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VI Semester B.Sc Degree Examination, August/September - 2023

BOTANY

Cytology, Genetics, Evolution and Plant Breeding

(CBCS Scheme 2020 Freshers)

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. Differentiate metacentric from submetacentric chromosome.
2. What is linkage?
3. Mention two advantages of pollen bank.
4. What is test cross?
5. State the law of dominance.
6. What is kinetochore?
7. What are Mitotic inhibitors?
8. Mention any two postulates of Darwinism.
9. What is Karyotype?
10. What is genotype?
11. What is heterozygous condition?
12. What is Telomere? Mention its significance.

[P.T.O.]



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PART - B

II. Write critical notes on Any four of the following:

(4×5=20)

13. Differences between Mitosis and Meiosis.
14. Supplementary factors with an example.
15. Describe the structure of chromosome.
16. Biography of Mendel.
17. Aneuploidy.
18. Advantages of artificial methods of vegetative propagation.

PART - C

III. Give a comprehensive account of Any three of the following.

(3×10=30)

19. Explain stages of mitosis and add a note on its significance.
 20. Explain deletion and translocation.
 21. Define polyploidy. Explain Autopolyploidy.
 22. Explain crossing over in detail.
 23. In sweet pea, yellow seed coat [Y] is dominant over green [y] and round seed shape [R] is dominant over wrinkled seed [r]. What phenotypic ratio would be obtained in the progeny of the following crosses?
 - a) $Yy RR \times YY Rr$
 - b) $yy Rr \times Yy Rr$
 - c) Gootee.
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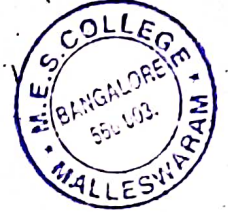
VI Semester B.Sc. Degree Examination, August/September - 2023

BOTANY

Plant Physiology - II

(CBCS Scheme Freshers - 2020)

Paper : VIII



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. What is the significance of light reaction?
2. What is oxidative phosphorylation?
3. What is grana?
4. What is asymbiotic nitrogen fixation? Give an example.
5. Differentiate phototropism from hydrotropism.
6. What are vitamins?
7. Mention four sources of nitrogen?
8. What is an active site?
9. Comment on influence of pH on enzyme action.
10. What is florigen?
11. What is the significance of denitrification?
12. What is transamination?

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PART - B

II. Write critical notes on Any four of the following:

(4×5=20)

13. C_4 pathway.
14. Emerson enhancement effect.
15. Classification of enzymes.
16. Geotropism.
17. Applications of plant hormones in agriculture.
18. Root - nodule formation.

PART - C

III. Give a comprehensive account on Any three of the following.

(3×10=30)

19. Explain the mechanism of enzyme action.
 20. Explain autonomous plant movements.
 21. Explain photolysis of water and the important factors affecting photosynthesis.
 22. Give the detailed account of EMP pathway.
 23. Give a detailed account of dormancy.
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