

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2024 ONLY)

24PBY311

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS): POLLACHI
END-OF-SEMESTER EXAMINATIONS: NOVEMBER-2025
M.Sc.-BOTANY **MAXIMUM MARKS: 75**
SEMESTER III **TIME: 3 HOURS**

PLANT BIOTECHNOLOGY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

K1

1. Which of the following is true about chloroplast DNA?
A) It shows Mendelian inheritance
B) It is also known as plastid DNA
C) The chloroplast DNA is not conserved in nature
D) Non-replicative
2. Which of the following types of RNA undergoes an additional process of capping and tailing during transcription?
A) Srna
B) hnRNA
C) 5srRNA
D) snRNA
3. Which hormone induces cell division during callus formation?
A) Auxin
B) Gibberellin
C) Cytokinin
D) Ethylene
4. Geographical Indication tag is given as per the _____.
A) Indian Copyright Act, 1957
B) New Design Act, 2000
C) Patent Act, 1970
D) GI Act, 1999
5. Nucleation in nanoparticle synthesis gives _____.
A) Thermodynamically stable product
B) Kinetically stable product
C) Electrically stable product
D) Electro-sterically stable product

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

K2

6. Expand AFLP
7. Define PCR
8. What is cybrid?
9. Explain transgenic plant with example
10. Discuss zeolite

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K3

11. a) Outline nuclear genome organization in plant.

(OR)

- b) Explain protein targeting to chloroplast.

(CONTD.....2)

12.a) Interpret semiconservative mode of DNA replication.

(OR)

b) Compare different models of DNA replication.

13.a) Explain Somatic embryogenesis.

(OR)

b) Outline sterilization methods in plant tissue culture.

14.a) Analyze the mechanism of T-DNA transfer to plants.

(OR)

b) Give an account of transgenic plants.

15.a) Describe the synthesis of silver nano particle .

(OR)

b) Give an account of nano clay.

SECTION – C

(5 X 8 = 40MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K4 & K5

16. a) Explain genome organization in plants.

(OR)

b) Discuss in detail the molecular markers in plants.

17.a) Give a detailed note on protein synthesis in eukaryotes.

(OR)

b) Enumerate DNA sequencing methods.

18. a) Give an account of Micropropagation.

(OR)

b) Outline the method of Artificial seed preparation and its application.

19.a) Analyze the structure and function of Ti Plasmid of *Agrobacterium*.

(OR)

b) Discuss in detail IPR.

20.a) Interpret different types of nanomaterials and its applications.

(OR)

b) Explain the methods of preparation of nanomaterial.
