STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI –600 086
(For candidates admitted during the academic year 2015-16 & thereafter)

SUBJECT CODE: 15BY/PC/AP24

M. Sc. DEGREE EXAMINATION, APRIL 2019
BIOTECHNOLOGY
SECOND SEMESTER

COURSE : CORE
PAPER : ANIMAL AND PLANT BIOTECHNOLOGY
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

ANSWER ALL THE QUESTIONS **(20 x 1 = 20)**

1. What is MTT Assay?
2. Expand DMEM
3. What is meant by Gene Knock-out ?
4. What is Cryopreservation?
5. What is ART?
6. Define Apoptosis
7. What is meant by Biopharming?
8. What is Cell Synchronization?
9. Define Xenotransplantation
10. Explain on Prenatal Diagnosis
11. What are the components of MS Medium?
12. What is Anther Culture?
13. Give the salient features of Ti Plasmid.
14. What are Edible Vaccines?
15. Give the role of BT Cotton.
16. What are Plantibodies?
17. Expand RFLP
18. What are Heat Shock Proteins?
19. Give the examples of Virulence genes?
20. What is ESTs?

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SECTION – B

ANSWER ANY FOUR QUESTIONS IN ABOUT 600 WORDS (4x 10 = 40)

21. Elucidate the role of CO_2 and Bicarbonate in maintenance of pH in cell culture media.
22. How will you validate transgenic animals as model for human disease?
23. Describe how recombinant proteins are produced in cell culture system.
24. Give a detailed account on Ti and Ri plasmids.
25. "Arabidopsis thaliana is used as a model plant". Substantiate.
26. Write in detail about Hybrid Seed Production.
27. Describe Agrobacterium-mediated plant transformation with suitable diagram.

SECTION – C

ANSWER ANY TWO QUESTIONS IN ABOUT 1500 WORDS (2x 20 = 40)

28. Give a detailed account of media composition and their role in animal cell culture.
29. "Silkworm as a bioreactor for the production of commercially important proteins" Discuss.
30. Explain the different techniques used for direct gene transfer in plants.
31. Describe the production of haploid plants and add a detailed note on its applications.

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