

TM244334R

Reg. No :

Name :

MASTER'S DEGREE (C.S.S) EXAMINATION, MARCH 2024
2022 ADMISSIONS REGULAR
SEMESTER IV - BOTANY
BO4E02TM20 - Genetic Engineering, Genome Editing and Immunology

Time : 3 Hours

Maximum Weight : 30

Part A

I. Answer any Eight questions. Each question carries 1 weight

(8x1=8)

1. Differentiate between S1 nuclease and exonuclease.
2. Distinguish between linkers and adapters.
3. What is meant by hybridization probing?
4. What is meant by 'quelling'?
5. Explain error prone PCR. What is it used for?
6. Differentiate somatic therapy from germline therapy.
7. Enlist the requisites of an ideal biosensor.
8. Distinguish between neutrophils, basophils and eosinophils.
9. Discuss the structure and functions of dendritic cells.
10. Explain MALT and its role in immunity.

Part B

II. Answer any Six questions. Each question carries 2 weight

(6x2=12)

11. Differentiate BAC, YAC and PAC.
12. Explain Colony hybridization probing.
13. Enlist the advantages and disadvantages of developing transgenic animals?
14. Discuss the development of Bt cotton by genetic engineering.
15. How are GMOs used as biosensors?
16. Discuss gene therapy and its ethical issues.
17. What are toll like receptors? Discuss its role in immunology.
18. Discuss the various types of acquired immunity.

Part C

III. Answer any Two questions. Each question carries 5 weight

(2x5=10)

19. Write an essay on the method of screening for recombinants by insertional inactivation.
20. Describe the procedure of locating and isolating a gene for constructing genomic library.
21. With examples, give an account on the development of transgenic plants and their significance.
22. Write an account on protein engineering and its applications.

