



3424035

11635

Reg. No.

--	--	--	--	--	--	--	--

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.

**[P.T.O.]**



(2)

11635

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.  $TTrr \times Ttrr$
-



3421703

11636

Reg. No.

--	--	--	--	--	--	--	--

VI Semester B.Sc. Degree Examination, September - 2021

BOTANY

Plant Physiology - II

(CBCS Scheme Freshers and Repeaters 2016-17 and onwards)

Paper : VIII



Time : 3 Hours

Maximum Marks : 70

**Instructions to Candidates:**

1. Answer ALL Parts.
2. Draw diagrams wherever necessary.

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

1. What are enzymes? Give example.
2. What is oxidative phosphorylation? Where does it occurs?
3. What is Leghaemoglobin? Mention its role.
4. Name any two synthetic auxins.
5. What are alkaloids? Mention its role.
6. Name the pigment molecules of Reaction centre of PS-I and PS - II.
7. Mention any two types of symbiotic associations of nitrogen fixation.
8. Differentiate the co-enzyme from co-factor.
9. What is scarification? Mention its types.
10. Distinguish photorespiration from respiration.
11. What is ammonification? Mention its significance.
12. Mention any two physiological roles of ABA.

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

13. Factors influencing enzyme action.
14. Photoperiodism.
15. Fermentation.

[P.T.O.]



(2)

11636

16. Cyclic photophosphorylation.
17. Hydrotropism.
18. What are Gibberellins? Explain their role in plant growth.

**PART - C**

C. Give a comprehensive account of any **THREE** of the following.

**(3×10=30)**

19. Explain the classification and mechanism of Enzymes.
  20. Explain EMP pathway and add a note on its significance.
  21. What are amino acids? Describe the methods of amino acid biosynthesis in plants.
  22. Describe Calvin Cycle.
  23. Explain briefly.
    - a. Vernalization.
    - b. Cytokinins.
-