

18P337

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Name.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2019

(Regular/Supplementary/Improvement)

(CUCSS-PG)

CC15P BO3 C09 - PLANT PHYSIOLOGY, METABOLISM AND BIOCHEMISTRY

(Botany)

(2015 Admission onwards)

Time: Three Hours

Maximum: 36 Weightage

I. Answer *all* questions briefly.

1. Explain nitrate reduction in plant tissues.
2. Describe GOGAT pathway.
3. What is the structure of rubisco?
4. Write a note on hydrogen bonding in water.
5. Describe briefly Indole Acetic Acid and its role.
6. Ecological significance of CAM pathway.
7. What is Michaelis – Menten constant? What is its significance?
8. What are allosteric enzymes?
9. What is the significance of Pentose Phosphate Pathway?
10. Define gluconeogenesis.
11. What are Zwitter ions?
12. What is saponification?
13. Differentiate between denaturation and renaturation of proteins.
14. What is the significance of PRPP?

(14 x 1 = 14 Weightage)

II. Answer any *seven* questions in not more than 100 words.

15. What are phytochromes? Give a brief account on phytochrome mediated photomorphogenic responses in plants.
16. Explain about stress physiology in plants by drought and salinity.
17. Mechanism of mineral ion absorption of plants.
18. Explain Z-Scheme with schematic representation.
19. Describe the biosynthesis of purines.
20. Explain the importance of NDP sugars in metabolism.
21. Discuss mechanism of enzyme action.
22. Classify carbohydrates giving suitable examples.

23. Explain supramolecular architecture of plasma membrane with reference to its composition.
24. Describe the three-dimensional structure of proteins.

(7 x 2 = 14 Weightage)

III. Answer any *two* question in 300 words each.

25. Describe the translocation in plants.
26. Write an explanatory note on secondary metabolites in plants. Comment on its physiological significance.
27. Describe oxidative phosphorylation giving emphasis to electron carriers and multienzyme complexes.
28. Give a detailed account of EMP pathway. Describe the fate of pyruvic acid.

(2 x 4 = 8 Weightage)
