D 40071 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2018

(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. Photolysis of water occurs in ——— photophosphorylation.
2. Give two examples for micronutrients.
3. Define Oxidative phosphorylation.
4. What is Denitrification ?
5. Define solute potential.
6. Name the physical process involved in germination of seeds.
7. What is cohesive force ?
8. Name the gene that regulates nitrogen fixation.
9. What is lenticular transpiration ?
10. What is root Pressure ?

(10 × 1 = 10 marks)

Section B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. Differentiate turgor pressure from osmotic pressure.
12. Differentiate nyctinastic from seismonastic movement.
13. What is amphibolic pathway ?
14. Write any *two* difference between aerobic to anaerobic respiration.
15. What is RQ ?
16. What are leghemoglobin and mention its role.
17. What is photoperiodism and give an example for long day plants.

Turn over

18. What is red drop ?
19. Name the metal ion in chlorophyll molecule and water oxidizing clock.
20. Define Vernalization.

(10 × 2 = 20 marks)

Section C

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

21. Describe K+ ion exchange theory of stomatal transpiration.
22. Write the structural details of phytochromes.
23. Enumerate the physiological role of Gibberellins.
24. Write about reductive animation and transamination.
25. Write a note on carrier concept in mineral absorption.
26. Briefly describe the major principles involved in transpiration pull related with ascent of sap.
27. Explain the pressure flow hypothesis of Munch.
28. Describe beta oxidation of fatty acids.

(6 × 5 = 30 marks)

Section D

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

29. Explain fatty acid synthase complex and biosynthesis of saturated fatty acids.
30. Describe the light reactions in terms of pigment system and electron transport system in photosynthesis.
31. With a schematic representation, explain Krebs cycle with its energy balance sheet.

(2 × 10 = 20 marks)