

B.Sc. (With Credits)-Regular-Semester 2012 Sem III
B.Sc.2371 - Biotechnology : Paper-I (Cell Metabolism)

P. Pages : 2

Time : Three Hours



GUG/W/16/3328

Max. Marks : 50

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- Notes : 1. All questions are compulsory & carry equal marks.
2. Draw well labelled diagram wherever necessary.

1. Discuss the concept of Free energy, Entropy, Enthalpy and redox potential. 10

OR

Give the detail account on TCA cycle. 10

2. Give the detail account on β -oxidation of fatty acid. 10

OR

Discuss about biosynthesis of pyrimidines. 10

3. a) Explain about redox potential. 2½

b) Describe inhibitors of glycolysis pathway. 2½

c) What is β -oxidation of fatty acid? 2½

d) Give the metabolic disorders of urea cycle. 2½

OR

e) Discuss ATP-ADP cycle. 2½

f) Give the brief discussion of TCA cycle. 2½

g) What is Niemann Pick disease? 2½

h) Give the physiological important products of decarboxylation. 2½

4. a) Give the structure of ATP. 2½

b) Discuss about Hill reaction. 2½

c) Describe fatty acid synthase complex. 2½

d) Describe the mechanism of Tay-sachs diseases. 2½

OR

e) Explain the concept of high energy bond. 2½

- f) Discuss ETC in brief. 2½
- g) Explain ketogenesis. 2½
- h) Draw the structures of Adenine and Guanine. 2½

5. Solve any ten.

- a) Define free energy. 1
- b) Give the full form of ATP. 1
- c) What is phosphate potential? 1
- d) Define glyconeogenesis. 1
- e) Who discovered TCA cycle. 1
- f) Which enzyme is required for ATP synthesis? 1
- g) Define fatty acid. 1
- h) Define ketogenesis. 1
- i) Give the symptoms of Fabry's disease. 1
- j) What is transmethylation? 1
- k) Draw the structure of urea. 1
- l) What is transamination? 1
