

STELLA MARIS COLLEGE, (AUTONOMOUS), CHENNAI.

M.Sc. BIOTECHNOLOGY

END SEMESTER EXAMINATION, NOVEMBER 2021

BIOINSTRUMENTATION

SUBJECT CODE: 19BY/PE/BI15

TIME: 3 HOURS

CLASS: I M. Sc

MAX MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS

15 x 2= 30

1. What is the principle of dark field microscopy?
2. What is cryomicroscopy?
3. Write the different types of vibrations in IR spectroscopy.
4. Define chemical shift.
5. Expand MALDI-TOF.
6. Write different types of sequencers.
7. Define Cytophotometry
8. What is supercritical chromatography?
9. Write the formula for RCF.
10. What is discontinuous buffer system?
11. What is isoelectric point?
12. Define electroendosmosis.
13. Give an example of organic and inorganic scintillates.
14. Define TLD.
15. What is autoradiography?

SECTION – B

ANSWER ALL QUESTIONS

5 x 10 =50

16. (a) Write a short note on phase contrast microscopy.
(or)
(b) State Beer-lambert's Law and briefly explain the instrumentation of UV-spectroscopy.
17. (a) Briefly explain any two types of biosensors and its applications
(or)
(b) Comment on the principle and instrumentation of real time PCR.
18. (a) Give an account of types of rotor.
(or)
(b) Briefly explain the principle and application of TLC and Affinity Chromatography.

19. (a) Briefly describe the 2 dimensional gel electrophoresis and its applications.

(or)

(b) Write the principle and applications of capillary electrophoresis.

20. (a) Give an account on GM counter.

(or)

(b) Comment on safety aspects in handling radioactive isotope.

SECTION – C

ANSWER ANY ONE QUESTION

1x 20= 20

21. Describe the different types of centrifugation techniques.

22. Discuss on the application of radioactive isotopes in biological studies.