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VI Semester B.Sc. Degree Examination, September - 2021**BOTANY****Cytology, Genetics, Evolution And Plant Breeding****(CBCS Scheme (F+R) 2016-17 & Onwards)****Paper : VII****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

1. Answer **ALL** parts.
2. Draw diagrams wherever necessary.

PART - A**I. Explain/Define any TEN of the following in two or three sentences. (10×2=20)**

1. Define Metacentric chromosome.
2. What is Karyokinesis?
3. Differentiate Euchromatin and heterochromatin.
4. What is crossing over? Mention its importance.
5. Mention the types of chromosomal aberrations.
6. Define Epistasis.
7. What is chromosomal mechanism of sex determination? Mention any one type.
8. Mention three objectives of plant breeding.
9. Differentiate phenotype and Genotype.
10. Comment on mutation theory of Devries.
11. Define polyploidy. Name the chemical used to induce it.
12. What is Pollen bank?

PART - B**II. Write critical notes on any FOUR of the following. (4×5=20)**

13. Aneuploidy
14. Nucleosome model of Eukaryotic chromosome.
15. Leptotene and zygotene stages of Meiosis - I.

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16. Monohybrid cross with an example.
17. Differences between Mitosis and Meiosis
18. Incomplete dominance with an example.

PART - C

III. Give a comprehensive account of any **THREE** of the following. **(3×10=30)**

19. Describe the stages of mitosis with a neat labelled diagram. Add a note on its significance.
 20. What are complementary factors? Explain with an example.
 21. Explain the postulates of Darwinism.
 22. Explain
 - a. Deletion.
 - b. Layering.
 23. In Garden pea Tall (T) is dominant over dwarf (t) and Round seed (R) is dominant over wrinkled seed (r). Give the results of the following crosses in pea. Mention the principle involved in the above cross.
 - i. $TtRr \times ttRr$
 - ii. $TtRr \times Ttrr$
 - iii. $ttrr \times ttRr$
 - iv. $TTrr \times Ttrr$
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