

Reg. No

Name

17P147

MSc DEGREE END SEMESTER EXAMINATION - NOVEMBER 2017

SEMESTER 1 : BOTANY

COURSE : 16P1BOTT04 - CELL BIOLOGY

(Common for Regular - 2017 / Supplementary - 2016 Admissions)

Time : Three Hours

Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. What is uniport system? Give an example.
2. What is AQP?
3. Write a short note on importin.
4. Meiosis I is known as reduction division. Why?
5. What are the major evidences that support endosymbiotic theory?
6. What is carcinoma?
7. What are oncogenes? Give examples.
8. State the features of chloroplast stroma targeting proteins signal sequence.
9. What is dynein? Give its functions.
10. Explain tread milling of actin filaments.
11. What are second messengers? Give an example.
12. What are guanine nucleotide dissociation inhibitors (GDI)?

(2 x 8 = 16)

Section B

Answer any 7 (5 marks each)

13. Explain simple diffusion. What are the factors affecting diffusion?
14. What are different mechanisms to maintain membrane fluidity?
15. Give an account on the history of studies on plasma membrane structure.
16. With the help of suitable diagrams explain the events of prophase I in meiosis.
17. Explain the functions of different types of cyclins and CDK in cell cycle.
18. Explain the diseases associated with mitochondrial mutations.
19. Explain the influence of mitochondrial genome mutations on cancer.
20. Explain the functions of profilin and cofilin.
21. What are the substances by which microtubules are made up of? What are the structures and cellular processes in which microtubules are involved?
22. Give an account on intrinsic pathway of apoptosis.

(5 x 7 = 35)

Section C

Answer any 2 (12 marks each)

23. Explain the transport of proteins from cytoplasm to the nucleus.

OR

24. What are oncogenes? How it is involved in the development of cancer?

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

OR

26. Explain the general mechanism of the activation of effector proteins associated with G protein-coupled receptors. Explain how glucagon regulate sugar level in blood with the influence of cAMP.

(12 x 2 = 24)