

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BY/PC/MB14

M. Sc. DEGREE EXAMINATION - NOVEMBER 2016
BIOTECHNOLOGY
FIRST SEMESTER

COURSE : CORE
PAPER : MOLECULAR BIOLOGY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(20 x 1 = 20)

1. How the sodium pump works?
2. Define active transport.
3. What is the structure actin?
4. Write any two functions of microtubules.
5. Comment on SOS repair mechanism.
6. Define wobbling hypothesis.
7. What is third base degeneracy?
8. How RNA is spliced?
9. What is heterochromatin?
10. Define nucleoid.
11. What is intron?
12. What is the function of HSP60?
13. Write short notes on TATA box.
14. Define promoter.
15. Comment on Ultrabithorax.
16. What are HOX gene clusters?
17. Write short notes on southern blotting.
18. What is the role of Nitrocellulose membrane in blotting?
19. What is the role of cyclin?
20. Define G1 phase.

SECTION – B

ANSWER ANY FOUR QUESTIONS:

(4 x 10 = 40)

21. Describe the structure and function of the microfilaments.
22. Explain the steps involved in RNA processing.
23. Give an account on DNA repair.
24. What are transposons? Explain the replicative and non replicative mechanisms.
25. Write about the protein modifications.
26. Describe the homeotic genes.
27. Explain the process of apoptosis.

SECTION – C

ANSWER ANY TWO QUESTIONS:

(2 X 20 = 40)

28. Write an essay on the functions of the plasma membrane.
29. Describe the organization of eukaryotic genome.
30. Explain the transcriptional regulation in Prokaryotes.
31. What is cell cycle? Add a note on its check points and regulators.
