

BACHELOR OF SCIENCE (B.Sc.) THIRD SEMESTER (OLD)
B.Sc. 2361 - MICROBIOLOGY : PAPER-I (Enzymology And Metabolism)

P. Pages : 2

Time : Three Hours



GUG/W/18/1272

Max. Marks : 50

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- Notes : 1. All questions carry equal marks.
3. All questions are compulsory.

1. Describe enzyme classification in detail. 10

OR

Derive Michaelis Menten equation. 10

2. Describe the EMP pathway in detail. 10

OR

What is phosphorylation? Describe oxidative phosphorylation. 10

3. a) Write note on induced fit theory. 2½

b) Explain the simple sequential model of allosteric enzyme. 2½

c) Give the diagrammatic representation of the HMP pathway. 2½

d) Explain acetone butanol fermentation. 2½

OR

e) Explain Irreversible enzyme inhibition. 2½

f) Write note on allosteric modulator. 2½

g) Write about anapleuratic reaction. 2½

h) Give the mechanism of ATP generation. 2½

4. a) Write about multienzyme complex. 2½

b) Write the application of Immobilised enzyme. 2½

c) Give the outline of PK pathway. 2½

d) Write a note on metabolic mill. 2½

OR

e) Explain Isoenzyme with example. 2½

- f) Differentiate between chemical catalyst and biocatalyst. 2½
- g) Give the outline of β – oxidation of fatty acid. 2½
- h) Give the brief idea about the anaerobic respiration. 2½
5. a) What is transition state? 1
- b) What is cofactor? 1
- c) Give the example of competitive inhibitor. 1
- d) Define activation energy. 1
- e) What is f_0f_1 ATPase. 1
- f) Define turn over number. 1
- g) What is substrate level phosphorylation? 1
- h) Name the bacteria in which ED pathway operates. 1
- i) What is catabolism? 1
- j) Give the example of saturated fatty acids? 1
- k) What is significance of $NADH_2$. 1
- l) What is fermentation? 1
