

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

**SUBJECT CODE: 15ZL/MC/FB54**

**B.Sc. DEGREE EXAMINATION - NOVEMBER 2018**  
**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. Write a note on the applications of Genetic Engineering.
2. Comment on “Boutique Databases”.
3. Comment on PCR.
4. What is a Gene Bank?
5. Differentiate live vaccines from attenuated vaccines.
6. Mention the importance of gene therapy.
7. Write a note on DNA fingerprinting.
8. Comment on transgenic animals and crops.
9. Define cloning vectors.
10. Mention the scope of bioethics.

**SECTION – B**

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

11. Bring out the scope and applications of biotechnology.
12. Briefly explain the process of monoclonal antibody production.
13. Enumerate the applications of stem cell culture.
14. Write short notes on cloning in prokaryotes.
15. List down the ethical issues of Genetically Modified Organisms.
16. Write an account on the applications of enzymes.
17. Briefly explain passenger DNA and cDNA.

**SECTION – C****ANSWER ANY TWO QUESTIONS:****(2 x 20 = 40)**

18. Discuss in detail the methods of transfer of foreign DNA into cells.
19. Form an essay on enzyme production methods and explain the importance of enzyme engineering.
20. Give a detailed account on animal cell and tissue culture techniques and discuss its merits and demerits.
21. Write an account on the following:
  - a) Electrophoresis
  - b) ELISA
  - c) Proteomics and genomics
  - d) Mutagenesis

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