

B.Sc. CBCS Pattern Semester-III  
**011A - Biotechnology Paper-I : Cell Metabolism**

P. Pages : 2

Time : Three Hours



**GUG/W/23/11618**

Max. Marks : 50

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1. Give the detailed account on ATP-ADP cycle. 10

**OR**

a) Discuss the concept of high energy rich phosphate bonds. 2½

b) Write a note on Redox potential. 2½

c) Explain the concept free energy. 2½

d) Explain in brief energy charge and its potential to metabolic regulation. 2½

2. Explain in detail glycolysis pathway and its regulation. 10

**OR**

a) Write a note on glycogenolysis. 2½

b) Discuss the Hill reaction. 2½

c) Write a note on oxidative phosphorylation. 2½

d) What is by pass reaction? Explain. 2½

3. Explain in detail biosynthesis of fatty acid and fatty acid synthase complex. 10

**OR**

a) Write a note on ketoacidosis. 2½

b) Explain in brief Gaucher's disease. 2½

c) Discuss Fabry's disease. 2½

d) Write a note on oxidation of fatty acid. 2½

4. Discuss the biosynthesis of purines and pyrimidine in detail. 10

**OR**

a) Write a note on transamination. 2½

b) Give the important product of decarboxylation. 2½

c) Give the outline of urea cycle. 2½

d) What is transmethylation? Explain. 2½

5. a) Write the full form of ATP. 1
- b) What is entropy? 1
- c) Define redox potential. 1
- d) Write down the site of Electron transport chain. 1
- e) Which enzyme synthesizes ATP? 1
- f) Define gluconeogenesis. 1
- g) Give the importance of fatty acid in cellular activity. 1
- h) What is ketoacidosis. 1
- i) Give the symptoms of Tay-Sachs disease. 1
- j) Write the metabolic disorder of urea cycle. 1
- k) What is decarboxylation. 1
- l) Give the example of pyrimidine. 1

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