SAINIK SCHOOL GOPALGANJ
ASSIGNMENTS
BIOLOGY (44)

Chapter 09 : Biomolecules **Class: XI**

General Instructions

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1. All questions are compulsory.
2. Question1 to 10 is multiple choice questions.
3. Question 11 to 15 is short answer questions.
4. Question 16 to 20 is long answer questions

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1. Which biomolecule is distributed more widely in a cell?

a) Chloroplast
b) RNA
c) DNA
d) Spaherosomes

2. Which is a reducing sugar?

a) Galactose
b) Gluconic acid
c) Sucrose
d) β-methyl galactosidase

3. Most abundant RNA in the cell

a) rRNA
b) mRNA
c) tRNA
d) tRNA threonine

4. Name the simplest amino acid

a) Alanine
b) Tyrosine
c) Asparagine
d) Glycine

5. Mineral associated with cytochrome is

a) Mg
b) Cu and Ag
c) Fe
d) Cu

6. The term enzyme was coined by

a) Urey Miller
b) Pasteur
c) Kuhne
d) Buchner

7. β-oxidation occurs in

a) Nucleus
b) Cytoplasm
c) Mitochondria
d) Chloroplast

8. Koshland's theory of enzyme action is known as

a) Lock and key theory
b) Reduced fit theory
c) Induced fit theory
d) Enzyme coenzyme theory

9. A high content of triglycerides are found in

a) VLDL
b) LDL
c) HDL
d) Chylomicrons

10. Haemoglobin has

a) Primary structure
b) Secondary structure
c) Tertiary structure
d) Quaternary structure

11. Classify the following into one of the appropriate bonds – ester bond, peptide bond, glycosidic bond, hydrogen bond.

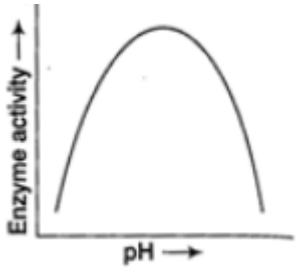
12. (a) How are co-factors different from prosthetic groups?

(b) Name any one sugar, amino acid, fatty acid, nucleotide.

13. Chitin, Cellulose, Glycogen, Polysaccharides and Starch are present in the following options. Choose and write appropriately against each.

a) Cotton fibre b) Exoskeleton of Cockroach c) Liver d) Peeled Potato

14. The functional groups in amino acids are weak bases and acids chemically, the ionization is affected by the pH of the solution. The activity for several enzymes is affected by the ambient pH and is depicted in the curve below, explain in brief.



15. Can rubber be classified as a primary metabolite or a secondary metabolite? Write a short note on the rubber.

16. In catalyzed reactions, the formation of the enzyme-substrate complex is the first step. Explain the other steps until the formation of the product.

17. Explain through the Watson and Crick model, the secondary structure exhibited by the nucleic acids.

18. Explain the different forms of lipids with some examples.

19. Describe the classification of enzymes.

20. (a) Justify with the help of an example of why nucleic acids display secondary structure.

(b) The living state is a non-equilibrium steady-state to be able to perform work – Comment.