

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

1	1	7	0	6
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Exam. Code :

5	0	1	1
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Bachelor of Science (FYUP) 1st Semester
(2124)

BIO-CHEMISTRY

Paper : Biomolecules I BCHDSC1

Time Allowed : Three Hours]

[Maximum Marks : 60

Note :— Attempt **five** questions in all, including Q. No. 1 which is compulsory and selecting **one** question from each Unit.

1. Explain briefly the following terms :

(a) Anomer

(b) Waxes

(c) Bile acids

(d) Mutarotation

(e) pH and pOH

(f) Cerebrosides

(g) Steroidal hormones

(h) Dialysis

- (i) Acid base indicators
- (j) Fischer and Haworth structure of carbohydrates
- (k) Fats as source of energy
- (l) Prostacyclins 12×1

UNIT—I

- 2. (a) Derive Henderson - Hasselbalch equation.
- (b) Explain solvent properties of water. 6,6
- 3. (a) Discuss carbonate bicarbonate buffer effects in biological system.
- (b) Explain structure and dissociation of water. 6,6

UNIT—II

- 4. (a) Give general reactions of monosaccharides.
- (b) Discuss structure and biological significance of sucrose and lactose. 6,6
- 5. (a) Explain homo-and heteropolysaccharides with examples.
- (b) Discuss derivatives of monosaccharides. 6,6

UNIT—III

- 6. (a) Classify fatty acids with examples.
- (b) Explain structure and functions of any two phospholipids. 6,6

7. (a) Discuss various reactions of functional groups of fatty acids.
(b) Describe saponification, iodine, acetyl and peroxide values of fats. 6,6

UNIT—IV

8. (a) Discuss classification and biological properties of lipoproteins.
(b) Give classification of terpenes and their biological significance. 6,6
9. (a) Explain structure and biological significance of cholesterol and liposomes.
(b) Elaborate structure and properties of leukotrienes and thromboxanes. 6,6