

**C 80153**

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Name.....

Reg. No.....

**SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020**

(CUCBCSS—UG)

Botany

**BOT 6B 10—PLANT PHYSIOLOGY AND METABOLISM**

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer all questions.*

*Each question carries 1 mark.*

1. What is meant by matrix potential ?
2. Write any *one* role played by magnesium in plants.
3. Name the enzyme for carboxylation of PEP in CAM plants.
4. What is action spectrum ?
5. Name two enzymes necessary for nitrogen fixation.
6. In which form are carbohydrates transported from the leaves to other parts of plant body ?
7. What is meant by bolting ?
8. Name the plant growth regulator stimulating fruit ripening.
9. Define anabolism.
10. Which is the site of glycolysis ?

(10 × 1 = 10 marks)

**Section B**

*Answer all questions.*

*Each question carries 2 marks.*

11. Comment on adhesive and cohesive properties of water.
12. What is the role of antitranspirants ? Cite an example.
13. Write a note on facilitated diffusion in mineral uptake.
14. Write notes on Rubisco.
15. Explain acidification phase in CAM plants.

**Turn over**

16. What is reductive amination? Give an example.
17. Comment on phloem loading.
18. Write a brief account on seismonastic movements.
19. Explain alcoholic fermentation.
20. List out the significance of TCA cycle.

(10 × 2 = 20 marks)

### Section C

*Answer any six questions.  
Each question carries 5 marks.*

21. Explain the significance of transpiration.
22. Discuss the forces like transpiration pull and cohesive force of water molecules in ascent of sap in plants.
23. Write explanatory notes on photorespiration.
24. Explain symbiotic nitrogen fixation in leguminous plants.
25. Describe mass flow hypothesis.
26. Explain the methods of breaking seed dormancy.
27. List out the physiological roles of gibberellins.
28. Explain glyoxylate cycle.

(6 × 5 = 30 marks)

### Section D

*Answer any two questions.  
Each question carries 10 marks.*

29. Describe the mechanism of opening and closing of stomata.
30. Give a detailed account of Calvin cycle.
31. Write an account of the reactions of glycolysis and the enzymes involved in the process.

(2 × 10 = 20 marks)