

KNT/KW/16/5105

Bachelor of Science (B.Sc.) Semester-II (C.B.S.) Examination

BIOTECHNOLOGY

(Cell Constituents & Enzymology)

Compulsory Paper-2

Time : Three Hours]

[Maximum Marks : 50

N.B. :— All questions are compulsory and carry equal marks.

1. Describe the classification of carbohydrates in detail. 10

OR

(a) Describe the structure of starch. 5

(b) Write a note on heteropolysaccharides. 5

2. Write short notes on :

(a) Triglycerides

(b) Saturated and unsaturated fatty acids

(c) Glycerophospholipids

(d) Saponification value. 2½ each

OR

(e) Terpenes

(f) Lecithin

(g) Sphingomyelins

(h) Rancidity and acid value. 2½ each

3. Give the nomenclature and classification of enzymes with suitable examples. 10

OR

Discuss the concept of Isoenzyme and multienzyme with suitable example. 10

4. Describe the methods of assay of enzymes. 10

OR

Derive MM equation and give its transformations. 10

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

- (i) Draw a chemical structure of α -D-Glucopyranose.
- (ii) What is mutarotation ?
- (iii) What is Anomerism ?
- (iv) What is the difference between fat and oil ?
- (v) Define iodine value.
- (vi) What type of lipids are mostly present in cell membrane ?
- (vii) Define Holoenzyme.
- (viii) Define allosteric enzyme.
- (ix) What is active site ?
- (x) Define K_M .
- (xi) What is catalytic efficiency ?
- (xii) Define activation energy.

1×10=10