

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

END-OF-SEMESTER EXAMINATIONS: JULY- 2022

M.Sc. BOTANY

MAXIMUM MARKS: 70

SEMESTER-IV

TIME : 3 HOURS

PART – III

PLANT BIOTECHNOLOGY AND NANOBIOLOGY

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. Which strand is responsible for the replications and transcriptions of mitochondrial genome?
a) H stand b) L strand c) D loop d) Both H and L stand
2. Where is r RNA polymerase located?
a) Nucleus b) Ribosome c) Nucleolus d) Cytoplasm
3. Choose the plant hormone which initiates and proliferates embryogenesis in a medium_____.
a) Gibberellin b) cytokinin c) Auxin d) kinetin
4. Spell the expansion of IPR_____.
a) International Property Rights b) Intellectual Property Rights
b) Intellectual Paper Rights c) International Paper rights
5. Name the inducing agent used in chemical reduction method of silver nano particle synthesis_____.
a) sodium b) potassium c) sodium citrate d) potassium citrate

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

(K2)

6. Explain protein targeting.
7. Relate the role of promoters in gene expressions.
8. Differentiate between organogenesis and embryogenesis.
9. Explain the function of Ti-plasmid of Agrobacterium.
10. Define Nano catalyst with examples.

SECTION – B

(5 X 4 = 20 MARKS)

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

(K3)

11. a) Describe the organization of nuclear genome.
(OR)
b) Interpret chloroplast DNA.
12. a) Discover the restriction enzymes and their role in rDNA technology.
(OR)
b) Sketch out the mechanism of Transcription.

(CONTD....2)

13. a) Examine artificial seed preparation.

(OR)

b) Dramatize about somatic embryogenesis.

14.a) Assess the role of promoter and marker genes in plant transformation.

(OR)

b) Show the delay of fruit ripening.

15.a) List and explain the emulsifiers and homogenizers.

(OR)

b) Interpret the synthesis of silver nano particles

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. Summarize initiation, elongation and termination events in eukaryotic DNA replication
17. Investigate chloroplast molecular markers in plants with neatly labelled sketches
18. Construct the steps involved in the establishment and maintenance of callus and suspension culture.
19. Determine the physical, chemical and biological method for plant gene transfer.
20. Categorize the ethics in plant biotechnology and IPR with detailed sketch.
21. Compare the Biosensor and Nano clays in detail.
