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(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2021 ONLY)

21UBY612

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY-2024

COURSE NAME: B.Sc.- BOTANY

MAXIMUM MARKS: 70

SEMESTER: VI

TIME : 3 HOURS

PART - III

BIOTECHNOLOGY & GENETIC ENGINEERING

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. What is exactly an explant?
a) Plant part that is grown in soil
b) Any plant component that has been removed and grown in a test tube
c) A particular plant component produced in a test tube
d) Leaves growing within a test tube.
2. Which of the following is cultured to obtain haploid plants?
a) Embryo b) Nucleus c) Apical bud d) Entire anther
3. Who discovered restriction enzymes _____
a) Smith and Nathans b) Alexander Fleming c) Berg d) None of the above
4. Which of the following blotting techniques is used to detect specific RNA molecules in a sample?
a) Eastern blotting b) Southern blotting c) Northern blotting d) Western blotting
5. Which is a genetically modified crop?
a) Bt-cotton b) Bt-brinjal c) Golden rice d) All the above

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

(K2)

6. Define totipotency.
7. Interpret cybrids.
8. Explain restriction endonuclease.
9. Illustrate reporter genes.
10. Define IPR.

SECTION – B

(5 X 4 = 20 MARKS)

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

11. a) Examine the types of sterilization.

(OR)

- b) Describe the composition of MS medium.

(CONTD.....2)

12.a) List the applications of somaclonal variation.

(OR)

b) Interpret synthetic seeds.

13.a) Describe the tools used in genetic engineering

(OR)

b) List the properties of vectors.

14.a) Interpret methods of gene transfer.

(OR)

b) Describe DNA probes.

15.a) Examine DNA bar coding.

(OR)

b) Interpret DNA vaccine.

SECTION - C

(4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS.

**(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS
(FROM Qn. No : 17 to 21)**

(K4 (Or) K5)

16. Discuss the stages of micropropagation.

17. Evaluate the steps involved in protoplasmic fusion.

18. Summarize cryopreservation.

19. Point out the types of vector.

20. Discuss the blotting techniques.

21. Examine Finger printing technique and its applications.
