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VI Semester B.Sc. Degree Examination, September/October - 2022

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. State the law of dominance.
2. Differentiate between genotype and phenotype.
3. What is apoptosis?
4. In which type of gene interaction, you get the following ratios
 - a) 9:3:3:1
 - b) 9:7
5. Define trisomy? Give an example.
6. What are point mutations
7. Define hybridization
8. What is germ plasm?
9. Define telomere
10. Draw a neat labelled diagram of mitotic metaphase.
11. Define linkage
12. Mitosis is called somatic cell division substantiate.

[P.T.O.]



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PART - B

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

13. Supplementary factors.
14. Law of Independent assortment
15. Pollen Bank
16. Air Layering
17. Numerical aberrations
18. Five differences between mitosis and meiosis.

PART - C

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

19. With neat labelled diagrams explain the four stages of prophase I of meiosis.
 20. Explain the organisation of a eukaryotic chromosome
 21. Give an account of the aims and objectives of plant breeding.
 22. Give an account of Lamarkism Mention its merits and demerits
 23. a) Explain XX - XY type of sex determination.
b) Solve the genetic problem in sweet peas, the genes C and P when present together produce purple flowers but when either C or P is present alone, it produces white flowers what phenotypic ratio will be obtained in the F₂, when two white flowered varieties are crossed.
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VI Semester B.Sc. Degree Examination, September/October - 2022

BOTANY

Plant Physiology - II

(CBCS Scheme Freshers & Repeaters)

Paper : 8



Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates :

1. Answer All parts
2. Draw diagrams wherever necessary.

PART - A

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

1. What is holoenzyme?
2. What is quantum yield?
3. Where does the light reaction and dark reaction takes place in the chloroplasts.
4. Mention two types of amino acid synthesis.
5. What is the role of nitrogenase enzyme?
6. Mention any two factors affecting respiration.
7. What is Phototropism?
8. Kranz anatomy
9. What are allosteric enzymes?
10. Define vernalization. Mention its importance.
11. What is seed dormancy?
12. Mention any two roles of Flavonoids.

[P.T.O.]



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PART - B

II. Write critical notes on any FOUR of the following.

(4 × 5 = 20)

13. Physiological effects of gibberellins.
14. Growth curve
15. Glycolysis
16. Alcoholic and lactic acid fermentation
17. What are nastic movements? Explain seismonasty in Mimosa.
18. Factors affecting enzyme activity

PART - C

III. Give a comprehensive account on any THREE of the following

(3 × 10 = 30)

19. Discuss the nomenclature and classification of enzymes.
 20. Explain cyclic and Non-cyclic photophosphorylation.
 21. Give an account on Photoperiodism.
 22. Describe the ultrastructure of Mitochondria and a note on oxidative phosphorylation.
 23. Explain symbiotic nitrogen fixation.
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