STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016 & thereafter)
SUBJECT CODE: 15BT/MC/PP64

B. Sc. DEGREE EXAMINATION, APRIL 2019
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SIXTH SEMESTER

COURSE : MAJOR – CORE
PAPER : PLANT PHYSIOLOGY
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION A

Answer all the questions. **(18 MARKS)**

I. Choose the correct answer: **(5 x 1 = 5)**

1. Which hormone is present in the liquid endosperm of coconut ?
   a) ABA c) Auxin
   b) Cytokinin d) Ethylene
2. Seeds that need light for germination are termed as
   a) Phototropic c)Photoblastic
   b) Photonasty d) Light sensitive
3. *Nitrosomonas* and *Nitrobacter* are
   a) Ammonifying bacteria c) Nitrifying bacteria
   b) Denitrifying bacteria d) Nitrogen fixing bacteria
4. What is the function of zinc ?
   a) Synthesis of carboxylase c)Formation of IAA
   b) Required for Ca absorption d) Required for ribosomal maintenance
5. What is the deficiency symptom of Mo?
   a) Fruit yield decreases c) Fruit falls
   b) N deficiency appears d) Death of root apex and shoot apex

II. Fill in the blanks: **(5 x 1 = 5)**

6. Theory of chemiosmosis was put forward by _____.
7. Reaction centre of pigment system PSI is _____.
8. Protein part of the enzyme is called as _____.
9. _____ is the fruit ripening hormone.
10. Guttation occurs through _____.

III. State Whether True or False: **(4 x 1 = 4)**

11. Enzymes are heat sensitive.
12. Active absorption requires the expenditure of energy.
13. In Red drop, there is an increase in the photosynthetic rate.
14. The most abundant element found in plants is Carbon.

IV. Match the following : **(4 x 1 = 4)**

15. C_2 Cycle	Kranz anatomy
16. Calvin cycle	Succulents
17. Hatch – Slack pathway	Photorespiration
18. CAM cycle	Dark reaction

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V. Answer any SIX of the following. Each answer should not exceed 50 words:

(6 x 3 = 18)

19. Osmosis
20. Isomerase
21. Carriers
22. Symplast
23. Free energy
24. Plasmolysis
25. Ammonification
26. Vernalization
27. Dormancy

SECTION – B

Answer any FOUR of the following. Each answers not exceeding 200 words. (4 x 6 = 24)

28. Explain Glycolysis with biochemical reactions.
29. What is Donnan's equilibrium?
30. Write short notes on photoperiodism.
31. List the enzymes involved in biological nitrogen fixation.
32. What is root pressure hypothesis?
33. Define and compare diffusion, osmosis and plasmolysis.

SECTION – C

Answer any TWO of the following. Each answers not exceeding 1000 words.

(2 x 20 = 40)

34. Explain Calvin cycle in detail.
35. Write an essay on transpiration and the factors which affect transpiration.
36. Discuss the effect of any three plant growth regulators.
37. Write an essay on the mechanism of ion uptake in plants.

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