

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

SUBJECT CODE: 15BY/PE/BB14
M. Sc. DEGREE EXAMINATION, APRIL 2018
SECOND SEMESTER

COURSE : ELECTIVE
PAPER : BIOPHYSICS AND BIOINSTRUMENTATION
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL THE QUESTIONS

(20 x 1 = 20)

1. Define Free energy
2. What are High Energy phosphate molecule?
3. What is the use of X-ray crystallography?
4. What is Resonant frequency?
5. Define Nernst equation
6. What are Supra molecules?
7. What are Chaperones?
8. What are Homo oligomers?
9. Expand – HPLC and FPLC
10. Define Sedimentation co-efficient
11. Write a note on Swinging bucket type rotor
12. Write the use of Supercritical fluid chromatography
13. What is Radioactive decay?
14. Write the uses of Autoradiography
15. Define Half-life
16. List the two main types of luminescent dorsimeters.
17. Define Iso electric point
18. Write the uses of cryo microscopy
19. Define Magnification
20. Write the application of 2-D gel electrophoresis

SECTION – B

ANSWER ANY FOUR QUESTIONS IN ABOUT 600 WORDS

(4 x 10 = 40)

21. Write short notes on MALADI – TOF – and its applications.
22. Write a note on Ramachandran plot and its uses.
23. Briefly explain ion exchange chromatography.
24. Write a note on Geiger Muller Counter.
25. Write the applications of radio isotopes in Biology.
26. Briefly explain the principle of Spectrophotometer.
27. Write the procedure for denaturing gels Preparation for DNA.

SECTION – C

ANSWER ANY TWO QUESTIONS IN ABOUT 1500 WORDS

(2 x 20 = 40)

28. Write in detail about polymorphism of DNA molecule and their detection.
29. Write an account on ultra centrifuge types and its uses.
30. Give a detailed account on the structure and dynamics of plasma membrane.
31. Write short notes on TEM and its applications.
