

Reg. No

Name

19P4007

MSc DEGREE END SEMESTER EXAMINATION- MARCH/APRIL 2019

SEMESTER 4 : BOTANY

COURSE : 16P4BOTT13 : BIOTECHNOLOGY AND GENETIC ENGINEERING

(For Regular - 2017 Admission and Supplementary - 2016 Admission)

Time : Three Hours

Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. What is sphaeroplast?
2. What are isoschizomers? Give an example.
3. What is GFP? Give an account on its applications.
4. What are opines?
5. What is the use of Benzoyl reagent in chemical synthesis of DNA?
6. What is antisense RNA?
7. Write a short note on "Super Weeds".
8. What is meant by site directed mutagenesis?
9. Explain immobilized cell biosensors.
10. Explain cDNA library.
11. What are genomic libraries?
12. What are edible vaccines?

(2 x 8 = 16)

Section B

Answer any 7 (5 marks each)

13. Explain the methods to create sticky ends in blunt ended fragments.
14. What is the role of antibiotic resistance genes in selection of transformed cells? Explain with an example.
15. What are the functions of genes encoded in the T-DNA?
16. Explain phosphite-triester method of DNA synthesis.
17. Briefly explain the principle, procedure and applications of RNAi
18. Natural human genes cannot be patented. Why? Explain your reason.
19. Give an account on oligonucleotide directed mutagenesis with M₁₃ DNA.
20. Give an account on the various types of biosensors.
21. Describe the basic steps involved in the construction of cDNA library.
22. Differentiate somatic cell and germline therapy.

(5 x 7 = 35)

Section C

Answer any 2 (12 marks each)

23. What are the steps involved and applications of cloning? Differentiate between topocloning and gateway cloning.

OR

24. Explain the RNA mediated gene silencing technologies with suitable examples.
25. Give an account on the procedure, variants and applications of PCR.

OR

26. Write an essay on the problems and prospects of genetically modified crops.

(12 x 2 = 24)