



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – ZOOLOGY

FOURTH SEMESTER – NOVEMBER 2016

ZO 4812 - BIOTECHNOLOGY

Date: 09-11-2016
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART – A

Answer all the questions in 50 words each

[10 × 2 = 20]

1. Define synthetic biology
2. What are biosensors? Cite an example
3. Distinguish microfiltration and ultrafiltration
4. State the application of trickling filter
5. What are electroceuticals? State their applications
6. What are peptide tags? State their significance
7. What are composite transposons? Mention their significance
8. What is the role of telomerase enzyme?
9. What are secondary metabolites? State their importance
10. Expand (a) HAC (b) CNT

PART – B

Answer any four questions in 600 words

[4 × 10 =40]

11. What are the steps involved in anaerobic suspended growth treatment process?
12. Examine the schematics of a bioreactor and add a note on its role in biotechnology
13. What are the advantages and disadvantages of animal cloning? State ethical social and legal issues behind animal cloning
14. Compare allogeneic and autologous transplant processes
15. How do you perform targeted drug delivery using nanoparticles?
16. Compare zero order, first order and monad growth kinetics of microbial growth

PART - C

Answer any two questions in 1200 words

[2 × 20 =40]

17. What are the steps involved in molecular cloning? Examine any three molecular clones
18. How do you produce transgenic livestock and transgenic fish? State their significance
19. Compare the principles and applications of RAPD, RFLP and FISH
20. Highlight on: (a) Fermentation media formulation
(b) Gene Targeting and embryonic stem cell screening
