



Date: 03/11/2018

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

Part-A

Answer ALL questions.

(10 × 2 = 20)

1. How is glycine prepared by Gabriel-Phthalimide synthesis?
2. Define the term isoelectric point.
3. Write the differences between coenzymes and cofactors.
4. Define Reichert-Meissl value of a fat.
5. Give any two differences between reducing and non-reducing sugars.
6. What is meant by oxidative rancidity?
7. How are alkaloids classified?
8. How are terpenoids extracted by expression method?
9. What are anthocyanins? Cite an example.
10. What are the differences between DNA and RNA?

Part-B

Answer any EIGHT questions.

(8 × 5 = 40)

11. How is phenylalanine synthesized?
12. Explain the α -helical structure of proteins.
13. Describe the electrophoretic method of purification of proteins.
14. Explain the kinetics of competitive inhibition reaction.
15. Discuss the various steps involved in the β -oxidation theory of fatty acids.
16. Write a short note on the structure and properties of starch.
17. Describe the double-helical structure of DNA.
18. Discuss the general methods of determination of alkaloids.
19. How is camphor synthesized from campharillic acid?
20. Describe the synthesis of geraniol.
21. Explain the general structural elucidation of anthocyanins.
22. Describe briefly about the stereochemistry of steroids.

Part-C

Answer any FOUR questions.

(4 × 10 = 40)

23. a) How is C-terminal analysis of protein carried out? (5)
b) Explain denaturation of proteins with a suitable example. (5)
24. a) Derive Michaelis-Menten equation for an enzymatic reaction. (5)
b) Define (i) rancidity and (ii) Polenske number. Mention their significance. (3+2)
25. a) Illustrate the relation between glycolysis and respiration. (6)
b) Discuss briefly about the ring structure of glucose. (4)
26. Describe the biosynthesis of protein in detail.
27. a) Write the structural elucidation of citral. (6)
b) How is beta-carotene synthesized? (4)
28. a) Explain the Robinson's synthesis of anthocyanin. (4)
b) Write the biosynthesis of cholesterol from squalene. (6)
