

**B. Sc. Semester-III Examinations-2020**  
**Subject- Biochemistry**  
**Paper- CC-5**  
**Metabolism of Carbohydrates and Lipids (Theory)**

**F.M.: 40**

**Time- 2 hrs.**

**Answer *any eight* questions of the following:**

**5 × 8 = 40**

1. What is bioenergetics? Write the equation showing the relationship between entropy and enthalpy. Differentiate between catabolism and anabolism.
2. Write briefly the role of ATP as energy currency of the cell. Differentiate between substrate level phosphorylation and oxidative phosphorylation.
3. Is there any difference between hexokinase and glucokinase? How pyruvate is converted to lactate and vice-versa?
4. What is fermentation? Write about the fates of pyruvate.
5. Name any two enzymes involved in Gluconeogenesis and briefly discuss any one of them.
6. Mention the reactions of the oxidative stage of Pentose Phosphate Pathway. State the importance of this pathway.
7. What is reciprocal regulation of glycogen metabolism? Write a brief note on Glycogen storage disease.
8. What are anaplerotic reactions? Draw the diagram of Glyoxylate pathway.
9. Write briefly on the initiation reaction of fatty acid bio-synthesis. What do you mean by activation of fatty acids?
10. What is ketoacidosis? Write briefly on fatty acid transport to mitochondria.