Exam.Code:5013
Sub. Code: 11813

2125

Bachelor of Science (FYUP) Third Semester

Biochemistry

Enzymology And Bioenergetics

(Common with B.Sc. Biotechnology 3rd Semester NEP)

Time allowed: 3 Hours

Max. Marks: 60

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

x-x-x

I. Answer the following:-

a) Define Activation energy and transition state.

b) Write down units of enzyme activity.

c) What is the significance of Km?

d) What are Regulatory enzymes? Give one Example.

e) Name the inhibitors of Electron transport chain.

f) Define Abzymes.

g) What is the importance of enzyme inhibitors?

h) Define enzyme specificity. (8x1½)

UNIT - I

II. a) Explain the Clinical significance of Isoenzymes.

b) What is EC Number of enzymes? Give the significance of EC number by taking examples from two classes of enzymes. (4,8)

III. Write short note on:-

a) Zymogens

b) Describe various Characteristics of Enzymes (4,8)

UNIT - II

IV. a) Explain how enzyme activity is influenced by substrate concentration.

b) Write in detail Various types of enzyme inhibitions using Lineweaver Burk plots.(4,8)

V. a) Describe the regulation of enzyme activity by allosteric enzymes.

b) Explain Multisubstrate enzyme. (8,4)

P.T.O.

UNIT - III

VI. a) Explain the mechanism of acid base and covalent catalysis for enzymatic reactions.

b) Discuss Multienzyme complexes. (4,8)

VII. Write short notes on:-

a) Enzyme Regulation.

b) Explain the role of metals in enzyme catalysis. (8,4)

UNIT - IV

VIII. a) Explain the various components of electron transport chain.

b) ATP is high energy phosphate compound. Explain. (8,4)

IX. a) Write down the various uncouplers and inhibitors of Oxidative phosphorylation.

b) Explain the mechanism of oxidative phosphorylation. (4,8)

x-x-x