

NOVEMBER/DECEMBER 2019

BABC15C — BIOCHEMISTRY – I

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is a Disaccharide? Give two examples.
2. Is starch reducing or non-reducing? Why?
3. Give the zwitter ionic form of glycine and glutamine.
4. What are sulfur containing amino acids? Give two examples.
5. BSA dissolves better in normal saline than in water. Why?
6. What is a fibrous protein?
7. What is emulsification of fat?
8. What are derived lipids? Give examples.
9. Differentiate between a nucleotide and polynucleotide.
10. Give the functions of rRNA.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Give any five chemical reactions of fructose.

Or

- (b) Write a brief note on mutarotation and anomers.

12. (a) How are amino acids classified based on their side chain?

Or

- (b) Write the reaction of amino acids with ninhydrin.

13. (a) Explain the quaternary structure of proteins.

Or

- (b) How are proteins classified based on their solubility, shape and size?

14. (a) Write about the functions of bile acids and bile salts.

Or

- (b) Enumerate the functions of cholesterol and simple lipids



15. (a) Outline the structure of mRNA and rRNA.

Or

- (b) Enumerate the biological functions of nucleic acids.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. How are carbohydrates classified? Explain with examples.

17. Discuss in detail about the common properties of amino acids.

18. Write an essay on the secondary structures of proteins.

19. How are lipids classified? Give examples for each class of lipids.

20. Detail on the occurrence, structure and biological functions of tRNA.