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18BT742

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024

Agricultural Biotechnology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Write a brief note on Indian agricultural heritage and explain the significance of soil management in sustainable agriculture. (10 Marks)
- b. Explain in detail various methods for breeding self pollinated crops. (10 Marks)

OR

- 2 a. Write a descriptive note on nutritional requirements of plants. Explain the mechanism of mineral uptake in plants. (10 Marks)
- b. What is heterosis? Explain its genetic basis and significance in plant breeding. (10 Marks)

Module-2

- 3 a. Explain the importance of post harvest physiology. Discuss the technologies to control post harvest losses. (10 Marks)
- b. Write descriptive note maturity indices. Explain the various stages of growth. (10 Marks)

OR

- 4 a. Define repending and explain the changes during repending. (10 Marks)
- b. Explain respiration and transpiration loss methods to measure these losses. (10 Marks)

Module-3

- 5 a. Explain in detail the structure and function cry proteins. Highlight the mechanism of action. (10 Marks)
- b. What are biotic stress explain in detail (10 Marks)

OR

- 6 a. What are abiotic stress explain in detail. (10 Marks)
- b. Explain transgenic technology for the development of virus, bacterial and fungal resistance plants. (10 Marks)

Module-4

- 7 a. What is organic farming? Highlight its principle and scope in India. (12 Marks)
- b. Explain the role of biotechnology in supporting organic farming. (08 Marks)

OR

- 8 a. Write a descriptive note on pest and disease management. (10 Marks)
- b. Write short note on biological control of pest. (10 Marks)

Module-5

- 9 a. Explain the aims and scope of molecular farming. Add a note on high value pharmaceutical plant. (12 Marks)
- b. Explain the safety and regulatory challenges of molecular farming. (08 Marks)

OR

- 10 a. Write short note on nif gene and nod gene. (10 Marks)
- b. Write a descriptive note on phytohormones. (10 Marks)