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T – 2716

Reg. No. :

Name :

Fourth Semester B.Sc. Degree Examination, July 2024

Career Related First Degree Programme under CBCSS

Botany and Biotechnology/Biotechnology (Multimajor)

Core Course

**BB 1442/BV 1442.1 – CELL BIOLOGY, PLANT BREEDING AND
EVOLUTIONARY BIOLOGY**

(2013-2018 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** the questions in a word or **one** or **two** sentences. Each question carries **1** mark.

Define the following :

1. Centromere
2. Plasmodesmata
3. Isolation
4. Spindle fibres
5. Idiogram
6. Ergastic substances

P.T.O.



7. Haploid
8. Back cross
9. Prokaryotes
10. Nuclear pore

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions. Each question carries **2** marks. Answer not to exceed one paragraph.

Write short notes on the following :

11. B chromosomes
12. Heterosis
13. Polyploidy
14. Genetic drift
15. Balbiani rings
16. Heterochromatin
17. Functions of cell wall
18. Endoplasmic reticulum
19. Mutation breeding
20. Cytokinesis
21. Synthetic varieties
22. Crossing over

(8 × 2 = 16 Marks)



SECTION – C

Answer **any six** questions. Each question carries **4** marks. Answer not to exceed **120** words.

23. Write a brief account on cell cycle.
24. Discuss the process of mutation.
25. Comment on hybridization and its importance.
26. Explain the structural aberrations of chromosome.
27. Describe the nucleosome organization of DNA.
28. Comment on different shapes of chromosome.
29. Give a brief account on selection and its types.
30. Describe the Structure of lampbrush chromosome.
31. Mention the objectives in Plant breeding.

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions. Each question carries **15** marks. Answer not to exceed **3** pages.

32. Discuss the events in Mitosis. Add a note on its significance. Draw labeled diagrams.
33. Write an account on Plant introduction.
34. Describe the structural organization of a Eukaryotic plant cell.
35. Explain evolution and its types. Discuss the theories on evolution.

(2 × 15 = 30 Marks)

