Exam.Code:0037
Sub. Code: 0983

1127

B.Sc. (Hons.) Biotechnology
Fifth Semester
BIOT-Sem-V-II-T: Enzymology

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. Explain the following briefly:-

a) Active site of enzyme

b) Induced fit hypothesis

c) Co-enzyme and co-factors

d) Turn over number

e) Iso-enzymes

f) Prosthetic group

g) Allosteric enzymes

h) Function of amylases

i) Name of three enzymes used in meat and leather industry

j) Thermophilic enzymes (1.5x10)

UNIT – I

II. Explain the following:-
a) General properties of enzymes
b) Lock and key hypothesis
c) Coenzymes involved in different metabolic pathways (4,4,5)

III. a) Explain concept of ES complex formation and its role in enzyme action
b) Explain transition state hypothesis in terms of enzyme activity (6,7)

UNIT – II

IV. a) Explain effect of temperature and pH on enzyme activity
b) Describe with example application of enzymes as thrombolytic and anti-inflammatory agents (8,5)

P.T.O.

V. Derive and discuss Michaelis-Menten kinetics equation. (13)

UNIT – III

VI. Explain the following:-

a) Allosteric regulation
b) Ribozymes
c) Metal ion catalysis (4,4,5)

VII. Write short note on the following:-

a) Catalytic antibodies
b) Acid base catalysis
c) Multi-enzyme complex (4,4,5)

UNIT – IV

VIII. a) Explain significance of immobilization of enzymes.
b) Explain in detail two methods of enzyme immobilization. (5,8)

IX. Write short note on:-

a) Function and application of lipases
b) Metal degrading enzymes
c) Cellulose degrading enzymes (6,3,4)

x-x-x