

2055
Bachelor of Science (FYUP) Second Semester
Microbiology
Paper- Microbial Physiology

Time allowed: 3 Hours

Max. Marks: 67

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) Classify the monosaccharides on the basis of aldehyde groups. (3)
- b) What are the compound lipids? Give examples. (3)
- c) Give the basic structure of RNA. (3)
- d) What do you mean by covalent modification? Explain. (3)
- e) What is phosphorylation? Give their types. (3)

UNIT - I

- II. a) What are derived lipids? Give examples. (2)
- b) Differentiate constitutive enzymes and inducible enzymes. (4)
- c) What are phospholipids? Discuss their structure and functions. (7)
- III. a) Discuss the structure of fructose. (3)
- b) What are co enzymes and cofactors? Discuss their importance. (4)
- c) What are polysaccharides? Give the structure and functions of starch. (6)

UNIT - II

- IV. a) What do you mean by primary proteins? Give examples. (3)
- b) Give the functions of DNA. (4)
- c) Describe the structure and functions of m-RNA. (6)
- V. a) What are proteins? Discuss their functions. (3)
- b) What do you mean by secondary proteins? Discuss their structure. (5)
- c) Describe the structure and functions of t-RNA. (5)

(2)

UNIT - III

- VI. a) Discuss the physical properties of enzymes. (5)
b) Describe the factors affecting enzyme activity. (8)
- VII. a) What are the rules for naming enzymes? (3)
b) Explain the lock and key hypothesis. (4)
c) What do you mean by Michaelis-Menten model of enzyme kinetics? Discuss. (6)

UNIT-IV

- VIII. a) What is substrate level phosphorylation? Explain. (6)
b) Discuss cyclic photophosphorylation. (7)
- IX. Write a note on:-
a) Tricarboxylic Acid Cycle
b) Pentose Phosphate Pathway (2×6½)

x-x-x