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Name.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, MARCH 2004

General Biotechnology

GBT 101. CELL BIOLOGY

Time : Three Hours **Maximum : 80 Marks**

Section A

Answer any two questions.

1. **Describe the molecular structure of cytoskeleton. Highlight its function during cell motility.**
2. **Describe the events in cell cycle at molecular level before and after the synthetic stage.**
3. **Describe the flagellar movement of prokaryotes by describing its structure in detail.**

(2 x 10 = 20 marks)

Section B

Answer any* ten *questions.

4. **Distinguish Prokaryotic and Eukaryotic cells.**
5. **What a signal peptide of a secreted protein is for ? Explain.**
6. **How spindle fibres are shortened during cell division ?**
7. **What is a transducer with regard to biochemical signals ? Explain with *one* example.**
8. **Describe with an example the process of assisted transport across cell membrane.**
9. **What do you understand by "cell in a cell" ? Describe in the case of a eukaryotic cell.**
10. **Describe the function of any external agent which can arrest the processes of synthetic stage of cell cycle.**
11. **Describe the function at molecular level of an external agent which increase the chromosome number in meiotic division.**
12. **What a "flip-flop" movement in endoplasmic reticulum is for ? Explain.**
13. **What is the role of cytoplasmic proteins in transport of small ions ?**
14. **How will you prepare intact mitochondria ?**
15. **How do you react to "one gene-one protein hypothesis" at the level of present day knowledge ?**

(10 x 5 = 50 marks)

Section C

Answer* all *questions.

16. **How do you get 60s + 40s = 80s ribosomes ?**
17. **Describe the principle dark filed imaging in microscopy.**
18. **Describe one non-peptidic post translational modification of proteins.**
19. **What is the normal fate of wrongly folded proteins ?**
20. **How a wrongly folded protein is identified ?**

(5 x 2 = 10 marks)