

**ADVANCED DIPLOMA IN BIOINFORMATICS (A.D.B.) (CBCS-2019 COURSE)**  
**A.D.B. SEM-I : WINTER :- 2021**  
**SUBJECT: BIOCHEMISTRY**

**Day : Thursday**  
**Date 27-01-2022**

**W-21121-2021**

**Time : 10:00 AM-11:30 AM**  
**Max. Marks: 30**

**N. B. :**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer books.

**SECTION – I**

**Q. 1** Answer **ANY FIVE** of the following: **(05)**

- a) The monomer of chitin is -----
- b) Define racemic mixture.
- c) Write two significance of triacylglycerol in certain animals.
- d) Draw the structure of two epimers of glucose.
- e) What are sugar acids? Give an example.
- f) Name and draw the structure of major component of beeswax.
- g) What is the importance of NANA? Draw the structure.

**Q. 2** Attempt **ANY TWO** of the following: **(10)**

- a) Describe the structure of peptidoglycans and give its importance.
- b) Write a short note on lactose intolerance.
- c) Explain the structure and biological significance of cholesterol.

**SECTION – II**

**Q. 3** Answer **ANY FIVE** of the following: **(05)**

- a) The cofactor for enzyme Hexokinase is -----
- b) Define conjugated proteins. Give 2 examples.
- c) Write 2 characteristics of  $\alpha$ -Helical structure of protein.
- d) Define Bohr effect.
- e) Name any 2 amino acids with aromatic R-groups.
- f) What do you mean by turnover number?
- g) Depict a peptide bond formation between two amino acids.

**Q. 4** Attempt **ANY TWO** of the following: **(10)**

- a) Describe in brief the Ramachandran plot.
- b) What do you mean by amphoteric nature of amino acids? Explain with example.
- c) Write a short note on transport of  $H^+$  and  $CO_2$  by Hemoglobin.

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