



**Avinashilingam Institute for Home Science and Higher Education for Women**  
 (Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)  
 Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B  
 Coimbatore - 641 043, Tamil Nadu, India

**Bachelor's Degree Examination – March 2021**  
**I Semester**

**Class : I UG**

**Major : Biochemistry and Biotechnology**

**Time : 3 Hours**

**Max. Marks: 100**

**18BBCC01 Chemistry of Biomolecules**

**Part A**

**10 x 1=10**

**Choose the correct answer**

1. Identify the ketose from the following
  - a. Fructose
  - b. Glucose
  - c. Galactose
  - d. Ribose
2. Chitin is a polymer of -----
  - a. Galactosamine
  - b. *N*-acetylglucosamine
  - c. Glucose
  - d. Glucosamine
3. Give an example for glycerophospholipids
  - a. Phosphatidyl choline
  - b. Ceramide
  - c. Sphingomyelin
  - d. Cholesterol
4. Eicosanoids synthesized from
  - a. Palmitic acid
  - b. Arachidonic acid
  - c. Cholesterol
  - d. Aminoacid
5. Bile acids are derivatives of
  - a. Carbohydrates
  - b. Cholesterol
  - c. Proteins
  - d. Vitamins
6. Peptidoglycan polymer contains -----
  - a. Galactose
  - b. *N*-acetylglucosamine
  - c. *N*-acetylmuramic acid
  - d. Both b and c
7. Ribonucleic acid contain the following pyrimidine bases
  - a. Thymine and Adenine
  - b. Cytosine and Uracil
  - c. Adenine and Guanine
  - d. Guanine and Uracil
8. Nucleotides have the following components except
  - a. Nitrogenous base
  - b. Pentose
  - c. Phosphate
  - d. Hexose
9. which is not a non polar amino acid
  - a. Alanine
  - b. Valine
  - c. Leucine
  - d. Glycine
10. Two aminoacids can be covalently joined through
  - a. Glycosidic bond
  - b. Peptide bond
  - c. Phosphodiester bond
  - d. Ester bond

**Part B**

**5 x 6 = 30**

**Answer ALL questions**

**Each answer should not exceed 400 words or two pages**

- 11.a. Describe the structure and biological importance of sucrose.  
(or)  
11.b. Discuss about the structural polysaccharide.
- 12.a. Write short note on phospholipids.  
(or)  
12.b. Briefly explain about simple lipids.
- 13.a. Give the chemistry and biological importance of any one of the steroids.  
(or)  
13.b. Explain briefly about fat soluble vitamins.
- 14.a. Describe briefly about biologically important nucleotides.  
(or)  
14.b. Outline the denaturation and renaturation of DNA helix.
- 15.a. How are amino acids classified?  
(or)  
15.b. Describe the non protein amino acids.

**Part C**

**5 x 12 = 60**

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

- 16.a. Explain in detail about the classification of carbohydrates.  
(or)  
16.b. Discuss about storage polysaccharides.
- 17.a. Define lipids. How lipids are classified based on backbone structure?  
(or)  
17.b. Explain the following (i) Triacyl glycerol (ii) Sulpholipids
- 18.a. Write about the structure of peptidoglycan.  
(or)  
18.b. Write an essay about blood group polysaccharides.
- 19.a. Explain the structure of DNA with neat diagram.  
(or)  
19.b. Discuss about the types of RNA.
- 20.a. Explain about the reactions of amino acids.  
(or)  
20.b. Discuss in detail about the classification of amino acids.

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