

1128

B.A./B.Sc. (General) First Semester
Microbiology

MIC-102: Microbial, Physiology Metabolism – I

Time allowed: 3 Hours

Max. Marks: 30

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Explain the following:-

- a) Pychrophiles vs Psychrotrophs
- b) EMB Agar medium
- c) Horizontal gene transfer
- d) Importance of active site of enzymes
- e) Step of conversion of pyruvate to acetyl CoA
- f) Overall reaction of TCA cycle

(6x1)

UNIT – I

- II. a) Define microbial growth and explain various environmental factors affecting microbial growth.
- b) Write down major nutritional types of microorganisms based on energy, electron and carbon sources,

(2x3)

III. Write note on:-

- a) Anaerobic growth media
- b) Requirement of N and P in culture media
- c) Importance of MacConky agar medium

(3x2)

UNIT – II

IV. Write note on:-

- a) Hydrolases and Lyases with suitable reactions
- b) Enzyme inhibitors
- c) Effect of substrate concentration on enzyme activity

(3x2)

(2)

V. Write note on:-

- a) Significance of K_m value
- b) Covalent modification of enzymes.
- c) Allosteric enzymes

(3x2)

UNIT – III

VI. a) Why are fermentation products made during glycolysis?

b) Flow chart of ED pathway.

(2,4)

VII. Write note on:-

- a) Substrate level phosphorylation
- b) Anaplerotic pathways

(2x3)

UNIT – IV

VIII. Write note on:-

- a) Role of cAMP in Lac operon
- b) Importance of competence during transformation
- c) Structural genes of tip operon

(3x2)

IX. Write note on:-

- a) Interrupted mating experiment
- b) Specialized transduction

(3,3)