

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2005-06 & thereafter)
SUBJECT CODE: ZL/MC/GE54

B.Sc. DEGREE EXAMINATION NOVEMBER 2007
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR CORE
PAPER : GENETICS ENGINEERING
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

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

1. (i) Correction of genetic disorders can be achieved through,
(a) Monoclonal antibodies (b) Gene therapy
(c) PCR technique (d) ELISA technique.
(ii) Junk DNA is the,
(a) Recon (b) restriction sites
(c) intron (d) exon.
(iii) pBR 322 is a,
(a) respriction enzyme (b) plasmid vector
(c) bacteriophage (d) passenger DNA.
2. Expand the following:
(a) GIFT (b) cDNA (c) GMO
3. Mention the names of any three microbes that are cultured for the production of SCP.
4. What is ELISA? Mention its application.
5. Mention any three of the primary metabolites produced by microorganisms.
6. List the applications of rDNA technology.
7. What is a cybrid?
8. Mention the names of any three of the restriction enzymes with the respective restriction sites.
9. Mention the application of the following:
(a) Electrophoresis (b) Southern Blot (c) Northern blot
10. What are the following:
(a) Rhizobium (b) Biosensor (c) Callus

SECTION – B

ANSWER ANY FIVE QUESTIONS

(5 x 6 = 30)

11. Write a short note on cloning vectors.
12. Write a brief note on enzyme immobilization
13. Give an account of transgenic farm animals.
14. Explain DNA fingerprinting.
15. Enumerate the hazards of genetic engineering
16. Explain abatement of pollution through genetically engineered microbes.
17. Explain the method and the application of PCR technique.

SECTION – C

ANSWER ANY TWO QUESTIONS

(2 x 20 = 40)

18. Write an essay on Hybridoma technology. Add a note on its application.
19. Give an account of industrial production of microbial enzymes.
20. Explain the various methods of transfer of foreign DNA into the cells.
21. Give an account of plant tissue culture and its applications
