

Bachelor of Science (B.Sc.) Semester—I (C.B.S.) Examination

BIO-CHEMISTRY (Biomolecules & Human Physiology)

Compulsory Paper—1

Time : Three Hours]

[Maximum Marks : 50

Note :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

1. Describe the reaction of carbohydrates with :

(a) Phenyl hydrazine

5

(b) Na/Hg.

5

OR

Give classification of carbohydrates with suitable examples.

10

2. Describe :

(a) Saponification reaction and number.

5

(b) Rancidity of fats and acid value.

5

OR

Describe the classification of lipids with suitable examples.

10

3. Describe the molecular organization of contractile system.

10

OR

Describe the digestion and absorption of fats in alimentary canal.

10

4. Describe the composition of membranes.

10

OR

(a) Describe the Na/K Pump.

5

(b) Describe simple diffusion with suitable examples.

5

5. Answer any **ten** of the following :

(i) Define epimerism.

(ii) Draw a chemical structure of β -D-glucopyranose.

(iii) Name the monosaccharides present in sucrose.

(iv) Write chemical structure of 9, 12, octadecadienoic acid.

(v) Name any one essential fatty acid.

(vi) What is Reichert-Meissel Number ?

(vii) What is G-actin and F-actin ?

(viii) Name the receptor protein present in post synaptic membrane of a neuromuscular junction.

(ix) Name any one enzyme present in salivary juice.

(x) Name the scientists who proposed fluid-mosaic model of cell membrane.

(xi) Na/K pump is an example of which type of transport.

(xii) What is meant by integral membrane proteins ?

1×10=10