



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – June 2021
VI Semester

Class : III UG
Major : Botany

Time : 3 Hours
Max. Marks: 100

18BBOC22 Plant Biotechnology

Part A
Choose the Correct Answer

10x1=10

1. Who is known as the Father of Tissue Culture? CO1 K2
a. Bonner b. Laibach
c. Haberlandt d. Gautheret
2. Which of the following plant cells shows totipotency? CO2 K1
a. Cork Cells b. Meristem
c. sieve tube d. xylem vessels
3. The pair of hormones required for a callus to differentiate are CO3 K2
a. Ethylene & Auxin b. Auxin & Cytokinin
c. Auxin & Abscisic acid d. Cytokinin & Gibberellin
4. In plant Tissue culture, the callus tissues are generated into a complete plantlet by altering the concentration of CO2 K2
a. Sugars b. Hormones
c. Amino acids d. Vitamins & Minerals
5. Haploid plants can be obtained from CO3 K1
a. Anther culture b. Bud Culture
c. leaf culture d. Root culture
6. Which of the following chemical is most widely used for protoplast fusion? CO1 K3
a. Mannitol b. PEG
c. Sorbitol d. Mannol
7. The batch culture is an ----- culture system. CO2 K2
a. Open b. Closed
c. Isolated d. Semi closed
8. Which one of the following is not a secondary Metabolite? CO1 K2
a. Protein b. Alkaloids
c. Terpenes d. Terpenoids
9. Name the strategy where two plasmid system is used for the introduction of the gene? CO2 K2
a. Binary vector system b. Co-integration vector strategy
c. Agrobacterium d. Selectable marker strategy
10. Microprojectile method of gene transfer in plants involves delivery of DNA CO3 K2
a. With the help of micromanipulator b. with the help of biolistic gun
c. With the help of needles d. None of the above

Part B
Answer ALL questions
Each answer should not exceed 400 words or two pages

5 x 6 = 30

- 11.a. Briefly write about surface sterilization of explants. CO3 K3
(or)
- 11.b. What are the basic requirements of Tissue culture lab? CO2 K3
- 12.a. Write short note on Meristem culture. CO3 K2
(or)
12. b. Comment on Somatic embryogenesis. CO3 K2
- 13.a. Write short note on Artificial seeds. CO3 K2
(or)
13. b. Comment on embryo culture technique. CO2 K2
- 14.a. Explain the importance of hairy root culture. CO2 K3
(or)
14. b Give short account on bio fuels. CO1 K1
- 15.a. Explain shotgun method of gene transfer. CO2 K2
(or)
- 15.b. Differentiate Binary and Co integrate vectors. CO2 K2

Part C
Answer ALL questions
Each answer should not exceed 800 words or four pages

5 x 12 = 60

16. a. Write an account on sterilization methods. CO3 K3
(or)
16. b. Give a detailed account on preparation of MS media. CO2 K2
- 17.a. List out the physiological effects of Auxins and Cytokinins. CO1 K1
(or)
- 17.b. Give an account on Micro propagation. CO3 K2
18. a. Explain Haploid plant production and applications. CO2 K2
(or)
18. b. Write an account on protoplast isolation and fusion technology. CO3 K2
19. a. Describe in detail the parts and applications of Stirred Tank Bioreactor. CO2 K3
(or)
19. b. Give an account on cell suspension culture and applications. CO3 K3
20. a. Give an account on Transgenic plants. CO3 K3
(or)
20. b. Discuss in detail genetic engineering of plants for pest resistance. CO2 K2
