

**D 12527**

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**Name.....**

**Reg. No.....**

**FIRST SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY 2006**

General Biotechnology

**GBT 101—CELL BIOLOGY**

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer any **two** questions.*

1. Describe the translation and post translational modification in **eukaryotes**.
2. Give an account of morphology of **peroxisomes** and **microperoxisomes**.
3. Explain in detail about cell differentiation.

(2 x 10 = 20 marks)

**Section B**

*Answer any **ten** questions.*

4. Which microscope is used to observe living cells ?—Define it.
5. Briefly describe the **ultrastructure and functions of microtubules**.
6. Describe Nomura's experiments in relation to the dissociation and recognition of ribosomal subunits.
7. Write a short account on the biogenesis of **mitochondria**.
8. Rough **Endoplasmic reticulum** is involved in the synthesis of exportable proteins—Discuss.
9. Explain the condensation and **decondensation** cycle of chromosomes during cell division.
10. What are the differences between Prokaryotic and **Eukaryotic** protein synthesis ?
11. Describe the mechanism of RNA splicing in higher nuclear **introns**.
12. Give a short notes on :
  - (a) Greater membrane model.
  - (b) Fluid mosaic model.
13. Define :
  - (a) **Hetero** chromatin.
  - (b) **Euchromatin**.
14. Write about cell motility in protozoa.
15. With a suitable example explain the process of assisted transport across cell Membrane.

(10 x 5 = 50 marks)

**Turn over**

**Section C**

*Answer all question.*

16. Why mitochondria and chloroplasts are considered as semi-autonomous organelles ?
17. What is the significance of poly A tail ?
18. Why is the study of lysosome important in medicine ?
19. In what way the SER protects the cell from toxic substances ?
20. What is the significance of "shine—Dalgarno sequence" ?

(5 x 2 = 10 marks)