

Reg. No. :

Name :

Fourth Semester M.Sc. Degree Examination, September 2019

Botany

Special Paper II – Elective

BO 242 a : BIOTECHNOLOGY

(2013 Admission onwards)

Time : 3 Hours

Max. Marks : 75

I. Answer the following questions :

1. Humulin
2. YAC
3. Cybrids
4. Hybridomas
5. IPR
6. Gene therapy
7. C DNA library
8. AFLP
9. Hairy root culture
10. Somaclonal variation

(10 × 1 = 10 Marks)

P.T.O.



II. Answer the following questions in not more than **50** words:

11. (a) What are immobilized enzymes ? What is its advantage?

OR

(b) Write a short note on molecular farming.

12. (a) Give an account of bioprocess technology for the production of secondary metabolites.

OR

(b) What are bioreactors? How it operates?

13. (a) What are probiotics?. How do they work?

OR

(b) Discuss the methodology and application of western blotting

14. (a) Briefly explain the application of protoplast culture

OR

(b) Write a short note on gene therapy

15. (a) What are reporter genes ? Discuss its utility in transformation studies

OR

(b) What are cosmids ? What is its application.

(5 × 2 = 10 Marks)

III. Answer the following questions in not more than **150** words:

16. (a) Explain PCR and its different forms with significance.

OR

(b) Explain different types of restriction enzymes and target sites.



17. (a) Explain DNA finger printing and its application.

OR

(b) Explain the technique and application of callus culture.

18. (a) Explain the role of linkers, adaptors and homopolymers in the generation of recombinant DNA.

OR

(b) Discuss the role of *Agrobacterium* and its plasmid in the transformation of plants.

19. (a) Explain the microbial production and purification of industrial enzymes and organic compounds.

OR

(b) Explain fermentation technology and its application.

20. (a) Explain the impact of biotechnology on agri.— biodiversity, medicine and environment.

OR

(b) What is genomic DNA library? Discuss the details about the construction of genomic library.

21. (a) What is cell suspension culture? Explain the kinetics of growth and elicitation methods related to suspension culture.

OR

(b) What is bioremediation? Give an account of role of transgenic microbes in bioremediation.

22. (a) Explain gene targeting and its application

OR

(b) Explain site directed mutagenesis with its significance.

(7 × 5 = 35 Marks)



IV. Answer the following questions in not more than **250** words:

23. (a) Explain different types of gene transfer technologies and its application.

OR

(b) Explain the replication of bacterial DNA and regulation of gene expression.

24. (a) Explain the application of transgenic technology in plants

OR

(b) Explain about the application of plant tissue culture technology for the large scale production of crop plants.

(2 × 10 = 20 Marks)

