STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2011- 12)

SUBJECT CODE: 11BT/ME/BI53

B. Sc. DEGREE EXAMINATION, NOVEMBER 2013
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR – ELECTIVE
PAPER : BIOINSTRUMENTATION
TIME : 3 HOURS **MAX.MARKS:100**

SECTION -A **(18x1= 18)**

Answer ALL questions: **(18 x 1=18 marks)**

I . Fill in the blanks:

1. In HPLC, the column is made up of _____.
2. In spectroscopy, OD for protein is _____.
3. If the colour of the solution is yellow then the filter used should be _____.
4. In Centrifugation, the unit of measurement is _____.
5. The source of electrons in TEM is _____.

II. Expand the following

6. TEMED –
7. EDTA –
8. FAA –
9. TCA –

III. Say whether the following statements are True or False:

10. A fixative mobilizes macromolecules of a cell.
11. 10^{-7}m is a micron.
12. Motility of tiny structures can be viewed by Phase contrast microscope.
13. For SEM, the surface of cells are coated by carbon or gold.
14. Bromophenol blue is a marker dye used in PAGE.

IV. Match the following:

15. Freeze fracture	-	Fedrick.
16. SEM	-	Moor and Russel.
17. EPON	-	Oatley.
18. Phase contrast Microscope	-	Embedding material.

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Answer any 6 questions in not more than 50 words: **(6 x 3=18 marks)**

19. Buffer.
20. Chromatogram.
21. rpm.
22. Fixation.
23. Critical point drying.
24. Rf.
25. Beer-Lamberts law.
26. Negative staining.
27. Grid.

Section-B

Answer any 4 questions in not more than 200 words each . Draw diagrams wherever necessary. : **(4 x 6=24 marks)**

28. Write notes on pH meter.
29. Differentiate between TLC and column chromatography.
30. Give an account of Density gradient centrifugation.
31. Explain light microscopy.
32. Write notes on Rotary microtome.
33. What is Freeze etching?

Section – C

Answer any 2 questions in not more than 1000 words each. Draw diagrams wherever necessary: **(2 x 20 = 40 marks)**

34. Explain the double beam spectrophotometer.
35. Explain how proteins are separated through PAGE.
36. Explain the preparation of permanent specimen for Light microscopy.
37. Give a brief account of SEM.

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