Reg. No ..... Name **18P3622**

MSc DEGREE END SEMESTER EXAMINATION - OCTOBER 2018

SEMESTER 3 : ZOOLOGY

COURSE : **16P3ZOOT10 : CELL AND MOLECULAR BIOLOGY**

(For Regular - 2017 Admission & Supplementary - 2016 Admission)

Time : Three Hours Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. Write briefly on barrel proteins.
2. Comment on basal lamina
3. Comment on the importance of fibronectin during embryonic development
4. Comment on 'protein factory' of the cell
5. What is special about the inner membrane of mitochondria?
6. What are intermediate filaments? Name any two proteins present in them.
7. What are cytosolic receptors?
8. Explain with one example how bacterial toxin hinders cell signaling.
9. What is the significance of G1 phase?
10. Differentiate between leukemia and lymphoma
11. Differentiate trancription and translation.
12. Comment on promoters in Operons.

(2 x 8 = 16)

Section B

Answer any 7 (5 marks each)

13. Explain the structure and functions of cadherins
14. Comment on the structure and functions of selectins
15. Explain the polymorhism in lysosomes.
16. Structural organisation of microtubular organelles.
17. Explain various mechanisms for regulation of cell signalling.
18. Brief on the control of cell cycle taking into account the check points.
19. Give an overview of tumor suppressor genes
20. Discuss the role of immunotherapy in cancer prevention and treatment.
21. Explain translation elongation in eukaryotes
22. Describe the organization of a bacterial operon.

(5 x 7 = 35)

Section C

Answer any 2 (12 marks each)

23. Describe fluid mosaic model of cell membrane. Co- relate it with important cell - membrane functions.
24. Explain calcium phoshatidyl – inositol pathway. Comment on its importance in metabolism.
25. Explain the process of transcription in eukaryotes and prokayotes. Highlight the major differences.
26. Comment on lac- operon as a model of prokaryotic gene regulation. Compare it with Trp operon.

(12 x 2 = 24)