct choice, i.e., (a) or (b) or (c) or (d) with BALLPOINT PEN only against the corresponding circle. Each correct answer carries *3* marks. **There will be negative marking and 1 mark will be deducted for each wrong answer.**

In case any candidate answers more than the required 60 questions, the first 60 questions attempted will be evaluated.

(vi) Answer written by the candidates inside the Question Paper will not be evaluated.

(vii) Calculators and Log Tables may be used.

(viii) Pages at the end have been provided for Rough Work.

(ix) Return the Question Paper and Answer Sheet to the Invigilator at the end of the Entrance Examination. **DO NOT FOLD THE ANSWER SHEET.**

INSTRUCTIONS FOR MARKING ANSWERS

1. Use only Blue/Black Ballpoint Pen (do not use Pencil) to darken the appropriate Circle.
2. Please darken the whole Circle.
3. Darken ONLY ONE CIRCLE for each question as shown in example below :

Wrong	Wrong	Wrong	Wrong	Correct
○ ⓑ ⓒ ○	⊘ ⓑ ⓒ ⓓ	⊘ ⓑ ⓒ ⊘	◉ ⓑ ⓒ ○	ⓐ ⓑ ⓒ ○

4. Once marked, no change in the answer is allowed.
5. Please do not make any stray marks on the Answer Sheet.
6. Please do not do any rough work on the Answer Sheet.
7. Mark your answer only in the appropriate space against the number corresponding to the question.
8. **Ensure that you have darkened the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

/118-B

PART—A

Answer **all** *questions*

1. The mitochondria evolved from
   (a) aerobic bacteria
   (b) anaerobic bacteria
   (c) aerobic fungus
   (d) anaerobic fungus

2. The endoplasmic reticulum is absent in
   (a) yeast
   (b) *Salmonella typhi*
   (c) *Plasmodium* species
   (d) mammalian red blood cells

3. Which of the following cells is without nucleus?
   (a) Neutrophils
   (b) Eosinophils
   (c) Macrophages
   (d) Erythrocytes

4. In DNA, the adenine forms the base pairing with
   (a) thiamine
   (b) uracil
   (c) cytosine
   (d) guanine

5. Apart from nucleus, which organelle possesses the DNA in eukaryotes?
   (a) Lysosome
   (b) Endoplasmic reticulum
   (c) Endosomes
   (d) Mitochondria

6. In sickle-cell anemia, the mutation in beta-globin gene that is located on chromosome 11 causes a glutamic acid to valine change at position 6 of the protein. This mutation is an example of

(a) frameshift mutation

(b) missense mutation

(c) nonsense mutation

(d) chromosomal abnormality

7. Which of the following nucleotides acts as an energy currency for all organisms?

(a) ATP

(b) CTP

(c) UTP

(d) TTP

8. The compound that is synthesized by liver having surfactant activity is

(a) albumin

(b) globulin

(c) bile

(d) ferritin

9. The simplest amino acid is

(a) proline

(b) glycine

(c) methionine

(d) tryptophan

10. The scientific name of Indian cattle is

(a) *Bos taurus*

(b) *Bos gaurus*

(c) *Bos indicus*

(d) *Bos indianensis*

11. Which of the following animals is emitter of methane gas?

(a) Horse

(b) Dog

(c) Pig

(d) Cattle

12. The carboxylhaemoglobin is

(a) carbon monoxide bound to haemoglobin

(b) carbon dioxide bound to haemoglobin

(c) haemoglobin attached to carboxyl group of an amino acid

(d) haemoglobin surrounded by 20 molecules of carbon dioxide

13. The bacterial organisms present in rumen of ruminants belong to

(a) eubacteria

(b) archeobacteria

(c) enterobacteriaceae

(d) ruminae

14. The viruses that infect the bacteria are called

(a) phages

(b) retroviruses

(c) endoviruses

(d) Baculoviruses

15. Which of the following bacteria is spore-forming bacteria?

(a) *Salmonella typhimurium*

(b) *E.coli*

(c) *Bacillus anthracis*

(d) *Brucella abortus*

16. The function $\cos(\sin x)$ is

(a) even

(b) odd

(c) even and odd

(d) neither even nor odd

17. A card is drawn from a pack of 52 cards, then what is the probability that it is a queen of red colour?

(a) 1/52

(b) 1/26

(c) 1/13

(d) 1/4

18. The function $t(x) = |x-1| + |x-2|$ is differentiable at

(a) $1R - \{1\}$

(b) $1R - \{2\}$

(c) $1R - \{1, 2\}$

(d) $1R$

19. The probability of 53 Sundays in non-leap year is

(a) 2/7

(b) 1/7

(c) 3/7

(d) 4/7

20. The image of the point (1, 2) with respect to the line $x + y = 4$ is

(a) (1, 4)

(b) (2, 4)

(c) (3, 4)

(d) (4, 1)

21. The curve $y = x^2 - 2x + 1$ is a/an

(a) parabola with vertex (1, 0)

(b) parabola with vertex (0, 1)

(c) ellipse

(d) hyperbola

22. The domain of $\tan^{-1}x$ is

(a) $(-\infty, \infty)$

(b) $(-\pi, \pi/2)$

(c) $(-\pi/2, \pi/2)$

(d) $(0, \pi)$

23. One Agro Industry produces a certain number of manure bags in a day. It was observed on a particular day that the cost of production of each manure bag (in ₹) was 3 more than twice the number of manure bags produced on that day. If the total cost of production on that day was ₹ 90, find the number of manure bags produced and the cost of each manure bag.

(a) 3 and ₹ 30

(b) 4 and ₹ 20

(c) 6 and ₹ 15

(d) 5 and ₹ 18

24. Mode is

(a) middle-most value

(b) most frequent value

(c) least frequent value

(d) average value

25. Jadeja scores runs in 10 consecutive innings as 38, 70, 48, 34, 42, 55, 63, 46, 54 and 44. The mean deviation about mean is

(a) 8·6

(b) 6·4

(c) 10·6

(d) 7·6

26. The figure formed by the lines $ax \pm by \pm c = 0$ is

(a) a rectangle

(b) a square

(c) a rhombus

(d) a triangle

27. 100 students appeared for two examinations. 60 passed the first, 50 passed the second and 30 passed both. Find the probability that a student selected at random has passed at least one examination.

(a) 4/5

(b) 1/4

(c) 2/3

(d) 3/4

28. Which of the following is not a measure of central tendency?

(a) Standard deviation

(b) Mode

(c) Mean

(d) Median

29. In an experiment tubes numbered 1 to 20 are mixed up and then the tube is drawn at random. What is the probability that the tube drawn bears a number which is a multiple of 3?

(a) 1/5

(b) 2/5

(c) 3/10

(d) 3/5

30. If the difference of mode and median of a data is 24, then the difference of median and mean is

(a) 12

(b) 24

(c) 8

(d) 36

31. The graph between the unbalanced force and acceleration is

(a) straight line

(b) hyperbola

(c) parabola

(d) irregular line

32. A battery of e.m.f. E has an internal resistance r. A variable resistance R is connected to the terminals of the battery. A current I is drawn from the battery. V is the terminal PD. If R alone is gradually reduced to zero, which of the following best describes I and V?

(a) I approaches E/r, V approaches E

(b) I approaches infinity, V approaches E

(c) I approaches E/r, V approaches zero

(d) I approaches zero, V approaches E

33. When KE_{max} of photoelectrons is zero, then frequency of incident photon relative to threshold is

(a) less

(b) greater

(c) smaller

(d) equal

34. A bar magnet is equivalent to

(a) solenoid carrying current

(b) circular coil carrying current

(c) toroid carrying current

(d) straight conductor carrying current

35. How many numbers of electrons will be present in current of 1 coulomb charge?

(a) 1000

(b) 1×10^5

(c) 6×10^{18}

(d) $6{\cdot}02 \times 10^{18}$

36. The force between two point charges varies inversely with respect to

(a) distance between them

(b) square of distance between them

(c) square root of the distance between them

(d) cube of the distance between them

37. The magnetic field of different sources is the vector addition of

(a) magnetic field of any two sources

(b) magnetic field of all individual sources

(c) magnetic field of two strongest sources

(d) magnetic field of two weakest sources

38. The substances that are diamagnetic have a tendency to

(a) move from stronger to weaker magnetic field

(b) move from weaker to stronger magnetic field

(c) remain static in the magnetic field

(d) develop high charge

39. The substances that become highly magnetic when placed in a magnetic field are called

(a) diamagnetic

(b) paramagnetic

(c) ferromagnetic

(d) supermagnetic

40. The Pascal's law states that pressure in a fluid at rest is

(a) same at all points if they are at same height

(b) different at all points if they are at same height

(c) there is no relation between pressure and height

(d) pressure decreases exponentially with height

41. *The coefficient of viscosity for a fluid is*

(a) shearing stress/strain rate

(b) strain rate/shearing stress

(c) (strain rate)^2/shearing stress

(d) (10 × strain rate)/shearing stress

42. Which of the following particles would be having highest surface energy?

(a) Nanoparticles

(b) Microparticles

(c) Macroparticles with size 1 to 10 μm

(d) Macroparticles with size 10 to 100 μm

43. The detergents added to oil in water interphase

(a) increase the surface tension

(b) decrease the surface tension

(c) decrease the wetting surface

(d) make the surface tension zero

44. According to Boyle's law, at constant temperature of a gas

(a) the product of pressure and volume is always unity

(b) the product of absolute pressure and volume is constant

(c) the product of pressure and volume is proportional to molecular weight of gas molecules

(d) the product of charge and distance between them is constant

45. If a substance is in the form of a long rod, then for small change in temperature ΔT

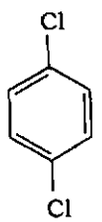
(a) is directly proportional to fractional change in length

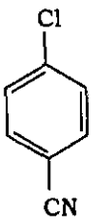
(b) is inversely proportional to fractional change in length

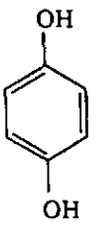
(c) is directly proportional to original length

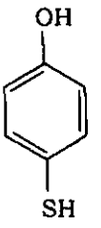
(d) is inversely proportional to original length

46. For which of the following molecules significant $\mu \neq 0$?

(i) 

(ii) 

(iii) 

(iv) 

(a) Only (i)

(b) (i) and (ii)

(c) (iii) and (iv)

(d) Only (iii)

47. The water is polar, because of

(a) having completely negative oxygen atom

(b) having completely positive hydrogen atom

(c) having partially negative oxygen and partially positive hydrogen

(d) having completely uncharged hydrogen and oxygen atoms

48. Which of the following chemical groups is non-polar in nature?

(a) CH_3 groups

(b) OH groups

(c) Amino groups

(d) COOH groups

49. According to second law of thermodynamics, in all natural processes

(a) entropy increases

(b) entropy decreases

(c) entropy remains unchanged

(d) entropy becomes zero

50. The passive movement of molecules from higher to lower concentration across the semipermeable membrane is pursuance of

(a) first law of thermodynamics

(b) second law of thermodynamics

(c) third law of thermodynamics

(d) None of the above

51. In ideal solutions, the enthalpy of mixing of the pure components to form the solution is

(a) negative

(b) positive

(c) zero

(d) Value depends on the temperature

52. The solutions that obey Raoult's law over the entire range of concentration are known as

(a) non-ideal solutions

(b) ideal solutions

(c) suspension

(d) colloids

53. The lowering of vapour pressure of a solvent depends only on the

(a) concentration of solute particles

(b) identity of solutes

(c) identity of solvent

(d) identity of mixing vessel

54. The electrical resistance of any object is directly proportional to its length and inversely proportional to

(a) atmospheric pressure

(b) cross-sectional area

(c) voltage

(d) atmospheric temperature

55. The conductance of an electrolytic solution is equal to the

(a) reciprocal of resistance

(b) reciprocal of cross-sectional area

(c) reciprocal of temperature

(d) reciprocal of concentration of electrolyte

56. The rate of reaction of reactants A and B is given as rate = $k[A]^{1/2}[B]^{3/2}$. The order of this reaction will be

(a) 1

(b) 2

(c) 3

(d) 4

57. When the hydrogen ion concentration is increased 100 times, the pH will be changed by

(a) 100 units

(b) 10 units

(c) 5 units

(d) 2 units

58. The variation in the amount of gas absorbed by the adsorbent with pressure at constant temperature can be expressed by means of curve termed as

(a) adsorption homeotherm

(b) absorption isotherm

(c) absorption polytherm

(d) Freundlich isotherm

59. The Tyndall effect is observed in

(a) colloids

(b) few solutions

(c) suspension

(d) all solutions

60. The dispersion of finely divided oil droplets in water is called

(a) oil in water emulsion

(b) water in oil emulsion

(c) oil in water solution

(d) water in oil solution

PART—B

Answer *any* **sixty** questions

61. The chamber of laminar airflow hood is sterilized by

(a) infrared light

(b) ultraviolet light

(c) microwave

(d) radio wave

62. In ruminants the bypass protein is the protein, that is

(a) degraded by bacteria

(b) degraded by fungi

(c) protein that escapes the microbial degradation

(d) protein that escapes the intestinal digestion process

63. The crude fiber percentage in roughages is

(a) greater than 18%

(b) less than 18%

(c) less than 10%

(d) less than 5%

64. The cell-wall of Gram-positive bacteria is composed of

(a) proteoglycan

(b) peptidoglycan

(c) cellulose

(d) chitin

65. DNA synthesis mediated by DNA polymerase takes place in

(a) G1 phase

(b) S phase

(c) G2 phase

(d) G0 phase

66. India ranks ____ position in the world in terms of egg production.

(a) third

(b) first

(c) second

(d) fourth

67. Which one is ***not*** correct relationship with regard to species and their chromosome numbers?

(a) Dog—78

(b) Cat—38

(c) Cattle—48

(d) Buffalo—48

68. The ploidy level after colchicine treatment

(a) will increase

(b) will decrease

(c) does not change

(d) Cannot say

69. Which of the following types of bond does ***not*** exist in double-stranded DNA at 95 °C temperature?

(a) Phosphodiester bond

(b) Glycosidic bond

(c) Hydrogen bond

(d) Covalent bond

70. Enveloped viruses enter into host cells by

(a) endocytosis only

(b) endocytosis and phagocytosis

(c) endocytosis and membrane fusion

(d) phagocytosis only

71. The bones of domestic animals are derived from embryonic

(a) endoderm

(b) mesoderm

(c) ectoderm

(d) epiderm

72. The fluoroquinolones inhibit the bacterial growth by

(a) targeting protein synthesis

(b) targeting DNA synthesis

(c) altering membrane integrity

(d) inhibiting cell-wall synthesis

73. The enzymes increase the rate of reaction by

(a) decreasing the energy required to form transition state

(b) increasing the kinetic energy of substrate

(c) increasing the turnover number

(d) increasing the free energy difference between substrate and product

74. Cytotoxic T cells express

(a) CD8 marker and are class-II MHC restricted

(b) CD4 marker and are class-I MHC restricted

(c) CD4 marker and are class-II MHC restricted

(d) CD8 marker and are class-I MHC restricted

75. Preganglionic neurons of sympathetic nervous system secrete

(a) epinephrine

(b) dopamine

(c) acetylcholine

(d) glycine

76. Which statement is ***incorrect*** about evolution process?

(a) Evolution is a product of natural selection

(b) Evolution need not always lead to a better phenotype

(c) Prokaryotes evolve faster than eukaryotes

(d) Evolution is goal-oriented

77. Which of the following techniques is named after a name of researcher?

(a) Eastern blotting

(b) Western blotting

(c) Northern blotting

(d) Southern blotting

78. Anaphylaxis and transplant rejection belong to which class of hypersensitivity?

(a) Type-I and type-IV respectively

(b) Type-II and type-IV respectively

(c) Type-I and type-III respectively

(d) Type-IV and type-II respectively

79. Choose the option with correct relationship.

(a) Dipylidium caninum—Horseshoe-shaped ovary

(b) Monezia—Cooked rice grain appearance of gravid segments

(c) Stilesia hepatica—Bunch of grape like ovary

(d) Echinococcus granulosus—Dumbbell-shaped uterus

80. Choose the option with ***incorrect*** relationship.

(a) Pimply gut—Oesophagostomium

(b) Hump sore—Stephanofilaria zaheeri

(c) Increased body temperature—Milk fever condition

(d) Rat-tailed appearance—Oxyuris equi

81. Punched out ulcers in abomasum during post-mortem examination is a pathognomonic lesion of

(a) theleriosis

(b) babesiosis

(c) trypanosomiasis

(d) anaplasmosis

82. Russel bodies are seen in

(a) RBCs

(b) neutrophils

(c) eosinophils

(d) plasma cells

83. Black tongue condition occurs in

(a) viral infection

(b) bacterial infection

(c) vitamin deficiency

(d) mineral deficiency

84. Bicornuate uterus is present in

(a) cow

(b) ewe

(c) mare

(d) sow

85. Fern like pattern of cervical mucus is due to high content of

(a) chloride

(b) sulphate

(c) potassium

(d) sodium

86. Hormone responsible for growth of mammary gland duct system is

(a) prolactin

(b) oxytocin

(c) progesterone

(d) estrogen

87. The receptors for steroid hormones are present in

(a) cell membrane

(b) cytoplasm

(c) nucleus

(d) chromosome

88. The kidney-shaped ovary and cauliflower-shaped corpus luteum is present in

(a) cow

(b) sow

(c) bitch

(d) mare

89. Summer mastitis is caused by

(a) *Staphylococcus* sp.

(b) *Streptococcus* sp.

(c) *Corynebacterium* sp.

(d) *Escherichia coli*

90. Woman's curling hair type of growth is a characteristic of

(a) *Bacillus anthracis*

(b) *Clostridium tetani*

(c) *Staphylococcus aureus*

(d) *Streptococcus pneumoniae*

91. Dimercaprol or British Anti-Lewisite (BAL) is used in acute poisoning of heavy metals, ***except***

(a) lead

(b) cadmium

(c) arsenic

(d) mercury

92. The intermuscular and intramuscular fat of meat is called

(a) marbling and seam

(b) seam and marbling

(c) panniculus and steatosis

(d) steatosis and panniculus

93. The pH range of very good quality meat is

(a) 4·3 to 4·7

(b) 5·3 to 5·7

(c) 6·3 to 6·7

(d) 7·3 to 7·7

94. ATP is required by muscles to

(a) contract

(b) relax

(c) contract as well as relax

(d) show striated appearance

95. The term 'mountain oysters' is related to cooked

(a) testicles

(b) kidney

(c) lymph node

(d) spleen

96. Trichomonas fetus causes abortion in

(a) first trimester

(b) middle trimester

(c) last trimester

(d) last week

97. According to the Preservation of Food Adulteration Act (PFA), 1976, cow milk should contain minimum of

(a) 9·5 percent SNF and 6% milk fat

(b) 8·5 percent SNF and 2·5% milk fat

(c) 9·5 percent SNF and 3% milk fat

(d) 8·5 percent SNF and 3·5% milk fat

98. The pH of a very good silage ranges between

(a) 3·7 and 4·2

(b) 4·7 and 5·2

(c) 5·7 and 6·2

(d) 5·2 and 5·7

99. Blind staggers occur due to poisoning of

(a) zinc

(b) manganese

(c) lead

(d) selenium

100. Fraction of all alleles at a particular locus in a population is called

(a) heritability

(b) variation

(c) gene frequency

(d) regression

101. Which of the following relationships between disease and drug of choice is correct?

(a) Trypanosomiasis—Buparvaquone

(b) Babesiosis—Suramin

(c) Theileriosis—Diminazineaceturate

(d) Anaplasmosis—Oxytetracycline

102. Drug of choice for treatment of organophosphorous poisoning is

(a) carbachol

(b) neostigmine

(c) atropine

(d) All can be used

103. During which stage of prophase-1 crossing-over takes place?

(a) Pachytene

(b) Leptotene

(c) Zygotene

(d) Diplotene

104. The reagent required to test the milk for presence of detergent is

(a) bromothymol blue

(b) acetic acid solution

(c) ether

(d) hydrochloric acid

105. The specific antidote of nitrate toxicity in cattle is

(a) sodium thiosulphate

(b) desferrioxamine

(c) calcium disodium EDTA

(d) methylene blue

106. The antibody involved in immune response against naive antigen is

(a) IgM

(b) IgG

(c) IgE

(d) IgD

107. Foot and mouth disease is caused by

(a) single-stranded DNA virus

(b) double-stranded DNA virus

(c) negative sense single-stranded RNA virus

(d) positive sense single-stranded RNA virus

108. The correct statement about meiosis is

(a) chromosomes separate in meiosis-I and chromatids separate in meiosis-II

(b) chromosomes separate in meiosis-II and chromatids separate in meiosis-I

(c) chromosomes separate in both meiosis-I and -II

(d) chromatid separate in both meiosis-I and -II

109. Immunologically privileged sites are

(a) thymus, eyes and Peyer's patches

(b) testicles, eyes and lymphnode

(c) testicles, eyes and brain

(d) anterior eye chamber, thymus and bone marrow

110. Vaccination against bluetongue virus is most essential in

(a) cattle

(b) sheep

(c) goat

(d) swine

111. The carbohydrate having 4 chiral centres can have ____ number of stereoisomers.

(a) 18

(b) 19

(c) 20

(d) 16

112. Which of the following sugar is non-reducing sugar?

(a) Lactose

(b) Glucose

(c) Fructose

(d) Sucrose

113. The interconversion of α and β anomers of glucose in water is called

(a) mutation

(b) glucolysis

(c) mutarotation

(d) anomerization

114. Oxidation of carbon atom of a monosaccharide other than first carbon yields

(a) aldonic acid

(b) amino acid

(c) phosphoric acid

(d) uronic acid

115. The frequency of branching in case of glycogen is

(a) 20–30

(b) 30–60

(c) 1–3

(d) 8–12

116. Which of the following is ***not*** heteropolysaccharide?

(a) Glycosaminoglycan

(b) Hyaluronate

(c) Chrondoitinsulphate

(d) Dextran

117. The lipopolysaccharides are predominant in outer-membrane of

(a) Gram-positive bacteria

(b) Gram-negative bacteria

(c) yeast cells

(d) All the mammalian cells

118. The triacylglycerols are fatty acid esters of

(a) glucose

(b) glycerol

(c) cholesterol

(d) sphingosine

119. Which of the following lipids is linked to glycerol through ether linkage?

(a) Triglycerides

(b) Sphingolipids

(c) Plasmalogens

(d) Cholesterols

120. Which of the following amino acids is optically inactive?

(a) Tryptophan

(b) Glycine

(c) Alanine

(d) Leucine

121. The most rigid amino acid is

(a) glycine

(b) proline

(c) phenylalanine

(d) alanine

122. The tyrosine is more polar than phenylalanine because of presence of ___ in its benzene ring.

(a) amino group

(b) hydroxyl group

(c) carboxyl group

(d) sulphahydril group

123. The amino acids are called acid because of presence of

(a) carboxyl group

(b) amino group

(c) sulphahydril group

(d) hydroxyl group

124. The amino acids dissolved in water are said to be having amphoteric nature due to

(a) having both acidic and alkaline nature

(b) having only acidic nature

(c) having only alkaline nature

(d) having two carboxyl groups

125. The isoelectric point of an amino acid is the pH at which

(a) the amino acids have highly positive charge

(b) the amino acids have negative charge

(c) the amino acids have no net charge

(d) the amino acids have slightly positive charge

126. The chemical formation of peptide bond releases one

(a) water molecule

(b) carbon dioxide molecule

(c) ammonia molecule

(d) sulphur dioxide molecule

127. The structure of protein describing simple sequence of amino acids is called

(a) quaternary structure

(b) tertiary structure

(c) primary structure

(d) secondary structure

128. The denature protein is separated electrophoretically by

(a) native PAGE

(b) SDS-PAGE

(c) denatured agarose gel electrophoresis

(d) native agarose gel electrophoresis

129. Which of the following carbohydrates is generally used by the animal body to generate energy?

(a) Fructose

(b) Galactose

(c) Glucose

(d) Mannose

130. The denaturation of proteins indicates

(a) destruction of primary structure of protein

(b) destruction secondary, tertiary and quaternary structure of protein

(c) refolding of proteins

(d) chemical modifications of proteins

131. The separation of proteins in SDS-PAGE is based on

(a) molecular weight of protein

(b) secondary structure of protein

(c) tertiary structure of protein

(d) quaternary structure of protein

132. The pocket of an enzyme molecule where the substrate molecule is called

(a) active site

(b) active pocket

(c) external pocket

(d) internal pocket

133. The formula

$$V_0 = \frac{V_{max}[S]}{K_m + [S]}$$

for enzyme kinetics is called

(a) Nernst equation

(b) Michaelis-Menten equation

(c) Lineweaver-Burk equation

(d) enzyme equation

134. Enzymes that add the phosphate group to a substrate are called

(a) kinases

(b) phosphatises

(c) hydroxylases

(d) ligases

135. The inactive form of vitamin D present under the skin is chemically

(a) 1,25-dihydrocholecalciferol

(b) dehydrocholecalciferol

(c) 7-dehydrocholesterol

(d) cholecalciferol

136. Which of the following vitamins is needed for blood coagulation?

(a) Vitamin A

(b) Vitamin E

(c) Vitamin K

(d) Vitamin D

137. Which of the following pathways works along with electron transport chain?

(a) Oxidative phosphorylation

(b) Krebs cycle

(c) Urea cycle

(d) Glycolysis

138. The difference between the ribose sugar of DNA and RNA exists in

(a) 5′ carbon

(b) 3′ carbon

(c) 4′ carbon

(d) 2′ carbon

139. The DNA fragments formed during DNA replication in lagging strand are called

(a) primers

(b) dimers

(c) Okazaki fragment

(d) degraded fragments

140. The high absorbance in spectrophotometry of a biological sample indicates

(a) high concentration of sample

(b) low concentration of sample

(c) degradation of sample

(d) volatile nature of sample

141. The protein in serum can be estimated spectrophotometrically by the

(a) Biuret method

(b) Fiske-Subbarao method

(c) Benedict's method

(d) Liebermann method

142. Which of the following biomolecules ***cannot*** act as antigen?

(a) Protein

(b) Lipopolysaccharides

(c) Heteropolysaccharides linked to protein

(d) Cellulose

143. The CO_2 is not transported in blood

(a) by hemoglobin

(b) in the form of bicarbonate

(c) dissolved in plasma

(d) by albumin

144. The intensity of colour of urine increases during

(a) rehydration

(b) dehydration

(c) overhydration

(d) over-intake of fatty acids

145. Which of the following hormones is released during acute stress?

(a) Norepinephrine

(b) Cortisol

(c) Minerallocorticoids

(d) Glucocorticoids

146. The hormone epinephrine is synthesized in

(a) adrenal medulla

(b) adrenal cortex

(c) pituitary gland

(d) hypothalamus

147. The milk fever in high-yielding dairy cows occurs due to

(a) hypercalcemia

(b) hypocalcemia

(c) hyperglycemia

(d) overfeeding

148. The protein synthesis in eukaryotes occurs in

(a) nucleus

(b) inside the endoplasmic reticulum

(c) ribosomes

(d) lysosomes

149. Which of the following RNA molecules brings amino acids during protein synthesis?

(a) rRNA

(b) mRNA

(c) tRNA

(d) SnRNA

150. The enzyme that amplifies the DNA in polymerase chain reaction is

(a) DNA polymerase III

(b) DNA polymerase α

(c) *taq* polymerase

(d) RNA polymerase

151. The monoclonal antibodies are characterized by

(a) specificity for more than one epitope of antigen

(b) specificity for only one epitope of antigen

(c) specificity for all epitopes of antigen

(d) specificity of any antigen

152. The first buffalo produced through *in vitro* fertilization in India was in

(a) IVRI, Izatnagar, Bareilly

(b) NDRI, Karnal, Haryana

(c) CDRI, Lucknow

(d) IMTech, Chandigarh

153. The outer protein covering of viruses is called

(a) outer membrane

(b) inner membrane

(c) capsid

(d) prion

154. Which of the following differential media can be used to diagnose genus *Salmonella*?

(a) EMB agar

(b) Blood agar

(c) Brilliant green agar

(d) Nutrient agar

155. The enzyme synthesized by the bacteria that has the capability to degrade the penicillin is

(a) proteinase

(b) beta-lactamase

(c) alpha-lactamase

(d) beta-glycosidase

156. The vaccine against foot and mouth disease that is currently used in India is

(a) DNA vaccine

(b) live vaccine

(c) killed vaccine

(d) subunit vaccine

157. The autoclave kills the microbes by

(a) dry heat

(b) moist heat

(c) UV rays

(d) infrared rays

158. For preparing 100 ml of normal saline solution, 0·9 gram of NaCl will be taken and

(a) 100 ml of water will be added

(b) water will be added up to 100 ml

(c) 99·1 ml of water will be added

(d) water will be added up to 99·1 ml

159. For long-term immunity, the antigen is injected

(a) intravenously

(b) intramuscularly

(c) subcutaneously

(d) orally

160. Which of the following antibiotics prevents the formation of cell-wall in Gram-positive bacteria?

(a) Tetracycline

(b) Gentamicin

(c) Ampicillin

(d) Streptomycin

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