

17. (a) Explain the sorting out mechanism Golgi with reference to secretory protein.

Or

- (b) Describe the ultra structure and cytochemistry of Golgi.
18. (a) How will you isolate mitochondrial membrane? Bring out structural and chemical differences between inner and outer membrane of mitochondria.

Or

- (b) Narrate the structural organization of mitochondria and its functions.
19. (a) Explain the structure of chromosome. Mention the types.

Or

- (b) What are promiscuous chromosomal protein? How does they form? Write its significances.
20. (a) Critically analyse the check points in cell cycle regulation.

Or

- (b) Illustrate the role of three classes of cyclin Cdk complexes that control cell cycle.

Reg. No. : .....

Code No. : 7228

Sub. Code : C 12 Z

M.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2010.

First Semester

Zoology — Main

MOLECULAR CELL BIOLOGY

(For those who joined in July 2008 and afterwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions in about 50 words.

1. ABC superfamily.
2. Ultracentrifugation.
3. Signal sequence.
4. Ribophorin I and II.
5. Ribosomal subunits of prokaryotes.
6. Chondriasphere.

7. Nuclear organizer.
8. Covalence paradox.
9. Amitosis.
10. BUB genes.

PART B — ( $5 \times 5 = 25$  marks)

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

11. (a) Explain the of mediated cotransport of glucose, against concentration gradient by symptoms and antiporters.

Or

- (b) Describe the components fluorescence activated cell sorter and its applications.

12. (a) How do secretory proteins actually cross the membrane? Comment on the sources of energy for this process.

Or

- (b) Explain the ultra structure of endoplasmic reticulum.

13. (a) Write a brief account on chain elongation factor.

Or

- (b) Describe the ultra structure and chemical composition of ribosomes.

14. (a) Discuss the structural changes that occur in chromosome condensation comment on its significance.

Or

- (b) Define the following :

- (i) Chromatid
- (ii) Chromosome
- (iii) Chromosome.

15. (a) Point out the major differences between mitosis and meiosis.

Or

- (b) Explain the feedback control and inhibiting signals.

PART C — ( $5 \times 8 = 40$  marks)

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

16. (a) Highlight the post translational modification of polypeptide and its quality control in RER.

Or

- (b) Elaborate the structural organization of cell membrane.