19P1047

Reg. No ..... Name .....

M Sc DEGREE END SEMESTER EXAMINATION - OCTOBER 2019

SEMESTER 1 : BOTANY

COURSE : **16P1BOTT04 : CELL BIOLOGY**

(For Regular - 2019 Admission and Supplementary - 2016/2017/2018 Admissions)

Time : Three Hours Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. What is sphingomyelin?
2. Differentiate fatty acyl anchors from prenyl anchors.
3. Histone proteins are rich in arginine and lysine aminoacids. Why?
4. What is chromatosome?
5. What is synapsis?
6. What is chiasmata?
7. Write a short note on p53 and p21.
8. What is H-strand and L-strand?
9. What is leukemia?
10. What are oncogenes? Give examples.
11. What is SRP? Give its function.
12. Briefly explain the term 'cell signalling'.

(2 x 8 = 16)

Section B

Answer any 7 (5 marks each)

13. Give an account on the history of studies on plasma membrane structure.
14. What do you mean by the transition temperature of a lipid bilayer? What is the significance of the Tm value?
15. Write a comparative account on the genome organization in prokaryotes and eukaryotes.
16. Explain the structure of chloroplst genome.
17. Explain oncogenes and tumor suppressor genes? Explain the functions their gene products.
18. Give an account on major protein sorting pathways in eukaryotes.
19. Give an account on the fate of misfolded proteins accumulating in ER.
20. Give an account on various classes of myosins.
21. Give an account on various modes of cell signalling.
22. What are some of the functions of apoptosis?

(5 x 7 = 35)

Section C
Answer any 2 (12 marks each)

23. What is membrane fluidity? What are the factors affecting fluidity? How do organisms maintain the fluidity of membranes?

OR

24. Give an account on apoptosis. What are the reasons that leads a cell to enter apoptosis? Explain intrinsic pathway of apoptosis.

25. Explain the protein modifications that occur in the ER matrix.

OR

26. Explain the process of protein transport into mitochondria.

(12 x 2 = 24)