

**C 63055**

(Pages : 2)

Name.....

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019**

(CUCSS)

General Biotechnology

**GB 2C 1—METABOLISM AND BASIC ENZYMOLOGY**

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

**Section A**

*Answer **all** questions.*

*Each question carries weightage 1.*

1. Give relationship between equilibrium constant and standard free energy.
2. What are high energy phosphate compounds ?
3. What is Calvin cycle ?
4. What is pentose phosphate pathway ?
5. Write on urea cycle.
6. What are phospholipids ?
7. Write briefly on oxidation of fatty acids.
8. What is lock-and-key hypothesis of enzyme action ?
9. Define specific activity of an enzyme.
10. What are abzymes ?

(10 x 1 = 10 weightage)

**Section B**

*Answer any seven questions.*

*Each question carries weightage 2.*

11. Briefly explain the concepts of enthalpy and free energy.
12. What is the significance of coupled reactions ?
13. What is glycogenolysis ?
14. Briefly discuss biosynthesis of non-essential amino acids.

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15. Briefly write the function of ribosomes.
16. What is the importance of lipoproteins in biological system ?
17. Briefly write on fatty acid biosynthesis.
18. Explain factors influencing enzyme activity.
19. What is competitive inhibition ?
20. Give applications of enzymatic analysis in industry.

(7 x 2 = 14 weightage)

### Section C

*Answer any two questions.  
Each question carries weightage 6.*

21. Discuss on origin and evolution of metabolic pathways.
22. Write the steps in photophosphorylation.
23. Give a general account of nucleic acid biosynthesis.

(2 x 6 = 12 weightage)