

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

21PBY207

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS : JULY -2022

M.Sc.-BOTANY
SEMESTER: II

MAXIMUM MARKS: 70
TIME : 3 HOURS

PART – III

CYTOLOGY, GENETICS AND PLANT BREEDING

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. A semiautonomous organelle in the cell is_____.
a. peroxisomes b. chloroplast c. golgibodies d. endoplasmic reticulum
2. The alleles of a gene do not show any blending and both the characters are recovered as such in F2 generation. This statement is _____.
a. law of independence b. law of natural selection
c. law of segregation d. law of dominance
3. Which of the following is not a mutagen?
a. ethylnitrosourea b. mustard gas c. vinyl chloride d. chloroform
4. Which type of ploidy is commonly found in plants?
a. haploidy b. diploidy c. polyploidy d. trisomy
5. Somatic hybridization is achieved through_____.
a. grafting b. conjugation c. protoplast fusion d. rDNA technology

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. Name major protein component of microfilament.
7. Define: test cross.
8. Define: Epigenetics.
9. Distinguish the double haploid plants.
10. Expand: ICAR.

SECTION – B

(5 X 4 = 20 MARKS)

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

(K3)

11. a) Illustrate the structure of cell wall.
(OR)
b) Illustrate the organization and function of lysosome.
- 12.a) Outline the kinds of linkage.
(OR)
b) Derive the phenotypic ratio of complementary genes.

(CONTD.....2)

- 13.a) Find the chemicals involved in mutation.
(OR)
b) Enumerate the characteristics of genetic code.
- 14.a) Compute the objectives of plant breeding.
(OR)
b) Discover the role of haploids in plant breeding.
- 15.a) Discuss the causes for hybrid vigour.
(OR)
b) Examine the key features of farmer's right act in India

SECTION - (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS .

16. Analyze the phases of meiosis. K4
17. Interpret the structure and functions of cytoskeleton. K4
18. Evaluate the theories of sex determination in plants. K5
19. Outline the types and features of spontaneous mutation. K4
20. Criticize the pure line selection method with its merits and demerits. K5
21. Justify the role of NBPGR in plant breeding. K5
