APRIL 2017 **1708111/UBYM41A**

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer any TEN questions.

Each question carries 2 marks.

1. List few biological functions of lipids.
2. Name any two tests to identify fat.
3. Differentiate between lecithin and cephalin.
4. Write the structure of cholesterol.
5. Define Tm.
6. What is meant by Superhelicity of DNA.
7. What is the role of nuclease?
8. Give any two salient features of prokaryotic and eukaryotic RNA.
9. What is the importance of heme in biological system?

10. Write any two properties of streptomycin.

11. Define polensky number.

12. Does RNA act as genetic material? If so, list the sources.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

13. Outline the classification of fatty acids.

14. Write short notes on the structure of sphingolipid. Add a note on its functions.

15. Compare the various features of C and Z DNA.

16. Explain the structure of tRNA.

17. Write the biological significance of quinoline and thiazole.

18. Give an account on the various classes of terpenes.

19. What are the purine and pyrimidine nucleotides present in DNA? Write their structures.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

Each question carries 10 marks.

20. Define the following terms.

(a) Acid number (2)

(b) Saponification value (2)

(c) Iodine value (2)

(d) Triglycerides and its properties (4)

21. (a) Schematically represent the structure of lipoproteins. (4)

(b) Tabulate the apoprotein content, origin and functions of various lipoprotein. (6)

22. Discuss the denaturation and annealing properties of DNA.

23. Elaborate the steps involved in Isolation, purification and estimation of RNA.

24. Explain the identification and biological significance of alkaloids, flavanoids and carotenoids.

———————