



BIOLOGY

BOOKS - CENGAGE BIOLOGY (HINGLISH)

BIOMOLECULES

Exercises

1. both in cells and extracellular fluids , dibasic phosphate (HPO_4^{2-}) and monobasic phosphate ($H_2PO_4^-$) act as acid base buffers to maintain

- A. K^+ concentration of extracellular fluid
- B. Na^+ concentration of extracellular fluid
- C. Na^+ concentration of cellular fluid
- D. H^+ concentration of cellular fluid

Answer: D



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2. All the following statement are correct except

- A. Mitochondria are rich in manganese.
- B. Molybdenum is necessary for the fixation of nitrogen catalyzed by the enzyme nitrogenase .
- C. Magnesium is essential for a large number of enzymes , particularly those utilizing ATP.
- D. Calcium and magnesium have no effect on the excitability of nerves and muscles .

Answer: D



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3. The most abundant compound in living cell is

A. C

B. H

C. O

D. N

Answer: C



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4. which element is / are found in cytochromes ?

A. Fe^{++} and Cu^{++}

B. Fe^{+++} and Mg^{++}

C. Mg^{++}

D. CU^{++}

Answer: A



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5. the concentration of Na,K, Ca in a cell in decreasing order is

A. K-Na-Ca

B. K-Ca-Na

C. Na-K-Ca

D. Ca-K-Na

Answer: A



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6. all the macromolecules are the result of the process of polymerization ,
a process in which repeating subunits termed monomers are bound into
chains of different lengths except

A. Nucleic acids

B. Carbohydrates

C. Lipids

D. Proteins

Answer: C



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7. Raffinose has three monosaccharide units those are

A. Glucose , pentosea and maltose

B. Glucose , levulose and galactose

C. Glucose, fructose , and surose

D. Fructose , fructose ,and galactose

Answer: B



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8. A monosaccharide is a simple polyhydroxy aldehyde or ketone molecule , which cannot be further hydrolyzed into smaller units . The number of carbon atoms in monosaccharide vary from

A. 2-8 carbons

B. 2-7 carbons

C. 3-6 carbons

D. 3-7 carbons

Answer: D



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9. the sweetest amongst all naturally occurring sugars is

A. Glucose

B. Fructose

C. Mannose

D. Galactose

Answer: B



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10. Glucose is

- A. Aldose hexose sugar
- B. Ketose hexose sugar
- C. Pyranose pentose sugar
- D. Furanose pentose sugar

Answer: A



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11. Glucose is also called

- A. Dextrose
- B. com sugar
- C. Grape sugar
- D. All of these

Answer: D



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12. why sucrose and not glucose is used to preserve fruit products ?

- A. Glucose si reactive as it has a CHO group .
- B. Sucrose is more common in nature
- C. Sucrose is easily available and has both glucose and fructose.
- D. none of these

Answer: A



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13. Honey has two sugars . They are

- A. Glucose and mannose
- B. glucose and galaactose
- C. Dextrose and levulose
- D. Dextrose and lactose

Answer: C



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14. Which of the following disaccharide is not a reducing sugar?

- A. Glucose
- B. Lactose
- C. Maltose

D. Sucrose

Answer: D



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15. On hydrolysis which of the following carbohydrates give only glucose?

A. Sucrose

B. Lactose

C. Maltose

D. Raffinose

Answer: C



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16. Storing carbohydrates in the form of polysaccharides has following advantages :

- A. during their formation , many molecules of water are removed from monosaccharide (dehydration synthesis), condensing the bulk to be stored .
- B. when necessary ,polysaccharides are broken down by enzymes for the release of energy
- C. Unlike small carbohydrates , polysaccharides are relatively easy to store.
- D. All of these

Answer: D



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17. the most abundant organic compound in biosphere is

- A. Lignin
- B. Cellulose
- C. Pectin
- D. Hemi-cellulose

Answer: B



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18. the largest amount (90%) of cellulose amongst the natural materials is present in

- A. Wood
- B. Cotton fibers
- C. Rayon
- D. Roughage

Answer: B



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19. Carbohydrates, the most abundant biomolecules on earth, are produced by

- A. some bacteria , algae , and green plant cells
- B. Fungi , algae , and green plant cells
- C. All bacteria , fungi , and algae
- D. Viruses , fungi , and algae

Answer: A



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20. Cellulose is

- A. Heteropolysaccharide
- B. Heteropolysaccharide , branched

C. Heteropolysaccharide , unbranched

D. pentosan polysaccharide , branched

Answer: C



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21. which of the following is added to ice creams , cosmetics, and medicines to emulsify and give a smooth texture ?

A. Cellulose acetate

B. Cellulose nitrate

C. Carboxymethyl cellulose

D. Cellulose

Answer: C



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22. chitin is the second most abundant organic substance present in the exoskeleton of insects and crustaceans ,It is a

- A. Protein
- B. polysaccharide and the basic unit is N-Acetylglucosamine
- C. protein and $CaCO_3$ deposits in it
- D. Lipid

Answer: B



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23. one of the following is the correct sequence of carbohydrates in the order of increasing complexity of chemical structure.

- A. Sucrose , starch ,Oligosaccharide,maltose , triose
- B. Triose , maltose , Sucrose, starch,Oligosaccharide,
- C. Triose , glucose ,maltose , oligosaccharide ,starch

D. Oligosaccharide, triose , starch , sttarch , sucrose , maltose

Answer: C



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24. which one is a carbohydrate?

A. Inulin

B. Raphide

C. Aleurone

D. Cystolith

Answer: A



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25. the center of starch grin is called hilum it is made up of

- A. protein
- B. Carbohydrate
- C. fat
- D. Nitrogen

Answer: A



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26. which one is a fibrous polysaccharide ?

- A. Starch
- B. Glycogen
- C. Cellulose
- D. Mucilage

Answer: C



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27. Glucose is stored as glycogen in

- A. Pancereas
- B. Bone
- C. Kidney
- D. Liver

Answer: D



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28. which of the following yields purgative ?

- A. Hibiscus esculents
- B. Plantago ovata
- C. Aloe bardensis

D. Both (2) and (3)

Answer: D



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29. choose the odd one out .

A. Keratin phosphate

B. yaluronic acid

C. chondroitin sulphate

D. Alginic acid

Answer: D



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30. A cellulose molecule is formed by the polymerisation of glucose. The number of glucose molecules present in a cellulose is

- A. 600
- B. 6000
- C. 60000
- D. 60

Answer: B



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31. Mucilages are polysaccharides formed from galactose and mannose , they are sliimy substnce . Which one of the following is not a mucilage ?

- A. Agar
- B. Algninc acid
- C. Rayon

D. compound

Answer: C



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32. starch grains of rice are

A. Dumb-bell shaped

B. simple eccentric

C. simple concentric

D. Compound

Answer: D



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33. Cellulose present in the food of grazing animals is

- A. Digested by the gut bacteria
- B. Digested by the animal it self
- C. Digested partly by animal and partly by the bacteria
- D. Passed out undigested

Answer: A



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34. the number of monosaccharide units in a polysaccharide is

- A. 2
- B. 9
- C. 10
- D. more than 10

Answer: D



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35. A bond which is formed between aldehyde or ketone group of monosaccharide and alcoholic group of another organic compound is known as

- A. Peptide bond
- B. glycosidic bond
- C. phosphodiester bond
- D. Ester bond

Answer: B



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36. Which of the following is a saturated fatty acid?

- A. Oleic acid
- B. Linoleic acid

C. Arachdonic acid

D. Dtearic acid

Answer: D



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37. which of the following is the most essential fatty acid ?

A. Linoleic

B. Linolenic

C. Arachidonic

D. Steric acid

Answer: A



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38. Lecithin is a

- A. Fatty acid
- B. Phospholipid with choline attached to phosphate group
- C. Cholesterol
- D. fat

Answer: B



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39. Bee wax is secreted by

- A. Drons
- B. Workers
- C. Queen
- D. Scout

Answer: B



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40. which of the following is a phospholipid ?

A. Lecithin

B. Glycerol

C. Oleic acid

D. Prostaglandin

Answer: A



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41. Keratin is a protein having larger amount of

A. Sulfur

B. Calcuium

C. Magnesium

D. Phosphorous

Answer: A



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42. Waxes are simple lipids formed by the combination of long chain fatty acid with long chain monohydric alcohol .

Bee wax is made up of

A. Palmitic acid and myricyl alcohol

B. Hexadecyl palmitate

C. Ergosterol

D. both (1) and (2)

Answer: A



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43. which is not a lipid ?

- A. Lecithin
- B. β - keratin - protein
- C. Sterol
- D. wax

Answer: B



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44. An antifertility steroid is

- A. Diosgenin
- B. Cortisol
- C. Estradiol

D. Progesterone

Answer: A



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45. in Brain , most common types of lipids are

A. Glycolipids

B. Lipoproteins

C. Phospholipids

D. Steroids

Answer: A



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46. find the odd one out .

A. Palmitic acid , stearic acid

B. Oleic acid , Linoleic acid

C. Linoleic acid , oleic acid

D. Tripalmitin, Linolenic acid

Answer: D



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47. which of the following are basic amino acids?

A. Glycine and alanine

B. Lysine and arginine

C. Glutamic acid and aspartic acid

D. Histidine and proline

Answer: B



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48. Which of the following is the simplest amino acid

- A. Alanine
- B. Asparagine
- C. Glycine
- D. Tyrosine

Answer: C



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49. the hormone adrenaline (epinephrine) is formed from which of the following amino acids ?

- A. Glycine
- B. Tyrosine
- C. Tryptophan

D. Alanine

Answer: B



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50. which of the following amino acids is involved in the formation of heme ?

A. Tryptophan

B. Tyrosine

C. Glycine

D. Histidine

Answer: C



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51. Vitamin nicotinamide as well as the plant hormone in dole -3-acetoic acid are formed from

- A. Tryptophan
- B. Alanine
- C. Glutamic acid
- D. Serine

Answer: A



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52. on losing the carboxyl group as carbon dioxide , amnio acids form biologically active

- A. Glucose
- B. Amine such as histamine
- C. Alcohol

D. N- base

Answer: B



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53. skin pigment melanin is formed from

A. Tyrosine

B. Adrenaline

C. Indole-3-acetic acid

D. Tryptophan

Answer: A



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54. which one of the following is alcoholic amino acid pair ?

- A. tyrosine and serine
- B. Threonine and serine
- C. phenylalanine and tyrosine
- D. Tryptophan and phenylalanine

Answer: B



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55. one of the following is not an essential amino acid ?

- A. Tryptophan and valine
- B. Lysine and methionine
- C. Leucine and isoleucine
- D. none of these

Answer: D



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56. one of the following amino acids does not contain sulfur .

- A. Tryptophan
- B. Methionine
- C. Cystine
- D. HomoCysteine

Answer: A



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57. one of the following is a heterocyclic amino acid .

- A. proline
- B. Histidine
- C. Hydroxyproline

D. All of these

Answer: D



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58. one of the following is a neutral amino acid .

A. Arginine

B. Glycine

C. Glutamic acid

D. Aspartic acid

Answer: B



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59. which of the following is a non-polar amino acid ?

- A. Alanine
- B. Glutamic acid
- C. Serine
- D. none of these

Answer: A



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60. β – pleated structure of protein is present in silk fibers , the prtein is

- A. Fibroin
- B. Collagen
- C. Rayon
- D. Keratin

Answer: A



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61. Keratin of hair has

- A. Secondary structure
- B. α -Helical structure
- C. β -pleated structure
- D. Primary structure

Answer: B



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62. most of the blood proteins in our body are

- A. Basic
- B. Acidic
- C. Neutral

D. Basic and Neutral

Answer: B



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63. Casein of milk is

A. Glycoprotein

B. Phosphoprotein

C. Chromoprotein

D. Metalloprotein

Answer: B



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64. prolamines are

- A. Associated with nucleic acids
- B. Storage proteins
- C. Enzymatic protein
- D. Structural protein

Answer: B



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65. which of the protein is involved in the transport of or-ganic compouinds through phloem?

- A. Protamine
- B. p-Protein
- C. Myosin
- D. Glutelin

Answer: B



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66. choose is a

- A. Globular protein
- B. Conjugated protein
- C. Denatured prtein
- D. All of these

Answer: C



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67. the storage protein of wheat is

- A. Glutelin
- B. Oryzin
- C. Hordein

D. Zein

Answer: A



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68. the type of prolamines and glutelins found in wheat are

- A. Zein and gladin
- B. Glutelin and hordein
- C. Gliadin and glutenin
- D. Hordein and zein

Answer: C



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69. which of the following is a contractile protein ?

A. P-protein

B. Myosin

C. Albumin

D. Penneases

Answer: B



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70. the storage protein found in castor oil seeds is

A. Legumin

B. Tuberin

C. Richin

D. Leucosin

Answer: C



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71. cholesterol is synthesized in

- A. Pancreas
- B. Burner's gland
- C. spleen
- D. Liver

Answer: D



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72. which is a disaccharide ?

- A. Galactose
- B. Fructose
- C. Maltose

D. Dextrin

Answer: C



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73. which element is normally absent in proteins ?

A. C

B. N

C. S

D. P

Answer: D



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74. which substance is not a carbohydrate ?

- A. starch
- B. glycogen
- C. Wax
- D. Glucose

Answer: C



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75. to get quick enregy , one should use ?

- A. Carbohydrate
- B. Fats
- C. Vitamins
- D. Proteins

Answer: A



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76. the protein most abundant in human body is

A. collagen

B. Myosin

C. Actin

D. Albumin

Answer: A



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77. which is not a polysaccharide ?

A. Sucrose

B. Starch

C. Glycogen

D. Cellulose

Answer: A



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78. Decreasing order of amount of organic compound in animal body

- A. Carbohydrate,protein ,fat, and nucleic acid
- B. Protein , fats , nucleic acid , and carbohydratae
- C. prtein , fats , carbohydrates, and nucleic acid
- D. Carbohydrate, fats,proteins , and nucleic acid

Answer: C



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79. Charateristic feature of hemoglobin

A. Reversible union with oxygen

B. Red color

C. Presence of Cu

D. Presence of Globulin protein

Answer: C



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80. External coat composed of cellulose- like material occurs in

A. Hemichordate

B. Urochordate

C. Cephalochordate

D. Cyclostomata

Answer: B



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81. common in feater and silk is

- A. Carbohydrate
- B. fats
- C. Protein
- D. Nucleic

Answer: C



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82. Monosaccharide is

- A. pentose sugar
- B. Hexose sugar
- C. only Glucose

D. All the above

Answer: D



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83. sugar which is found in hemolymph of insects is called

A. Maltose

B. Lactose

C. Trehalose

D. Galeactose

Answer: C



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84. which substance is most abundant in cell ?

A. carbpohydrates

B. protein

C. water

D. fats

Answer: C



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85. proteins which present in protoplasm are very Important because

A. they provide definite shape to cell

B. they function as biocatalyst

C. they yield energy

D. they are stored food

Answer: B



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86. Dipeptide is

- A. structure of two peptide bonds
- B. two amino acids linked by one peptide bond
- C. Bond between one amino acid and one peptide
- D. None

Answer: B



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87. Which amino acid is non-essential for human body ?

- A. Glycine
- B. phhenyl alannine
- C. Arginine

D. Methionine

Answer: A



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88. In which form , the extra sugars is stored in the body ?

A. Glucose monosaccharide

B. Sucrose disaccharide

C. Glycogen polysaccharide

D. Fatty acid and glycerol

Answer: C



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89. Products of proteins catabolism are

- A. NH_3 , CO_2 and urea
- B. Urea, CO_2 and NH
- C. Urea, NH_3 and uric acid
- D. Urea, NH_3 alanine and creatine

Answer: A



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90. Galactosemia disease in children can be prevented if

- A. Milkless food
- B. proteinaceous milk
- C. More milk
- D. Vitamins-less milk

Answer: A



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91. Glycogen is

- A. Polymer of amino acids
- B. polymer of fatty acids
- C. Unsaturated fats
- D. polymer of glucose

Answer: D



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92. Carbohydrate is

- A. polymer of fatty acids
- B. polymer of amino acid
- C. polyhydroxy aldehyde or etone

D. None

Answer: C



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93. in which form , food is stored in animal body ?

A. glucose

B. Glucogen

C. Cellulose

D. ATP

Answer: B



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94. what is the normal ratio of sugar in human blood ?

A. 0.01 %

B. 0.1 %

C. 1 %

D. 0.18 %

Answer: B



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95. units of proteins which unite in ling chains to form proteins are called

A. Sugar

B. Purines

C. pyrmidines

D. Amino acids

Answer: D



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96. Milk protein is

- A. Lactogen
- B. Myosin
- C. Casein
- D. Pepsin

Answer: C



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97. Long chain molecules of fatty acids are formed by

- A. Polymerization of carbon ompounds
- B. Decompostition of fats
- C. Polymerization of glycogen

D. Conversion of glycogen

Answer: A



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98. Most simple amino acid is

A. tyrosine

B. Lysine

C. Glycine

D. Aspartic acid

Answer: C



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99. fats in the body are formed when

- A. Glycogen is formed from glucose
- B. sugar level becomes stable in blood
- C. Extra glycogen in liver and muscles is stopped
- D. None all of them

Answer: C



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100. in india, the best source for proteins in herbivorous persons is

- A. Pulses
- B. potato
- C. egg
- D. Meat

Answer: A



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101. proteins are conducted in the body in the form of

- A. Amino acids
- B. Natural protein
- C. Enzymes
- D. Nucleic acids

Answer: B



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102. Translocation of sugar in flowering plants occurs in the form of

- A. Glucose
- B. Sucrose
- C. Fructose

D. Maltose

Answer: B



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103. sucrose is composed of

- A. Glucose and fructose
- B. Glucose and glycogen
- C. Two molecules fo glucose
- D. Glycogen and fructose

Answer: C



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104. Which of the following amino acid is essential

A. Alanine

B. Glycine

C. Tryptophan

D. Tyrosine

Answer: C



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105. which of the following disaccharides will give two molecules of glucose on hydrolysis ?

A. Maltose

B. Sucrose

C. Lactose

D. None

Answer: A



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106. which is the most structural part of the body ?

- A. protein
- B. carbohydrates
- C. Lipid
- D. Nucleic acid

Answer: A



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107. which of the following sugar is found in ATP?

- A. DEoxyribose
- B. Ribose
- C. Trehalose

D. Glucose

Answer: B



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108. the antibodies are

A. γ – Globulins

B. Albumins

C. Vitamins

D. Sugar

Answer: A



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109. Enzyme concerned with the transfer of electrons is

- A. hydrolase
- B. Dehydrogenase
- C. Transaminease
- D. Protease

Answer: B



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110. At which pH , enzymes of lysosomes are usually active

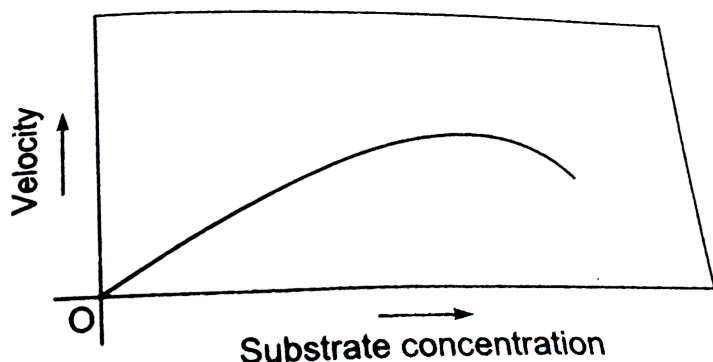
- A. 5
- B. 7
- C. 8
- D. At any pH

Answer: A



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111. the graph given in Fig.9.36 shows the effect of substrate concentration on the rate of reaction of the enzyme green-gram - phosphatase . What does the graph indicates ?



- A. the rate of enzyme reaction is directly proportional to the substrate concentration
- B. Presence of an enzyme inhibitor in the reaction mixture .
- C. Formation of an anzyme-substrate complex.
- D. At higher substrate concentration , the pH increases H^+ cone \downarrow

Answer: D



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112. All liquids are

- A. Composed of fatty acids
- B. triglycerides
- C. Insoluble in water
- D. All the above

Answer: D



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113. if genetic code is tetraplet then what is the possible number of codons white cotain 20 types if amnio acids ?

- A. 261
- B. 64

C. 256

D. 43

Answer: C



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114. in which of the following , the DNA is the principal constituent ?

A. Nucleus

B. Chromatin

C. Ribosomes

D. Chloroplas

Answer: B



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115. Khorana and his colleagues synthesized an RNA molecule with repeating sequences of $U G N_2$ -base the RNA with UGUGUGUGUGUG produced a tetrapeptide with alternating sequence of cysteine and valine, this proves that the codon for cysteine and valine is

A. UGG & GUU

B. UUG & GGU

C. UGU & GUG

D. GUG & UGU

Answer: C



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116. number of H-bonds between guanine and cytosine are-

A. one

B. two

C. three

D. Four

Answer: C



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117. On an average how many purine N_2 bases are present in single coil of DNA.

A. four

B. five

C. ten

D. Uncertain

Answer: C



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118. Distance between two nucleotide pairs of DNA is

A. 0.34 nm

B. 34Å

C. 3.4nm

D. 34nm

Answer: D



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119. Histone occupies the major groove of a DNA at an angle of

A. 60°

B. 90°

C. 45° to helix axis

D. 30° to helix axis

Answer: D



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120. DNA polymerase is needed for

- A. Replication of DNA
- B. synthesis of DNA
- C. elongation of DNA
- D. All of the above

Answer: D



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121. the usual method of DNA replication is

- A. Conservative

- B. Dispersive
- C. Non-conservative
- D. Semi-conservative

Answer: D



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122. DNA duplication occurs at

- A. Meiosis -II
- B. Mitotic interphase
- C. Mitosis only
- D. Meiosis and mitosis both

Answer: D



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123. A DNA molecule in which both strands have radioactive thymidine is allowed to duplicate in an environment containing non- radioactive thymidine. What will be the exact number of DNA molecules that contains the radio active thymidine after 3 duplications -

- A. one
- B. two
- C. four
- D. Eight

Answer: D



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124. A bacterium with completely radioactive DNA was allowed to replicate in a non- radioactive medium for two generation what % of the bacteria should contain radioactive DNA:-

A. 100 %

B. 50 %

C. 25 %

D. 12.5 %

Answer: B



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125. Dna directed synthesis of m -RNA is called

A. Transcription

B. Translocation

C. Transduction

D. Replication

Answer: A



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126. The process by which DNA of the nucleus passes genetic information to m -RNA is called

- A. Transcription
- B. Translocation
- C. Translation
- D. Transportation

Answer: A



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127. Sometimes the starting codon is GUG in place of AUG. GUG normally stands for

- A. Valine
- B. Glycine

C. Meltionine

D. Tyrosine

Answer: A



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128. DNA which is composed of dinucleotide unit is

A. A-DNA

B. B-DNA

C. C-DNA

D. Z-DNA

Answer: B



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129. Informosomes composed of

- A. r-RNA & proteins
- B. m-RNA & proteins
- C. m- RNA ^ lipid
- D. DNA & proteins

Answer: B



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130. t-RNA attach to larger subunit of ribosomes with the help of which loop

- A. DHU-loop
- B. TΨC loop
- C. Anticodon loop
- D. Minor loop

Answer: B



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131. in barcteria , the codon AUG stands for

- A. Glycine
- B. Meltionine
- C. N-Formyl methionine
- D. Alanine

Answer: C



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132. which compound produces more than twice the amount of energy as compared to carbohydrates ?

- A. Protein
- B. fats
- C. Vitamins
- D. Glucose

Answer: B



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133. Carbohydrate metabolism is controlled by

- A. parathormone
- B. Insulin
- C. Glucose
- D. Vitamin B_{12}

Answer: B



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134. Chemically ,enzymes are

- A. fats
- B. Carbohydrates
- C. hydrocarbons
- D. Proteins

Answer: D



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135. Glycogen is stored in

- A. Liver and muscles
- B. Liver only
- C. Muscles only

D. Pancreas

Answer: A



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136. carbohydrates are stored in mammals as

- A. Glucose in liver
- B. glycogen in muscles and spleen
- C. Lactic acid in muscles
- D. glycogen in liver and muscles

Answer: B



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137. which is sweet in taste , but is not sugar ?

- A. starch
- B. saccharide
- C. Lactose
- D. protein

Answer: B



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138. Fattiness is due to the excess of

- A. Connective tissue
- B. blood
- C. Muscular tissue
- D. Adipose tissue

Answer: D



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139. which one of the following is polysaccharide ?

- A. sucrose
- B. Lactose
- C. Glycogen
- D. Glucose

Answer: C



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140. the formation of protein can be considered as

- A. Dehydration sythesis
- B. Dehydration analysis
- C. hydration synthesis

D. Hydration analysis

Answer: A



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141. starving person will first use

A. fats

B. Glycogen

C. Blood

D. Muscle protein

Answer: B



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142. for body growth and repair , one needs

A. Carbohydrates

B. Fats

C. protein

D. Vitamins

Answer: C



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143. Deficiency of protein leads to

A. Rickets

B. Scurvy

C. Kwashiorkor

D. carotenemia

Answer: C



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144. lactose is composed of

- A. Glucose + Galactose
- B. Glucose +Fructose
- C. Glucose +glucose
- D. Glucose +Mannose

Answer: A



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145. true statement for cellulose molecule is

- A. $\beta - 1' - 4''$ linkage , unbranched
- B. $\beta - 1' - 4''$ linkage , branched
- C. $\beta - 1' - 4''$ linkagea , branched

D. $\beta - 1' - 6''$ linkage , unbranched

Answer: A



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146. Which of the following is the contractile protein of a muscle?

- A. Actin
- B. Myosin
- C. Trpophonin
- D. tropomyosin

Answer: B



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147. Variations in proteins are due to

A. sequence of maino acids

B. Number of amino acids

C. R-group

D. None

Answer: A



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148. which of the following does not cotatin metal ?

A. Glycoproteins

B. Ferritin

C. Cytochomes

D. Chromoproteins

Answer: A



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149. which protein is found in maximum amount ?

- A. Catalase
- B. Zinc carbonic anhydrase
- C. transferase
- D. RuBisCO

Answer: D



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150. proteoglycan in cartilages , which is part of polysaccharide, is

- A. Condriotin
- B. Ossein
- C. Casein

D. Cartilegen

Answer: A



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151. Enzymes are made up of

- A. Edible proteins
- B. proteins
- C. Nitrogen -containing carbohydrates
- D. carbohydrates

Answer: B



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152. Hydrolytic enzyme which acts at low pH is

A. Protease

B. α – Amylase

C. hydrolases

D. Peroxidase

Answer: A



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153. in the genetic code dictionary , how many codons are used to code for all the 20 essenital amino acids?

A. 20

B. 64

C. 61

D. 60

Answer: C

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154. Enzymes ,vitamins , and hormones can be classified into a single category of biological chemicals because all of these

- A. Enhance oxidative metabolism
- B. are conjugated proteins
- C. are exclusively synthesized in the body of a living organism
- D. Help in regulating metabolism

Answer: A

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155. which of the following statements regarding enzyme inhibition is correct ?

- A. Non-competitive inhibition of an enzyme can be overcome by adding large amount of substrate .
- B. Competitive inhibition is seen when a substrate competes with an inhibitor for binding to an enzyme protein .
- C. competitive inhibition is seen when the substrate and the inhibitor compete for the active site on the enzyme.
- D. non-competitive inhibitors often bind to the enzyme irreversibly.

Answer: B



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156. the catalytic efficiency of two different enzyme can be compared by

- A. K_M value
- B. pH optimum value
- C. Formation of the product

D. molecular size of the enzyme

Answer: C



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157. An organic substance bound to an enzyme and essential for its activity is called

A. Apoenzyme

B. Isoenzyme

C. Coenzyme

D. Holoenzyme

Answer: C



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158. the main area of various types of activities

- A. Plasma membrane
- B. Mitochondrion
- C. cytoplasm
- D. Nucleus

Answer: C



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159. DNA or RNA segment tagged with a radioactive molecule is called

- A. Vector
- B. Probe
- C. Clone
- D. Plasmid

Answer: B



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Assertion Reasoning Questions

1. Assertion : Heparin is a natural anticoagulant inside the blood vessels .

Reason : It is example of homopolysaccharide .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: C



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2. Assertion : Hemoglobin is a monomeric protein .

Reason : It is made up of two polypeptide chains .

A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: D



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3. Assertion : Saturated fatty acids are non -essential fatty acids

reason : they can be synthesized in animal body .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: A



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4. Assertion : Lipids provide more energy as compared to carbohydrates on oxidation .

Reason : Lipid is the first respiratory substance .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: C



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5. Assertion : In protoplasm, protoplasm , protein functions as a buffer .

reason : the protein molecule is amphoteric .

A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: B



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6. Assertion : Phospholipids form bimolecular layer in aqueous medium .

Reason : phospholipid molecules are amphipathic .

A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: B



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7. Assertion : Starch is the storage polysaccharide in plants .

Reason : Starch is a polymer of β - glucose .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: B



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8. Assertion : Lecithin is important in membranes .

Reason : It has amphipathic nature .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: B



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9. Assertion : Glucose is dextrose

Reason : the open chains of glucose have four asymmetrical carbon .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: B



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10. Assertion : Histones are acidic proteins .

Reason : Cellobiose is an example of disaccharide.

A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: D



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11. Assertion : Disaccharides show optical activity .

Reason : Cellobiose is an example of disaccharide .

A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: B



View Text Solution

12. Assertion : Isabgol is used as a medicine .

Reason: the husk of isabgol contains mucilage .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: A



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13. Assertion : Monellin is the sweetest chemical.

reason : Monellin is a protein .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: B



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14. Assertion : Natural silk is made up protein .

Reason : Artificial silk is a polysaccharide .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: B



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15. Assertion : Specific substrate binds at the active site of the enzyme .

Reason : Enzymes increase the activation energy of substrate .

A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .

B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .

C. If Assertion is true , but Reason is false

D. if both Assertion and Reason are false.

Answer: C



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16. Assertion : Enzymes become denatured at high temperature .

Reason : the tertiary structure of proteins gets damaged at high temperature .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: A



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17. Assertion : All enzymes are proteins .

Reason : Ribozymes are enzymes without proteins .

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: B



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18. Assertion : Allosteric modulators accelerate or retard the rate of catalysis of an allosteric enzyme .

Reason : Allosteric modulators modulate the configuration of the active site of enzyme.

- A. If both assertion and Reason are true and the Reason is the correct explanation of the assertion .
- B. If both Assertion and Reason are true , but the reason is not the correct explanation of the assertion .
- C. If Assertion is true , but Reason is false
- D. if both Assertion and Reason are false.

Answer: B



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Archives

1. About 98 percent of the mass of every living organism is composed of just six elements including carbon, hydrogen , nitrogen , oxygen and

- A. Calcium and phosphorus
- B. Phosphorus and sulphur
- C. Sulphur and magnesium
- D. Magnesium and sodium

Answer: B



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2. A competitive inhibitor of succinic dehydrogenase is :

- A. α – ketoglutarate
- B. Malate
- C. Malonate
- D. Oxaloacetate

Answer: C



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3. Carrier ions like Na^+ facilitate the absorption of substance like

- A. amino acids and Glucose
- B. Glucose and fatty acids
- C. Fatty acids and glycerol
- D. Fructose and some amino acids

Answer: A



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4. three of the following statements about enzymes are correct, which one is wrong ?

- A. Enzymes are denatured at high temperature but in certain exceptional organisms they are effective even at temperature $80 - 90^\circ \text{C}$

B. Enzymes are highly specific

C. Most enzymes are proteins but some are lipids .

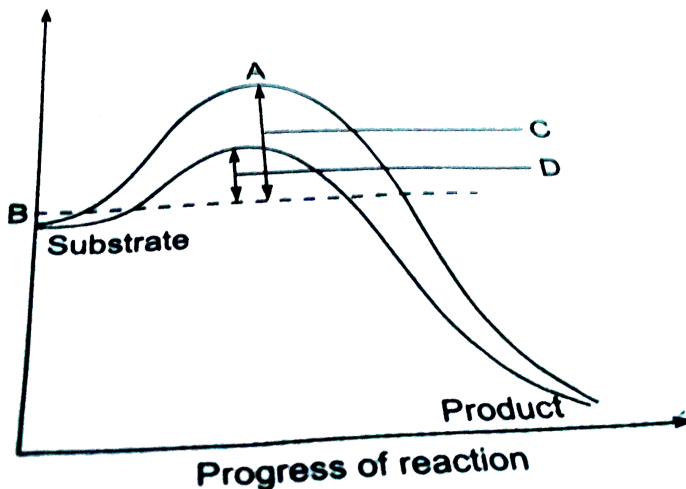
D. Enzymes require optimum pH for maximal activity .

Answer: C



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5. Figure 9.37 shows the conversion of a substrate into product by an enzyme . In which one of an the four options (1-4) , the components of reaction leveled as A,B,C, and D are identified correctly ?



A.

A

Transition state

B

potential energy

C

activation energy without enzyme

B.

A

potential energy

B

Transition state

C

Activation energy with enzyme

C.

A

Activation energy with enzyme

B

Transition state

C

activation energy without enzyme

D.

A

potential energy

B

Transition state

C

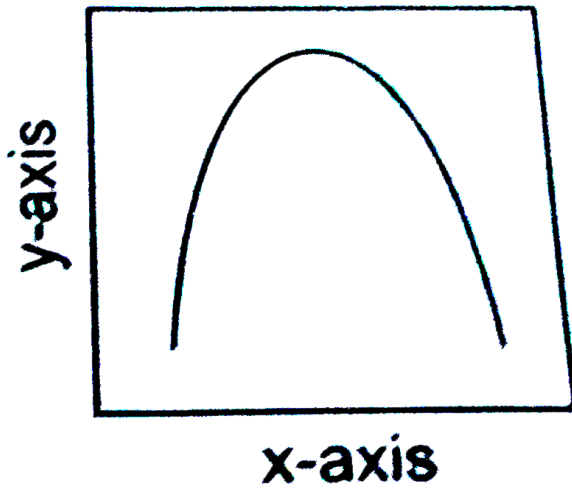
Activation energy with enzyme

Answer: A



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6. the curve given below shows enzymatic activity with relation to three conditions (pH , temperature and substrate concentration).



what do the two axes (x and y) represent ?

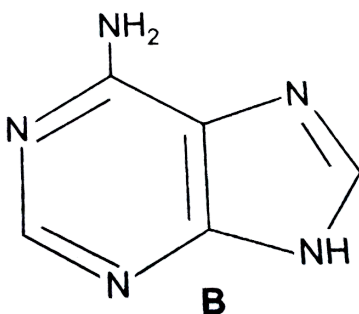
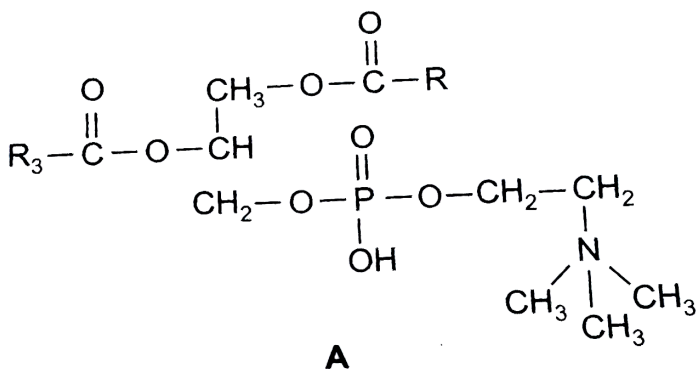
- A. Enzymatic acticity , temperature
- B. Enzymatic activity ,pH
- C. Temperature enzye activity
- D. Substrate concentration enzymatic activity

Answer: C



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7. which one of the following structural formula of two organic compounds is correctly identified along with its related function ?



A. A: Lecithin -a component of cell membrane

B. B: Adenine - a nucleotide that makes up nucleic acids

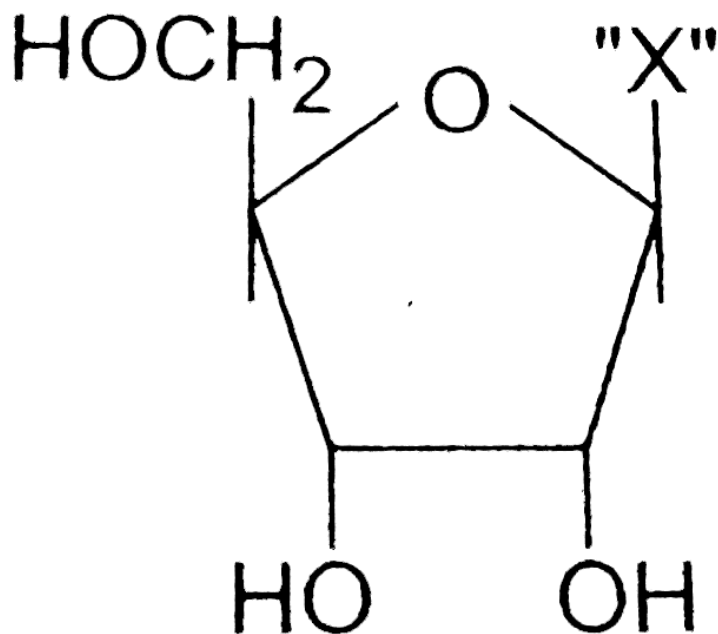
C. A: Triglyceride - major source of energy

D. B: Uracil -a Component of DNA

Answer: B



8. Given in fig .9.38 is the diagrammatic representation of one of the categories of small molecule weight organic compounds in the living tissues .Identify the category shown and the one block component "X" in it .



- A.

category	Component
amino acid	NH_2

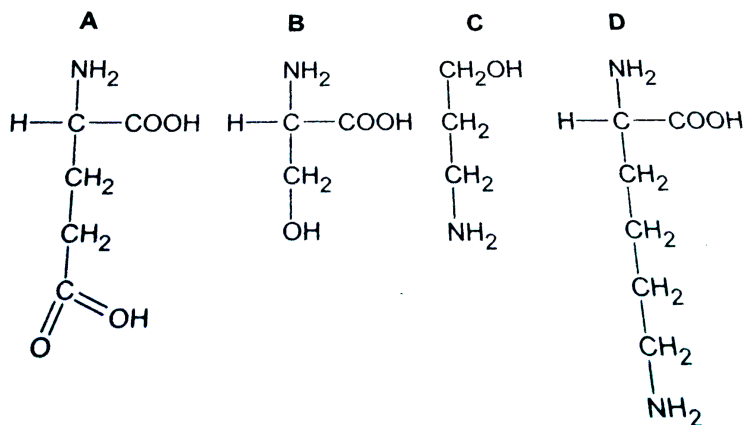
- | | | |
|----|-------------|-----------|
| | category | Component |
| B. | Nucleotide | Adenine |
| | category | Component |
| C. | Nucleoside | Uracil |
| | category | Component |
| D. | Cholesterol | Guanine |

Answer: C



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9. which one out of A-D given below corectly represents the structural formula of the basic amino acid ?



A. D

B. A

C. B

D. C

Answer: A



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10. which one is the most abundant protein in the animal world ?

A. Collagen

B. insulin

C. Trypsin

D. Haemoglobin

Answer: A



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11. which one of the following biomolecules is correctly characterized ?

- A. Lecithin -A phosphorylated glyceride found in the 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

Answer: A



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12. A phosphoglyceride is always made up of

- A. Only an unsaturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached .

- B. A saturated or unsaturated fatty acid estified to a glycerol molecule to which a phosphate group is also attached .
- C. A saturated or unsaturated fatty acid esterified to a phosphate group which is also attached to a glycerol molecule .
- D. Only a saturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached .

Answer: B



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13. the essential chemical components of many enzymes are

- A. Nucleic acids
- B. Carbihydrates
- C. Vitamins
- D. Proteins

Answer: D



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14. the transition state structure of the substrate formed during and enzymatic reaction is

- A. Permanent but unstable
- B. Transient and unstable
- C. Permanent and stable
- D. Transient but stable

Answer: B



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15. the most abundant intracellular cation is

A. Ca^{+}

B. H^{+}

C. K^{+}

D. Na^{+}

Answer: C



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16. Macromolecule chitin is a

A. Phosphorous - containing polysaccharide

B. Sulfur-containing polysaccharide

C. simple polysaccharide

D. nitrogen-containing polysaccharide

Answer: D



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17. which one of the following is a non-reducing carbohydrate?

A. Maltose

B. Sucrose

C. Lactose

D. Ribose 5-phosphate

Answer: B



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18. 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. Molonate is a competitive inhibitor of succinic dehydrogenase

Answer: B



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19. which one of the following statements is incorrect ?

- A. the presence of the competitive inhibitor decreases the K_m of the enzyme for the substrate .
- B. A competitive inhibitor reacts reversibly with the enzyme to form an enzyme - inhibitor complex.
- C. in competitive inhibition , the inhibitor molecule is not chemically changed by the enzyme .

D. the competitive inhibitor does not affect the rate of breakdown of the enzyme - substrate complex .

Answer: A



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20. the chitinous exoskeleton of arthropods is formed by the polymerisation of

A. Lipogycans

B. Keratin sulphate and chondrotin sulphate

C. D-glucosamine

D. N-acetyl glucosamine

Answer: C



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21. which one of the following statements is wrong?

- A. Sucrose is a disaccharide .
- B. Cellulose is a polysaccharide .
- C. Uracil is a pyrimidine .
- D. Glycine is a sulphur containing amino acid .

Answer: D



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22. A typical fat molecule is made up of

- A. three glycerol molecule and one fatty acid molecule
- B. one glycerol and three fatty acid molecule
- C. one glycerol and one fatty acid molecule
- D. three glycerol and three fatty acid molecules

Answer: B



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23. A non- proteinaceous enzyme is

A. Ligase

B. Deoxyribonuclease

C. Lysozyme

D. Ribozyme

Answer: D



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24. which of the following biomolecules is common to respiration - mediated breakdown of fats , carbohydrates and proteins ?

- A. pyruvic acid
- B. Acetyl CoA
- C. Glucose -6-phosphate
- D. Fructose 1,6 - bisphosphate

Answer: B



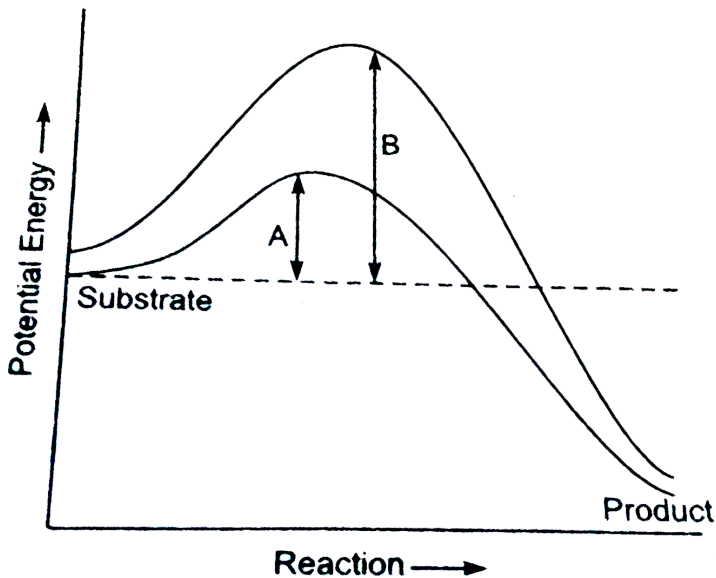
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25. which of the following is the least likely to be involved in stabilizing the three -dimensional folding of most proteins ?

- A. Hydrophobic interaction
- B. Ester bonds
- C. Hydrogen bonds
- D. Electrostatic interaction

Answer: B

26. which of the following describes the given graph correctly ?



- A. Endothermic reaction with energy A in absence of enzyme and B in presence of enzyme
- B. Exothermic reaction with energy A in absence of enzyme and B in presence of enzyme

C. Endothermic reaction with energy A in presence of enzyme and B in absence of enzyme

D. Exothermic reaction with energy A in presence of enzyme and B absence of enzyme .

Answer: D



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