
NEET BIOLOGY 2018-19 - Chennai

Periodic Test : 11

Test ID : 023

Number of questions: 150

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Name: _____

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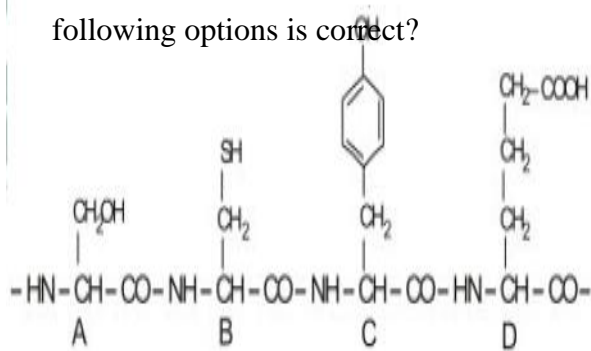
Negative Marks : 4 marks for correct attempt & 1 mark deducted for every wrong attempt.

- Which of the following statements is correct with reference to enzymes?
 - Holoenzyme = Apoenzyme + Coenzyme
 - Coenzyme = Apoenzyme + holoenzynle
 - Holoenzyme = Coenzyme + Co-factor
 - Apoenzyme= Holoenzyme + Coenzyme
- Which of the following are not polymeric?
 - Proteins
 - Polysaccharides
 - Lipids
 - Nucleic acids
- A non-proteinaceous enzyme is
 - lysozyme
 - ribozyme
 - ligase
 - Deoxyribonuclease.
- Which of the following is the least likely to be involved in stabilising the three-dimensional folding of most proteins?
 - Hydrogen bonds
 - Electrostatic interaction
 - Hydrophobic interaction
 - Ester bonds.
- Which of the following describes the given graph correctly?
 - Endothermic reaction with energy A in presence of enzyme and B in absence of enzyme.
 - Exothermic reaction with energy A in presence of enzyme and B in absence of enzyme.
 - Endothermic reaction with energy A in absence of enzyme and B in presence of enzyme.
 - Exothermic reaction with energy A in absence of enzyme and B in presence of enzyme.

6. A typical fat molecule is made up of
- (a) one glycerol and one fatty acid molecule
 - (b) three glycerol and three fatty acid molecules
 - (c) three glycerol molecules and one fatty acid molecule
 - (d) one glycerol and three fatty acid molecules.
7. Which one of the following statements is wrong?
- (a) Uracil is a pyrimidine.
 - (b) Glycine is a sulphur containing amino acid.
 - (c) Sucrose is a disaccharide.
 - (d) Cellulose is a polysaccharide.
8. The chitinous exoskeleton of arthropods is formed by the polymerisation of
- (a) N - acetyl glucosamine
 - (b) lipoglycans
 - (c) keratin sulphate and chondroitin sulphate
 - (d) D - glucosamine.
9. Which of the following biomolecules does have a phosphodiester bond?
- (a) Amino acids in a polypeptide
 - (b) Nucleic acids in a nucleotide
 - (c) Fatty acids in a diglyceride
 - (d) Monosaccharides in a polysaccharide
10. Which one of the following statements is incorrect?
- (a) The competitive inhibitor does not affect the rate of breakdown of the enzyme-substrate complex
 - (b) The presence of the competitive inhibitor decreases the K_m of the enzyme for the Substrate.
 - (c) A competitive inhibitor reacts reversibly with the enzyme to form an enzyme-inhibitor complex.
 - (d) In competitive inhibition, the inhibitor molecule is not chemically changed by the enzyme.
11. Select the option which is not correct with respect to enzyme action.
- (a) Substrate binds with enzyme at its active site.
 - (b) Addition of lot of succinate does not reverse the inhibition of succinic dehydrogenase by malonate.
 - (c) A non-competitive inhibitor binds the enzyme at a site distinct from that which binds the substrate.
 - (d) Malonate is a competitive inhibitor of succinic dehydrogenase.

12. Which one of the following is a non-reducing carbohydrate?
- (a) Maltose
 - (b) Sucrose
 - (c) Lactose
 - (d) Ribose 5-phosphate
13. A phosphoglyceride is always made up of
- (a) a saturated or unsaturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached.
 - (b) a saturated or unsaturated fatty acid esterified to a phosphate group which is also attached to a glycerol molecule.
 - (c) only a saturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached.
 - (d) only an unsaturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached
14. Macromolecule chitin is
- (a) sulphur containing polysaccharide
 - (b) simple polysaccharide
 - (c) nitrogen containing polysaccharide
 - (d) phosphorous containing polysaccharide.
15. Transition state structure of the substrate formed during an enzymatic reaction is
- (a) transient and unstable
 - (b) permanent and stable
 - (c) transient but stable
 - (d) Permanent but unstable.
16. The essential chemical components of many coenzymes are
- (a) carbohydrates
 - (b) vitamins
 - (c) proteins
 - (d) nucleic acids.
17. Which of the following statements about enzymes is wrong?
- (a) Enzymes are denatured at high temperatures.
 - (b) Enzymes are mostly proteins but some are lipids also.
 - (c) Enzymes are highly specific.
 - (d) Enzymes require optimum pH and temperature for maximum activity.
18. Uridine, present only in RNA is a
- (a) nucleoside
 - (b) nucleotide
 - (c) Purine
 - (d) pyrimidine

19. The figure shows a hypothetical tetrapeptide portion of a protein with parts labelled A-D. Which one of the following options is correct?



- (a) D is the acidic amino acid-glutamic acid.
- (b) C is an aromatic amino acid-tryptophan,
- (c) A is the C-terminal amino acid and D is N-terminal amino acid.
- (d) A is a sulphur containing amino acid methionine.

20. Which one out of A - D given below correctly represents the structural formula of the basic amino acid?

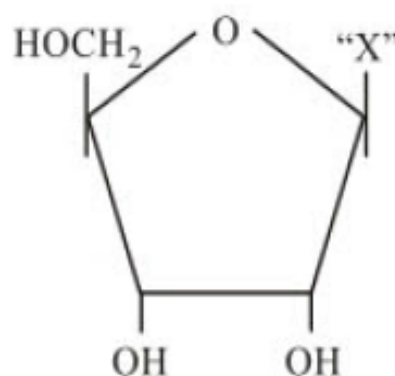
A	B	C	D
$\begin{array}{c} \text{NH}_2 \\ \\ \text{H}-\text{C}-\text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{C} \\ // \quad \backslash \\ \text{O} \quad \text{OH} \end{array}$	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H}-\text{C}-\text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{OH} \end{array}$	$\begin{array}{c} \text{CH}_2\text{OH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array}$	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H}-\text{C}-\text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array}$

- (a) C
- (b) D
- (c) A
- (d) B

21. Which one is the most abundant protein in the animal world?

- (a) Trypsin
- (b) Haemoglobin
- (c) Collagen
- (d) Insulin

22. The given diagrammatic representation on shows one of the categories of small molecular weight organic compounds in the living tissues. Identify the category shown and the one blank component "X" in it.



Category **Component**

- (a) Cholesterol Guanine
- (b) Amino acid NH_2
- (c) Nucleotide Adenine
- (d) Nucleoside Uracil

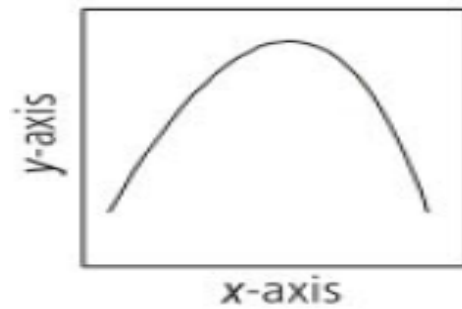
23. Which one of the following is wrong statement?

- (a) Anabaena and Nostoc are capable of fixing nitrogen in free-living state also.
- (b) Root nodule forming nitrogen fixer aerobes under free-living conditions,
- (c) Phosphorus is a constituent of cell membranes, certain nucleic acids and all proteins.
- (d) Nitrosomonas and nitrobacter are chemo-autotrophs,

24. Which one of the following biomolecules is correctly characterized?

- (a) Lecithin - a phosphorylated glyceride found in cell membrane.
- (b) Palmitic acid - an unsaturated fatty acid with 18 carbon atoms,
- (c) Adenylic acid - adenosine with a glucose phosphate molecule
- (d) Alanine amino acid - contains an amino group and an acidic group anywhere in the molecule.

25. The curve given below shows enzymatic activity in relation to three conditions (pH, temperature and substrate concentration). What do the two axes (x and y) represent?



X axis

Y axis

- (a) enzymatic activity pH
- (b) Temperature enzymatic activity
- (c) Substrate concentration enzymatic activity
- (d) enzymatic activity Temperature

26. Cellulose, the most important constituent of plant cell wall is made up of

- (a) Branched chain of glucose molecules linked by β -1, 4 glycosidic bond in straight chain and, β -1, 6 glycosidic bond at the site of branching
- (b) Unbranched chain of glucose molecules linked by β -1, 4 glycosidic bond
- (c) Branched chain of glucose molecules linked by β -1, 6 glycosidic bond at the site of branching
- (d) Unbranched chain of glucose molecules linked by β -1, 4 glycosidic bond.

27. Lactose is composed of

- (a) glucose + galactose
- (b) fructose + galactose
- (c) glucose + fructose
- (d) glucose + glucose

28. Co-factor (prosthetic group) is a part of holoenzyme. It is

- (a) loosely attached organic part
- (b) loosely attached inorganic part
- (c) accessory non-protein substance attached firmly
- (d) none of these.

29. Which is a typical example of feedback inhibition"?

- (a) Cyanide and cytochrome reaction
- (b) Sulpha drugs and folic acid synthesizer bacteria
- (c) Allosteric inhibition of hexokinase by glucose 6-phosphate
- (d) Reaction between succinic dehydrogenase and succinic acid

30. In which of the following groups are all polysaccharides?

- (a) Sucrose, glucose and fructose
- (b) Maltose, lactose and fructose
- (c) Glycogen, sucrose and maltose
- (d) Glycogen, cellulose and starch

31. What are the most diverse molecules in the cell?

- (a) Lipids
- (b) Mineral salts
- (c) Proteins
- (d) Carbohydrates

32. Which purine base is found in RNA'?

- (a) Thymine
- (b) Uracil
- (c) Cytosine
- (d) Guanine

33. Which of the following nucleotide sequences contains 4 pyrimidine bases?
- (a) GATCAATGC
 - (b) GCUAGACAA
 - (c) UAGCGGUAA
 - (d) Both (b) and (c)
34. The four elements that make up 99% of all elements found in a living system are
- (a) C, H, O and P
 - (b) C, N, O and P
 - (c) H, O, C and N
 - (d) C, H, O and S.
35. Which is wrong about nucleic acids?
- (a) DNA is single stranded in some viruses.
 - (b) RNA is double stranded occasionally.
 - (c) Length of one helix is 45 Å in B-DNA,
 - (d) One turn of Z-DNA has 12 bases.
36. Glycogen is a polymer of
- (a) galactose
 - (b) glucose
 - (c) fructose
 - (d) sucrose.
37. In RNA, thymine is replaced by
- (a) adenine
 - (b) guanine
 - (c) cytosine
 - (d) uracil.
38. Amino acids are mostly synthesised from
- (a) mineral salts
 - (b) fatty acids
 - (c) volatile acids
 - (d) \square - Ketoglutaric acid.
39. Which is distributed more widely in a cell?
- (a) DNA
 - (b) RNA
 - (c) Chloroplasts
 - (d) Sphaerosomes
40. Living cell contains 60 - 95% water, present in human body is
- (a) 60 - 65%
 - (b) 50 - 55%
 - (c) 75 - 80%
 - (d) 65 - 70%
41. Adenine is
- (a) purine
 - (b) pyrimidine
 - (c) nucleoside
 - (d) nucleotide

42. Enzymes having slightly different molecular structure but performing identical activity are
- (a) holoenzymes
 - (b) isoenzymes
 - (c) apoenzymes
 - (d) coenzymes
43. A nucleotide is formed of
- (a) purine, pyrimidine and phosphate
 - (b) purine, sugar and phosphate
 - (c) nitrogen base, sugar and phosphate
 - (d) pyrimidine, sugar and phosphate
44. DNA is composed of repeating units of
- (a) ribonucleosides
 - (b) deoxyribonucleosides
 - (c) ribonucleotides
 - (d) deoxyribonucleotides.
45. A segment of DNA has 120 adenine and 120 cytosine bases. The total number of nucleotides present in the segment is
- (a) 120
 - (b) 240
 - (c) 60
 - (d) 480
46. The basic unit of nucleic acid is
- (a) pentose sugar
 - (b) nucleoid
 - (c) nucleoside
 - (d) nucleotide
47. Mineral associated with cytochrome is
- (a) Cu
 - (b) Mg
 - (c) Cu and Mg
 - (d) Fe
48. Which is not consistent with double helical structure of DNA?
- (a) $A = T, C = G$
 - (b) Density of DNA decreases on heating,
 - (c) $A + T/C + G$ is not constant.
 - (d) Both (a) and (b)
49. RNA does not possess
- (a) uracil
 - (b) thymine
 - (c) adenine
 - (d) cytosine
50. In double helix of DNA the two DNA strands are
- (a) coiled around a common axis
 - (b) coiled around each other
 - (c) coiled differently
 - (d) coiled over protein sheath.