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NEPWT—319—2024

FACULTY OF SCIENCE

M.Sc. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

CHEMISTRY

Paper-SCHEE-402

(Bio-organic Chemistry)

(Thursday, 19-12-2024)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—60

Note :— (i) Question No. 1 is compulsory.

(ii) Solve any *three* questions from remaining five.

1. Answer the following questions : 15

(a) How will you distinguish between prokaryotic cell and eukaryotic cell ?

(b) Define monosaccharide, disaccharide and polysaccharide with suitable examples.

(c) Discuss chemical and enzymatic hydrolysis of proteins to peptides.

2. (a) Write a note on purine and pyrimidine bases of nucleic acids. 8

(b) Explain structure and biological functions of glucosaminoglycans. 7

P.T.O.

3. (a) Discuss properties and biological functions of lipid aggregates-micelles and bilayers. 8
- (b) Write a note on amino acid metabolism degradation. 7
4. (a) Discuss Kreb's cycle in detail. 8
- (b) What are lipoproteins ? Give their composition and function. 7
5. (a) Discuss metabolic processes in detail. 8
- (b) Discuss transcription and replication of DNA. 7
6. Write short notes on the following : 15
- (a) Chemistry of tryptophan releasing hormones
- (b) Structure and function of triacylglycerols
- (c) Functions of intracellular organelles.