17. (a) Describe the major post - translational modifications of poly peptide that lake place in rough endoplasmic reticulam.

Or

(b) What do you mean by signal hypothesis? Explain how it accounts for synthesis of exportable protein.

18. (a) List down the requisites of protein synthesis and explain the mechanism of protein synthesis.

Or

(b) Explain the structural organization and chemical composition of ribosomes.

19. (a) Describe the structure of chromosome and add a note on its structural changes.

Or

(b) Write an elaborate account on chromatin dynamics.

20. (a) What is cell cycle check point? What are the possible cell cycle control? What event seem to the most directly dependent on passing the C_1 and C_2 check points.

Or

(b) Explain the mechanism of feed back of cell division and add a note on inhibiting signals of cell division.

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Reg. No. : .....

Code No. : 8220 **Sub. Code : C 12 Z**

M.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2011.

First Semester

Zoology

MOLECULAR CELL BIOLOGY

(For those who joined in July 2008 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 1 = 10$ marks)

Answer ALL the questions in about 50 words each.

1. Sodium pump.
2. Sonication.
3. Protein disulfide isomerase.
4. Trans-cis-Golgi.
5. IF_1 and IF_2.
6. Cytochrome.

7. Nucleosome.

8. Inversion.

9. Mitotic apparatus.

10. Zygonema.

PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b) in about 250 words each.

11. (a) Present the three major distinguished features of uniport that differentiate the passive diffusion.

Or

(b) Compare the four major classes of ATP powered Ion and small molecule pump.

12. (a) Describe the components of SRP and its functional roles.

Or

(b) Discuss the molecular mechanism of vesicular transport.

13. (a) Write the protocol for isolation of mitochondrial membrane and point out the major difference between inner and outer membrane.

Or

(b) Describe the ultra structure of Mitochondria.

14. (a) Analyse the numerical changes that occur in chromosome. Comment on its significance.

Or

(b) Chromatin is a complex of DNA and histone - Discuss.

15. (a) Explain the central cell cycle control systems.

Or

(b) Evaluate the role of cyclin dependent kinesis that control cell cycle.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b) in about 250 words.

16. (a) With a neat labelled sketch, explain the structural organization of a typical animal cell.

Or

(b) Write a elaborate account on membrane transport proteins.