Exam.Code:0436
Sub. Code: 3475

1058

M.Sc. (Biotechnology) Second Semester
MBIO-204: Enzymology and Enzyme Technology

Time allowed: 3 Hours Max. Marks: 80

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

b) What is turnover number in reference to enzyme?

c) Define catalytic antibodies?

d) Explain Isozymes with examples

e) Define specific activity of enzyme

f) What is holoenzyme?

g) What is zymogens?

h) Define biosensors with example (8x2)

UNIT – I

II. Discuss Enzyme nomenclature and classification in detail. (16)

III. a) Discuss the effect of pH and temperature on enzyme activity.

b) Discuss transition state theory. (10,6)

UNIT – II

IV. a) Derive Michaelis-Menton equation and give its significance.

c) Explain Line Weaver-Burke equation (10,6)

V. Discuss different types of enzyme inhibitors. Graphically explain effect of enzyme inhibitors on K_M and V_{max}. (16)

UNIT – III

VI. a) Give mechanism of action of lysozyme.

b) Discuss the role of metal ions in enzyme catalysis. (7,9)

P.T.O.

VII. a) Explain the mechanism of action of chymotrypsin.

b) Write short note on action of DNA polymerase (8,8)

UNIT – IV

VIII. a) Explain the extraction and assay of membrane bound enzymes.

b) Discuss the effect of fluidity on enzyme activity.

c) Explain allosteric interactions (6,6,4)

IX. Write short note on following:-

a) Glyco proteins

b) Functions of Biosensors

c) Product inhibition (6,5,5)

x-x-x