

[Time: 2  $\frac{1}{2}$  Hours]

[ Marks : 60]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Draw a neat and labeled diagrams wherever necessary.

- Q-1** Discuss the biochemical reactions involved in HMP Pathway. Add a note on its significance. **12-M**
- OR**
- Q-1 a.** Comment on the causes and symptoms of pompe's and McArdle's Disease. **08-M**
- Q-1 b.** Explain formation and importance of UDP – glucuronate. **04-M**
- Q-2 a.** Describe the metabolic breakdown of amino acids leading to the formation of Succiny – CoA. **08-M**
- OR**
- Q-2 a.** Discuss the biosynthesis of Methionine. **08-M**
- Q-2 b.** Mention the causes and symptoms of following (Any One) **04-M**
- i. Alkaptonuria
  - ii. Maple Syrup Urine Disease
- Q-3** Answer the following (Any two) **12-M**
- a. Comment on the disorders of pyrimidine metabolism.
  - b. Elaborate on Salvage pathway of purines biosynthesis with its significance.
  - c. Discuss pathway for the conversion of IMP to AMP and GMP.
  - d. Explain metabolic pathway for the *de novo* synthesis of UMP.
- Q-4 a.** Describe the biochemical reactions of C-3 pathway. **08-M**
- OR**
- Q-4 a.** What are C-4 plants? Explain C-4 cycle in the plants. **08-M**
- Q-4 b.** Give significance of (Any one) **04-M**
- i. Leguminous plants in nitrogen fixation
  - ii. Leghemoglobin
- Q-5** Give short notes on following (Any Three) **12-M**
- i. Glycogen Phosphorylase
  - ii. Desaturases
  - iii. Albinism
  - iv. Gout
  - v. Role of Nitrogenase
  - vi. Significance CAM Pathway