18U424 (Pages: 2) Name: ……

Reg. No……..

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2020

(CUCBCSS – UG)

(Regular/Supplementary/Improvement)

CC15U BOT4 CO4 - PLANT PHYSIOLOGY, ECOLOGY & GENETICS

(Complementary Course: Botany)

(2015 Admission onwards)

Time: 3 Hours Maximum: 64 Marks

Draw diagrams only when specified.

Part A

Answer ***all*** questions. Each question carries 1 mark.

1. The last seral stage of an ecological succession is _____
2. Name the tissue involved in absorption of atmospheric moisture in epiphytes.
3. Name the plant organelle described as 'suicide bags'.
4. The plant hormone known to be used for rooting is _____
5. Name the xerophytic plant with succulent, flat and fleshy stem for water storage and photosynthesis.
6. In Dominant Epistasis, the F_2 phenotypic ratio is _____
7. Name the intermediary product acting as the connecting link between Glycolysis and Kreb's cycle.
8. The term used to denote the condition in which both the members of an allelic pair are identical.
9. Name the structure that favours exudation of water in the form of liquid drops.
10. Name the physiological process involved in sweetening of jams and salting of fish, pickles etc.

(10 x 1 = 10 Marks)

Part B

Answer any ***seven*** questions. Each question carries 2 marks.

11. Desribe the structre of chloroplast.
12. Define water potential. What is its significance?
13. Point out the ecological adaptations of Cuscuta.

14. Write short note on abscission.
15. Briefly describe vernalisation.
16. Write short note on process of succession.
17. What is meant by absorption spectra and action spectra?
18. Describe the law of independent assortment.
19. Write a description on incomplete dominance.
20. Briefly describe cyclic photophosphorylation.

(7 x 2 = 14 Marks)

Part C

Answer any ***six*** questions. Each question carries 4 marks.

21. Briefly describe the mechanisms involved in absorption of water.
22. Explain the mechanism of stomatal movements.
23. Explain the effects of auxins in plant growth and development.
24. Briefly explain ecological factors.
25. Describe hydrosere.
26. Describe Kreb's cycle with a schematic diagram.
27. Explain the mechanism of seed dormancy.
28. Discuss the mechanism and significance of terminal oxidation and phosphorylation in aerobic respiration.

(6 x 4 = 24 Marks)

Part D

Answer any ***two*** questions. Each question carries 8 marks.

29. Explain the mechanism of ascent of sap.
30. Explain non allelic gene interaction with an example.
31. Explain C_4 and C_3 cycles in photosynthesis.

(2 x 8 = 16 Marks)

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