STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11ZL/MC/FB54

B.Sc. DEGREE EXAMINATION NOVEMBER 2014
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR CORE
PAPER : FUNDAMENTALS OF BIOTECHNOLOGY
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

ANSWER ALL QUESTIONS: **(10 x 3 = 30)**

1. Define Genetic Engineering.
2. Expand the following: a) PCR b) SCP c) BLAST
3. State any 3 applications of stem cell technology.
4. Define Gene Therapy.
5. What is meant by Enzyme Engineering?
6. Write a short note on super bug.
7. State any 3 applications of DNA Finger Printing.
8. Comment on Gene Bank.
9. Briefly explain site directed mutagenesis.
10. Explain the significance of bioinformatics.

SECTION – B

ANSWER ANY FIVE QUESTIONS: **(5 x 6 = 30)**

11. Discuss the methods used for transferring the desired DNA into a cell.
12. Comment on the use Ti Plasmid of *Agrobacterium tumefaceins* as cloning vectors.
13. State the principles and applications of the various Blotting Techniques.
14. Discuss about the various constituents used in the composition and preparation of culture media.
15. What are Hybridoma and describe a technique for large scale production of Monoclonal Antibodies.
16. Briefly explain the procedure and application of antibiotic production.
17. Write a note on single cell proteins.

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SECTION – C

ANSWER ANY TWO QUESTIONS: (2 x 20 = 40)

18. State the outlines of Genetic Engineering and discuss in detail the various tools used for this techniques.
19. Write an essay on the production of transgenic animals and plants. Add a note on its merits and demerits.
20. Draw and describe the various types of Industrial Fermenters.
21. Explain the basic concepts of Proteomics and Genomics.

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