R-19 Code:5301/19/BL

Faculty of Science

B.Sc (Biotechnology) III-Year, CBCS –V Semester

Backlog Examinations – June/July, 2022

PAPER: Plant Biotechnology

Time: 3 Hours Max Marks: 80

Section-A

I. Answer any *eight* of the following (8x4=32 Marks)

1. Importance of totipotency in plant propagation
2. Gibberellins
3. Callus culture
4. Encapsulation
5. Cybrids
6. Pollen culture
7. Gene gun method
8. Viral vectors for gene transfer
9. Glyphosate tolerance
10. Fungal resistant transgenic plants
11. Salinity stress tolerant plants
12. Transgenic plants as edible vaccine

Section-B

II. Answer the following questions (4x12=48 Marks)

13. (a) Discuss about various plant growth regulators and their function

(OR)

(b) Explain about induction of cell suspension cultures and their applications

14. (a) Give a brief note on somaclonal variation and conservation of plant germplasm

(OR)

(b) Write about pollen culture method for the production of haploids and their applications

15. (a) What are the different selection marker genes used for the production of transgenic plants

(OR)

(b) Describe genome editing and its importance with examples

16. (a) Give a brief note and characterize about fungal resistant transgenic plants

(OR)

(b) Explain "transgenic plants as bioreactors" with examples

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R-19

Code: 5301E1/R

Faculty of Science

B.Sc (Biotechnology) III-Year, CBCS –V Semester

Regular Examinations –Jan, 2023

PAPER: Plant Biotechnology

Time: 3 Hours Max Marks: 80

Section-A

I. Answer any *eight* of the following questions (8x4=32 Marks)

1. Dedifferentiation of plant cells
2. Vitamins as media additives
3. Sterilization of explants
4. Protoplast culture
5. Encapsulation
6. Haploids
7. Electroporation
8. Ti Plasmid
9. Reporter genes
10. Bt-Cotton
11. Salinity stress tolerant plants
12. Transgenic plants as bioreactors

Section-B

II. Answer the following questions (4x12=48 Marks)

13.(a) Write a brief note on nutritional requirements for plant tissue culture.

(OR)

(b) Explain the role of auxins and gibberillins as plant growth regulators.

14.(a) Write a detailed note on meristem culture and its applications

(OR)

(b) Give a note on applications of somaclonal variation. Add a brief note on consrvation of Plant germplasm.

15.(a) Explain the viral vectors used for gene transfer into plants.

(OR)

(b) Describe CRISPR CAS 9 genome editing technology with its merits.

16.(a) Explain herbicide resistance development in transgenic plants

(OR)

(b) Write a note on transgenic plants with enhanced nutritional values.

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R-19

Code:5301E1/19/BL

Faculty of Science

B.Sc (Biotechnology) III-Year, CBCS –V Semester

Backlog Examinations –June, 2023

PAPER: Plant Biotechnology

Time: 3 Hours | Max Marks: 80

Section-A

I. Answer any *eight* of the following questions (8x4=32 Marks)

1. Regeneration of plant cells
2. Cytokinins
3. Significance of somatic embryogenesis
4. Meristem culture
5. Synthetic seeds
6. Cybrids
7. Binary vectors
8. Transgenic plants
9. Genome editing
10. Glyphosate tolerance
11. Lectins
12. Edible vaccines

Section-B

II. Answer the following questions (4x12=48 Marks)

13.(a) Write a note on media used for plant tissue culture and add a note on media additives.

(OR)

(b) Explain the process of induction of callus and cell Suspension cultures.

14.(a) Write a detailed note on micropropogation and its applications.

(OR)

(b) Explain the method of development of somatic hybrids and add a note on its applications.

15.(a) Describe various physical methods of direct gene transfer into plants.

(OR)

(b) Explain in detail, the process of selection of transgenic plants.

16.(a) Write a brief note on development of insect resistant transgenic plants

(OR)

(b) Describe the strategy involved in development of abiotic stress tolerant plants.

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