

MSc BIOTECHNOLOGY II YEAR

SEMESTER – IV {PLANT BIOTECHNOLOGY}

INTERNAL – II

PLANT BIOTECHNOLOGY

QUESTION BANK

Multiple Choice Questions (MCQs)

1. The most common bacterium used for gene transfer in plants is:

- A) E. coli
- B) Bacillus
- C) Agrobacterium tumefaciens
- D) Pseudomonas

Answer: C

2. The Ti plasmid is found in:

- A) Bacillus
- B) Agrobacterium tumefaciens
- C) E. coli
- D) Yeast

Answer: B

3. T-DNA is transferred into:

- A) Cytoplasm
- B) Mitochondria
- C) Nucleus
- D) Ribosome

Answer: C

4. Particle bombardment method is also called:

- A) Electroporation
- B) Gene gun
- C) Microinjection
- D) Transformation

Answer: B

5. PEG-mediated transformation is used in:

- A) Seeds
- B) Protoplasts
- C) Roots
- D) Leaves

Answer: B

6. CRISPR technology is used for:

- A) Protein synthesis
- B) Gene editing
- C) Photosynthesis
- D) Respiration

Answer: B

7. TALEN stands for:

- A) Transcription Activator-Like Effector Nucleases
- B) Transfer Agent Like Enzyme

- C) Transgenic Alteration Link Enzyme
- D) None

Answer: A

8. Bt toxin gene is used for:

- A) Herbicide resistance
- B) Insect resistance
- C) Drought tolerance
- D) Disease resistance

Answer: B

9. Herbicide-resistant plants help in:

- A) Increasing pests
- B) Killing weeds
- C) Reducing growth
- D) Increasing diseases

Answer: B

10. Marker-assisted selection uses:

- A) Hormones
- B) DNA markers
- C) Proteins
- D) Lipids

Answer: B

11. RFLP stands for:

- A) Random Fragment Length Polymorphism
- B) Restriction Fragment Length Polymorphism
- C) Rapid Fragment Length Polymorphism
- D) None

Answer: B

12. RAPD technique is based on:

- A) RNA
- B) DNA amplification
- C) Protein synthesis
- D) Lipid metabolism

Answer: B

13. Edible vaccines are produced in:

- A) Animals
- B) Plants
- C) Bacteria
- D) Fungi

Answer: B

14. Molecular pharming refers to:

- A) Drug production using plants
- B) Soil testing
- C) Fertilizer production
- D) Seed germination

Answer: A

15. Biofortification improves:

- A) Yield
- B) Nutritional quality
- C) Size

D) Color

Answer: B

16. Rhizobium is used for:

A) Nitrogen fixation

B) Photosynthesis

C) Respiration

D) Fermentation

Answer: A

17. Azolla is associated with:

A) Fungi

B) Cyanobacteria

C) Virus

D) Algae only

Answer: B

18. Trichoderma is used as:

A) Biofertilizer

B) Biofungicide

C) Herbicide

D) Insecticide

Answer: B

19. Bacillus thuringiensis produces:

A) Antibiotics

B) Bt toxin

C) Hormones

D) Enzymes

Answer: B

20. AFLP technique combines:

A) PCR and restriction digestion

B) RNA and DNA

C) Protein and DNA

D) Lipid and DNA

Answer: A

Fill in the Blanks

1. _____ tumefaciens is used for gene transfer in plants.
Answer: Agrobacterium
2. The _____ plasmid carries T-DNA.
Answer: Ti
3. T-DNA integrates into the _____ genome.
Answer: Plant
4. Gene gun method is also called _____ bombardment.
Answer: Particle
5. PEG is used for transformation of _____.
Answer: Protoplasts
6. CRISPR is a _____ editing technology.
Answer: Gene
7. Bt gene provides _____ resistance.
Answer: Insect
8. Herbicide resistance helps control _____.
Answer: Weeds
9. Molecular markers are used in _____ selection.
Answer: Marker-assisted
10. RFLP is based on DNA _____ patterns.
Answer: Fragment
11. RAPD uses _____ primers.
Answer: Random
12. Edible vaccines are produced in _____.
Answer: Plants
13. Molecular pharming produces _____ compounds.
Answer: Pharmaceutical
14. Biofortification improves _____ value of crops.
Answer: Nutritional
15. Rhizobium fixes _____.
Answer: Nitrogen
16. Azolla contains symbiotic _____.
Answer: Cyanobacteria
17. Trichoderma acts as a _____ agent.
Answer: Biocontrol
18. Bacillus thuringiensis produces _____ toxin.
Answer: Bt
19. Bioinsecticides control _____.
Answer: Insects
20. SSR markers are also called _____ repeats.
Answer: Simple sequence