

BIOMOLECULES

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| 1. Which is protein in nature?
(a) Cellulose (b) Terylene
(c) Polythene (d) Silk and wool | (c) Rennin, helicase and hyaluronidase – enzymes
(d) Optic, oculomotor, vagus – sensory nerves |
| 2. Which is a reducing sugar?
(a) Cellulose (b) Maltose
(c) Sucrose (d) Starch | 9. Chitin as exoskeleton is found in:
(a) Periplaneta (b) Ascaris
(c) Pheretima (d) Hydra |
| 3. Among following natural materials, largest amount of cellulose is found in:
(a) Wood (b) Fruit pulp
(c) Wheat straw (d) Cotton fibres | 10. Which enzyme converts glucose into alcohol?
(a) Zymase (b) Diastase
(c) Invertase (d) Lipase |
| 4. An The polysaccharide formed from fructose monomers only is:
(a) Insulin (b) Lignin
(c) Cellulose (d) Amylose | 11. One mole of glucose on metabolism librate how many kilo calories of energy?
(a) 180 (b) 80
(c) 160 (d) 280 |
| 5. An organic substance bound to an enzyme and essential for the activity is called:
(a) Coenzyme (b) Holoenzyme
(c) Apoenzyme (d) Isoenzyme | 12. Phosphodiester bond in present in:
(a) ATP (b) ADP
(c) C-AMP (d) None of these |
| 6. One turn of the helix in a B-form of DNA is approximately:
(a) 20 nm (b) 0.34 nm
(c) 3.4 nm (d) 2 nm | 13. In which virus, DNA is double stranded?
(a) Hepatitis – A (b) Hepatitis – B
(c) Hepatitis – C (d) Hepatitis – D |
| 7. Anti parallel strands of a DNA molecules means that:
(a) One strand turns anti-clockwise
(b) One strand turns clockwise
(c) Phosphate groups of two DNA strands at their ends, share the same position
(d) Phosphate groups at the starts of two DNA stands (poles) are in opposite position | 14. Which is the most abundant protein in earth?
(a) Lignin (b) Rubisco
(c) Cellulose (d) Pectin |
| 8. In which one of the following sets of three items, each belong to the category mentioned against them?
(a) Lysine, glycine, thiamine – amino acids
(b) Myosin, oxytocin and gastrin – hormones | 15. Essential amino acid which is synthesized by plant is:
(a) Phenylalanine (b) Leucine
(c) Arginine (d) Serine |
| | 16. Enzyme responsible for conversion of glucose to C_2H_5OH is:
(a) Zymase (b) Invertase
(c) Sucrase (d) Maltase |
| | 17. How many of the twenty two amino acids are essential acids for children?
(a) 6 (b) 8
(c) 7 (d) 7 |

18. The bacterial cell wall is formed of:
(a) Cellulose (b) Hemicellulose
(c) Both (a) and (b) (d) Peptidoglycan
(e) Glycogen
19. Allosteric modulation is due to the inhibitory action of enzyme by:
(a) Competitive inhibition
(b) Substrate concentration
(c) Production of reaction
(d) Enzyme concentration
(e) Non-competitive inhibition
20. Name the elements which occur in nucleic acid macromolecule:
(a) C, H, O, N, S (b) C, O, N, S
(c) C, O, P, S (d) C, H, O, N, P
(e) H, O, P
21. The simple polyhydroxy ketone molecule containing 3-7 carbons is a:
(a) Disaccharide (b) Monosaccharide
(c) Polysaccharide (d) Dipeptide
(e) Polypeptide
22. In the double helix model of DNA, how far is each base pair from the next base pair?
(a) 3.5 nm (b) 0.34 nm
(c) 2.0 nm (d) 34 nm
(e) 0.034 nm
23. Cellulose, the most important constituent of plant cell wall is made up of:
(a) Branched chain of glucose molecules linked by α , 1, 6, glycosidic bond at the site of branching
(b) Unbranched chain of glucose molecules linked by α , 1, 4, glycosidic bond
(c) Branched chain of glucose molecules linked by β , 1, 4, glycosidic bond
(d) Unbranched chain of glucose molecules linked by β , 1, 4 glycoside bond
24. Feed back inhibition of an enzymatic reaction is caused by:
(a) Substrate (b) Enzyme
(c) End product (d) Rise in temperature
25. A substance unrelated to substrate but capable of reversibly changing activity of enzyme by binding a site other than active site is called:
(a) Competitive inhibitor
(b) Non-competitive inhibitor
(c) Catalytic inhibitor
(d) Allosteric modulator/inhibitor
26. The enzyme which combine with non-protein part of form a functional enzyme is known as:
(a) Co-enzyme (b) Holoenzyme
(c) Apoenzyme (d) Prosthetic group
27. A complex polysaccharide produced from sucrose by the bacterium *Leuonostoc mesenteroides* is:
(a) Chitin (b) Starch
(c) Cellulose (d) Dextran
28. Which of the following enzyme is used in making detergent
(a) Amylase (b) Cellulase
(c) Protease (d) Peptidase
29. Enzyme found functional in lysosome is:
(a) Acid phosphatase (b) Basic phosphate
(c) Oxidoreductase (d) Lyases
30. 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 at present
(d) Help in regulating metabolism

31. Carbohydrates are most abundant biomolecules on each are produced by:
- All bacteria, fungi and algae
 - Fungi, algae and green plant cells
 - Some bacteria, algae and green plant cells
 - Viruses, fungi and bacteria
32. A competitive inhibitor of succinic dehydrogenase is:
- α -ketoglutarate
 - Malate
 - Malonate
 - Oxaloacetate
33. Which one of the following pairs of nitrogenous bases of nucleic acids, is wrongly matched with the category mentioned against it?
- Guanine, Adenine – Purines
 - Adenine, Thymine – Purines
 - Thymine, Uracil – Pyrimidines
 - Uracil, Cytosine – Pyrimidines
34. An example of feedback inhibition is:
- Cyanide action on cytochromes
 - Sulpha drug on folic acid synthesizing bacteria
 - Allosteric inhibition of hexokinase by Glucose-6-P
 - Reaction between succinate and succinate dehydrogenase
 - Inhibition of succinic dehydrogenase by malonate
35. The haploid content of human DNA is:
- 3.3×10^9 bp
 - 3.3×10^9 kbp
 - 4.6×10^6 bp
 - 48502 bp
 - 1.65×10^9 bp
36. Most common monomer of carbohydrates is:
- Glucose
 - Fructose
 - Sucrose
 - Maltose
37. Which one of the following is ss RNA?
- TMV
 - T₂-bacteriophage
 - Pox virus
 - $\phi \times 174$
38. Uracil is present in RNA at the place of:
- Adenine
 - Guanine
 - Cytosine
 - Thymine
39. The enzyme that cuts DNA is:
- DNA-polymerase
 - DNA-lyase
 - DNA-ligase
 - Restriction endonuclease
40. Which of the following is named for DNA produced from RNA?
- A-DNA
 - B-DNA
 - C-DNA
 - Z-DNA
41. Quaternary structure of protein:
- Consists of four subunits
 - May be either α or β -helix
 - Is unrelated to the function of protein
 - Is dictated by the primary structure of the subunits
42. Identify the sulphur-containing amino acid?
- Proline
 - Methionine
 - Aspartic acid
 - Tryptophan
43. Which of the following carbohydrates is not a disaccharide?
- Maltose
 - Lactose
 - Sucrose
 - Galactose
44. The effectiveness of an enzymes is affected least by:
- Temperature
 - Concentration of substrate
 - Original activation energy of the system
 - Concentration of the enzyme
45. Starch is a polymer of:
- Glucose
 - Fructose
 - Sucrose
 - Maltose
46. Table sugar is:
- Sucrose
 - Glucose

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| | (c) Fructose | (d) Lactose | | | |
| 47. | Which one of the following is not an unsaturated fatty acid (essential)? | | 49. | Protein which play a significant role in ageing is: | |
| | (a) Oleic acid | (b) Linoleic acid | | (a) Elastin | (b) Collagen |
| | (c) Linolenic acid | (d) Stearic acid | | (c) Actin | (d) Myosin |
| 48. | Which one of the following amino acid plays important role in ornithine cycle? | | 50. | Cyclic photophosphorylation results in the formation of: | |
| | (a) Glycine, methionine | | | (a) NADPH | |
| | (b) Arginine, methionine | | | (b) ATP and NADPH | |
| | (c) Ornithine, citrulline | | | (c) ATP, NADPH and O ₂ | |
| | (d) Citrulline, glycine | | | (d) ATP | |

ANSWERS KEY

1	D	11	D	21	B	31	C	41	D
2	B	12	D	22	B	32	C	42	B
3	D	13	B	23	D	33	B	43	D
4	A	14	B	24	C	34	C	44	C
5	A	15	A	25	D	35	A	45	A
6	C	16	A	26	C	36	A	46	A
7	D	17	C	27	D	37	A	47	D
8	C	18	D	28	C	38	D	48	C
9	A	19	C	29	A	39	D	49	B
10	A	20	D	30	D	40	C	50	D