

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2011 – 12)

SUBJECT CODE: 11ZL/MC/CM34

B.Sc. DEGREE EXAMINATION NOVEMBER 2012
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
THIRD SEMESTER

COURSE : MAJOR CORE

PAPER : CELL AND MOLECULAR BIOLOGY

TIME : 3 HOURS

MAX. MARKS: 100

SECTION A

ANSWER ALL THE QUESTIONS.

(10 x 3 = 30)

1. Explain endosymbiont theory.
2. Compare pinocytosis and phagocytosis.
3. Give any one function of each one of the following.
a) Sarcoplasmic reticulum b) Microtubule c) IF2 factor
4. Describe nucleolar associated chromatin.
5. Explain apoptosis.
6. Comment on B chromosomes.
7. Mention the Nobel contribution of
a) T.H. Morgan b) M. Calvin c) M.W. Nirenberg and H.G. Khorana
8. Explain any one post translational modification of insulin.
9. Expand: a) HG b) IHGSC c) RFLP
10. Comment on a) SOS repair b) Okazaki fragments c) Antisense RNA

SECTION B**ANSWER ANY FIVE QUESTIONS.****(5 x 6 = 30)**

11. Explain Danielli and Davson model.
12. Write an account on Merocrine secretion.
13. Comment on polytene chromosome.
14. Explain briefly the Lac operon of E. coli.
15. Describe Sanger's method for DNA sequencing.
16. Explain polymorphism in lysosomes.
17. What are the common alterations observed in cancer cells?

SECTION C**ANSWER ANY TWO QUESTIONS.****(2 x 20 = 40)**

18. Describe the mitochondria as a centre for metabolism.
19. Explain in detail the process of meiosis and its role in reproductive cycle.
20. Give a detailed account on synthesis of mRNA in eukaryotes.
21. Describe Watson and Crick model of DNA structure. Add a note on its suitability for a genetic material.
