

Exam. Code : 107401

Subject Code : 1825

B.Sc. Biotechnology 1st Semester

BIOCHEMISTRY-A

Paper-BT-9

Time Allowed—3 Hours] [Maximum Marks—40

Note :— Attempt **five** questions, selecting at least **one** question from each Section. The **fifth** question may be attempted from any Section.

SECTION—A

1. Give the structure of water molecules. Discuss the physio-chemical properties of water. 8
2. (a) Define buffer. Give the mechanism of action of buffer with suitable examples.
- (b) Write a note on dissociation coefficient. 6+2=8

SECTION—B

3. Define carbohydrates. Enumerate various classes of carbohydrates. Discuss storage polysaccharides. 8
4. (a) What are peptidoglycans ? Explain briefly with suitable examples.
- (b) Differentiate between cellulose and starch.
- (c) Write a note on sugar acids. 4+2+2

SECTION—C

5. (a) Define lipids. Discuss in detail the gangliosides.
(b) Comment briefly on how carbohydrates act as informational molecules. $6+2=8$
6. What are Proteoglycans ? Discuss their structures and functions. 8

SECTION—D

7. (a) Enlist different forms of DNA. Explain their structures and functions. $6+2=8$
(b) Write a note on secondary messenger. $6+2=8$
8. Name various forms of RNA. Explain their structures and functions. 8