



Date: 02-04-2019
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART- A

Answer the following, each answer within 50 words.

(10×2=20marks)

1. What is suspension culture technique?
2. State the macronutrients of MS medium.
3. Write notes on artificial seeds.
4. What is embryo culture?
5. What is T- DNA?
6. Define crown gall disease.
7. What is Particle gun bombardment?
8. Define cDNA library.
9. Define the term bioethics.
10. Expand GMO and mention any two GM crops

PART- B

Answer the following, each within 500 words. Draw diagrams and flowcharts

wherever necessary.

(5×7=35marks)

11. (a) Write short notes on the role of hormones in plant tissue culture.

OR

- (b) Discuss the various applications of plant tissue culture.

12. (a) Write notes on anther culture and its significance.

OR

- (b) Elaborate on the various methods in cryopreservation.

13. (a) Discuss the *Agrobacterium* mediated gene transfer.

OR

(b) Diagrammatically explain the genetic organization of Ti plasmid .

14. (a) Explain the physical methods of gene transfer.

OR

(b) What is a gene library? Add a note on restriction enzymes.

15. (a) What is a molecular marker? Differentiate RFLP from RAPD.

OR

(b) Write notes on biosafety measures followed in production of transgenic crop.

PART- C

Answer any three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary. **(3×15=45marks)**

16. What are the various sterilization techniques used in tissue culture.

17. Write an essay on protoplast isolation and fusion.

18. Give an account on organization and expression of genome in *Arabidopsis*.

19. Write notes on: a) Southern blotting b) Microinjection c) Electroporation.

20. Explain the development of transgenic plants with reference to insect resistance.

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