

15U423

(Pages:2) Name:

Reg.No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2017

(CUCBCSS-UG)

CC15U BOT4 C04 - PLANT PHYSIOLOGY, ECOLOGY AND GENETICS

Botany - Complementary Course

(2015 Admission)

Time: Three Hours

Maximum: 64 Marks

Part A (Answer all questions)

Draw diagrams only when specified

1. -----is the connecting link between glycolysis and Kreb's cycle.
2. When a cell is placed in hypertonic solution, it undergoes -----
3. Mendel's dihybrid genotypic ratio is -----
4. Name the enzyme involved both in Calvin cycle and C₂ cycle.
5. Name the photomorphogenic pigment present in plant.
6. Name the plant hormone acting as stress hormone.
7. The first stable product during C₄ cycle is -----
8. In succession, the final & stable community is -----
9. Genetically dwarf plants get elongated, if sprayed with -----
10. The self pruning physiological process removing the aged organs from the plant body is -----

(10 x 1 = 10 Marks)

Part B (Answer / explain any seven questions)

11. What is Emerson enhancement effect?
12. What are Climacteric fruits?
13. Differentiate between test cross and back cross.
14. Write a note on incomplete dominance.
15. What is plasmolysis?
16. What is meant by Kranz anatomy?
17. Describe the dual role of Rubisco.
18. Differentiate imbibition and osmosis.
19. What are anti-transpirants? Give an example.
20. Describe photoperiodism.

(7 x 2 = 14 Marks)

Part C (Answer any six of the following)

21. Explain ascent of sap.
22. Explain the effects of auxins in plant growth and development.
23. Write an account of electron transport chain and photophosphorylation.
24. Explain the mechanism of stomatal movements.
25. Name the biotic components of an ecosystem. Explain the role of each in the ecosystem.
26. With suitable example describe epistatic gene action.
27. Explain Hatch and Slack pathway of carbon fixation.
28. Explain xerophytic adaptations of plants.

(6 x 4 = 24 Marks)

Part D (Any two of the following)

29. Explain dark reaction in C₃ plants.
30. What are complementary genes? With the help of an example explain complementary gene action.
31. Explain the pathway of complete aerobic oxidation of pyruvic acid.

(2 x 8 = 16 Marks)

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16. What is meant by Kranz anatomy?
17. Describe the dual role of Rubisco.
18. Differentiate imbibition and osmosis.
19. What are anti-transpirants? Give an example.
20. Describe photorespiration.

(7 x 2 = 14 Marks)