

Please check whether you have got the right question paper.

N.B: 1) All questions are compulsory.

2) All questions carry equal marks.

3) From question 1 to 4 attempt anyone question out of i and ii.

4) From question 5 attempt anyone out of a and b, c and d, e and f, g and h.

5) Draw flowcharts and diagrams whenever necessary.

- Q.1 a) **Attempt any One.** 02  
i) What is Pompe's disease  
ii) Give Repoport luebering cycle and its significance
- b) **Attempt any One.** 04  
i) Discuss essential fructosuria and fructose intolerance.  
ii) Explain glyoxylate pathway and its significance.
- c) **Attempt any One.** 06  
i) Explain metabolic changes in Diabetes Mellitus  
ii) Give an account of Gluconeogenesis from lactic acid and its significance
- Q.2 a) **Attempt any One.** 02  
i) What is micelles? Explain its role in lipid digestion  
ii) State any two inborn errors of lipid metabolism and their defective enzymes.
- b) **Attempt any One.** 04  
i) Write short note on ketogenesis and ketosis.  
ii) Explain metabolism of HDL and its role in reverse cholesterol transport
- c) **Attempt any One.** 06  
i) Give an account of oxidation of linoleic acid  
ii) Discuss biosynthesis of cholesterol and its regulation. Add a note on cholesterol reducing drugs.
- Q.3 a) **Attempt any One.** 02  
i) Enlist important compounds derived from Glycine.  
ii) Give biochemical lesion and its manifestations in maple syrup disease
- b) **Attempt any One.** 04  
i) Write short note on protein energy malnutrition  
ii) Discuss metabolic link between urea cycle and TCA cycle.
- c) **Attempt any One.** 06  
i) Discuss metabolic and inborn errors of phenylalanine and tyrosine.  
ii) Give an account of metabolism and inborn errors of cysteine. Write briefly on biochemical role of PAPS.

- Q.4 a) **Attempt any One.** 02  
i) Give sources of pyrimidine ring  
ii) Write briefly significance of Antifolate.
- b) **Attempt any One.** 04  
i) Discuss salvage pathways for purine nucleotides synthesis.  
ii) Write short note on immunodeficiency diseases associated with purine metabolism
- c) **Attempt any One.** 06  
i) Discuss biosynthetic pathway for pyrimidine nucleotide and its regulation.  
ii) Give an account of catabolism of purine and metabolic disorder associated with it.
- Q.5 a) Explain the significance of uronic acid pathway. 03  
OR
- b) Discuss absorption of glucose and galactose.  
c) Describe enzymatic and nonenzymatic free radical scavenging systems 03  
OR
- d) Explain synthesis and functions of prostaglandins  
e) Give biosynthesis and clinical significance of polyamines. 03  
OR
- f) Discuss importance of glutamate and glutamine.  
g) Explain reduction of ribonucleoside diphosphates to 2' -deoxyribonucleoside diphosphate 03  
OR
- h) Explain how methotrexate inhibits pyrimidine sythesis.

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