

APRIL 2017

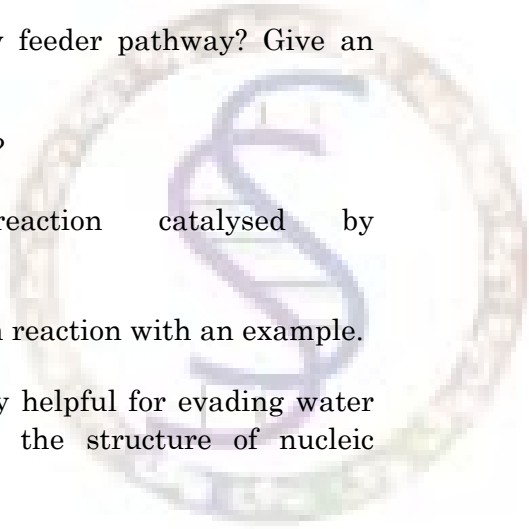
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Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer any TEN questions.

1. Give the reaction catalysed by orotate phosphoribosyl transferase.
 2. Write key enzymes of Gluconeogenesis.
 3. How sulphate ion is assimilated by phosphorylase?
 4. What do you mean by feeder pathway? Give an example.
 5. What is mannose triad?
 6. What is the reaction catalysed by sulphotransferase?
 7. Write a transamination reaction with an example.
 8. What forces are mainly helpful for evading water contact and maintain the structure of nucleic acids?
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9. Write the significance of melanin.
10. Where do you find the amino acid bridge and pentaglycine link?
11. Isocitrate dehydrogenase and isocitrate lyase- what are their roles in carbohydrate metabolism?
12. Write down the reaction catalysed by rhodanase.

PART B — (5 × 5 = 25 marks)

Answer any FIVE questions.

13. Brief about the action of inhibitors of nucleotide biosynthesis.
14. How many cofactors are involved in one carbon transfer? Give the conversion of one carbon unit in tetrahydroxyfolate.
15. How the process of gluconeogenesis is regulated?
16. Write the salvage pathway of purines.
17. How many coenzymes are required by pyruvate dehydrogenase complex? Brief.
18. Discuss briefly the regulatory mechanism involved in heme biosynthesis.
19. Write briefly about formation, transport and excretion of bile pigments.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions.

20. Write in detail about the biosynthesis of O-linked and N-linked glycoproteins.
21. Write the details of three stages of pentose phosphate pathway. Schematically represent the relationship between pentose phosphate pathway and glycolysis.
22. Give a detailed account of degradation of heme.
23. Write the stages of citric acid cycle and discuss how ATP level could regulate the cycle.
24. Give an account on urea cycle and its regulation. Write the inherited disorders that arise due to the enzymes involved.
25. Discuss in detail about the *de novo* pathway of pyrimidine synthesis and its regulation.