

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**  
**(For Candidates admitted during the academic year 2005-06 & thereafter)**

**SUBJECT CODE: ZL/MC/CB54**

**B.Sc. DEGREE EXAMINATION NOVEMBER 2007**  
**BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY**  
**FIFTH SEMESTER**

**COURSE : MAJOR CORE**  
**PAPER : CELL BIOLOGY**  
**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL QUESTIONS**

**(10 x 3 = 30)**

1. Mention the contributions of:  
(a) August Weissman                      (b) Virchow                      (c) Balbiani
2. **STATE TRUE / FALSE:**  
(a) Decreasing concentration of methanol in a cell is dehydration.  
(b) Lysosomes have excretory functions.  
(c) Vacuoles in animal cells are small.
3. **MATCH THE FOLLOWING:**  
(a) Centrosome                      –                      Polynucleate cell  
(b) Syncytial cell                      –                      Dictyosome  
(c) Cisternae                      –                      Absent in plant cell
4. **FILL IN THE BLANKS:**  
(a) The flagella exhibit \_\_\_\_\_ motion.  
(b) Semiconservative mode of DNA replication was shown by \_\_\_\_\_ & \_\_\_\_\_  
(c) \_\_\_\_\_ arrests the cell cycle at the metaphase stage.
5. Give the principle of chromatography.
6. Draw and label a giant chromosome.
7. Write the functions of peroxisomes.
8. Mention the different types of ciliary movements.
9. List any three significance of Mitosis.
10. Name any three theories of carcinogenesis.

**SECTION – B**

**ANSWER ANY FIVE QUESTIONS**

**(5 x 6 = 30)**

11. Describe the giant chromosomes.
12. Explain the structure of DNA.
13. Describe the structure of an mRNA.
14. Describe the ultrastructure of mitochondria.
15. Discuss the functions of Lysosomes.
16. Elaborate on the characteristics of the triplet code.
17. Write an account on the types of tumours.

**SECTION – C**

**ANSWER ANY TWO QUESTIONS**

**(2 x 20 = 40)**

18. Describe in detail the morphology and structure of chromosomes.
19. Write an essay on the replication of DNA.
20. Give a detailed account on protein synthesis with suitable diagrams.
21. Explain in detail the cytology, characteristics and significance of a cancer cell.

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