NKT/KS/17/5120

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

MICROBIOLOGY

(Chemistry of Organic Constituents and Enzymology)

Paper—I

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. (a) Describe the structure of starch. 5

(b) Describe the structure of glycerophospholipid. 5

OR

(c) Describe the structure of glycogen and hyaluronic acid. 5

(d) Give the structure of raffinose and lactose. 5

2. (a) Describe the α-helical and β-pleated sheet structure of proteins. 10

OR

(b) Discuss the structures of dicarboxylic acid mono amino acids diaminomono carboxylic acids and aromatic amino acids. 10

3. (a) Explain why enzymes are called catalysts. 2½

(b) Discuss the significance of LB plot. 2½

(c) Explain the Allosterism with suitable example. 2½

(d) Explain the terms holozyme, apoenzyme and co-enzyme. 2½

OR

(e) Write a note on multienzyme complex. 2½

(f) Explain isoenzyme with suitable example. 2½

(g) Discuss the different classes of enzymes. 2½

(h) Explain Katal, specific activity and turn over number. 2½

4. (a) Describe the different types of RNA and give their functions. 10

OR

(b) Describe the structure of different types of purines and pyrimidine bases. 10

5. Solve any **TEN** :—

(i) What are epimers ?

(ii) What are sterols ?

(iii) What are simple triglycerides ?

(iv) Name any two quaternary proteins.

(v) What are neutral amino acids ?

(vi) What is proline ?

(vii) What are zymogens ?

(viii) What is a transition state ?

(ix) What is activation energy ?

(x) What are nucleosides ?

(xi) What is Z-DNA ?

(xii) What is beri-beri ? 1×10