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 2009
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 **(10x3 =30)**

1. Enumerate any three characteristics of Cancer Cell.
2. State True or False
   a) The chromosomes line up across the equatorial plane during metaphase stage.
   b) The type of ribosome seen in Eukaryotic cell is 70s type.
   c) The major function of mitochondria is Gylcolysis.
3. Match the Following:

a) Thylakoid	Mitochondria
b) Glycosidation of lipids and proteins	Chloroplast
c) Chemi osmotic hypothesis	Golgi complex

4. Fill in the Blanks
   a) Transport of molecules across the membranes is highly specific and requires ---------- Proteins.
   b) In cell cycle, doubling of DNA takes place during ---------- phase.
   c) Most genes are interrupted by insertion of non-coding DNA sequences called ----------.
5. Polycistronic mRNA
6. Comment on Peroxisomes
7. Differentiate Nucleotide and Nucleoside
8. What is Nucleosome?
9. Lampbrush Chromosomes
10. Synaptonemal Complex

..2

SECTION- B

Answer Any Five Questions **(5X6=30)**

11. Explain the organization of Microtubules in Cilia, Flagella and Centriole.
12. Describe the Ultra structure of Endoplasmic reticulum.
13. Explain different types of RNA.
14. Explain the structure and biogenesis of Chloroplast.
15. Give a brief note on the characteristics of Genetic Code.
16. What is cell cycle? Explain various phases of Cell cycle.
17. Draw a neat-labeled diagram of Interphase Nucleus.

SECTION- C

Answer Any Two Questions **(2X20 =40)**

18. Give a comparative account of Mitotic and Meiotic cell divisions.
19. Describe the ultra structure of Mitochondria. Add a note on its functions.
20. What is the Central Dogma of Protein synthesis? Explain in detail the mechanism of protein synthesis.
21. Write an account of the Molecular structure of DNA and its replication.

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