



Reg. No. :

Name :



M 8282

VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improve.)
Examination, May 2015
Core Course in Botany/Plant Science
6BII BOT/PLS : PLANT PHYSIOLOGY
(2012 Admn.)

Time : 3 Hours

Max. Weightage : 30

SECTION – A

Answer **all**. Each cluster carries a weightage of 1.

1. Choose the **correct** answer.

- i) Hill reaction occurs in the
a) Grana b) Stroma c) Oxysomes d) Nucleolus
- ii) In plants growth rate is maximum during
a) Lag phase b) Log phase c) Steady phase d) Ageing
- iii) The amino acid formed during photorespiration is
a) Methionine b) Phenyl alanine c) Tyrosine d) Glycine
- iv) The hormone produced in plants during stress
a) IAA b) Kinetin
c) Gibberellin d) Abscisic acid

2. State **true** or **false**.

- i) Sweetness in ripe fruits is due to the breakdown of starch into sugars.
- ii) Paratonic movements of locomotion are also known as tactic movements.
- iii) Primary photochemical reaction occurs in the stroma of the chloroplast.
- iv) Phloem loading is a passive process that does not need energy stored in ATP.

P.T.O.



3. Fill in the blanks.

- The substrate used for photo respiration is _____
- The weed killers belongs to _____ group of phyto hormones.
- Ethylene is synthesized from the amino acid _____
- Gummosis in plants is due to deficiency of _____

4. Match the following :

A	B	C
i) P700	Krantz anatomy	Gaseous hormone
ii) C ₄ cycle	Fruit ripening	Malic acid
iii) Ethylene	Succulents	O ₂ evolution does not occur
iv) CAM cycle	Cyclic photophosphorylation	Sugar cane

5. Answer in one **word** or one **sentence**.

- Cytochrome
- Seismonasty
- 6-furfuryl amino purine
- DPD.

(5×1=5)

SECTION – B

Answer **any four**. **Each** question carries a weightage of **1**.

Differentiate the following :

- Rotation and circulation.
- Tropic movements and nastic movements.
- Sciophytes and heliophytes.
- Microbiotic seeds and macro biotic seeds.
- Active absorption and passive absorption of water.
- Guttation and exudation.

(4×1=4)



SECTION – C

Short answer questions. Answer **any five**. **Each** question carries a weightage of **1**.

- Distinguish between photo system I and photosystem II.
- What is Krantz anatomy ?
- Explain sigmoid curve.
- What is climacteric respiration ?
- Describe Richmond -Lang effect.
- What is nutation ?
- Illustrate programmed cell death.

(5×1=5)

SECTION – D

Short answer questions. Answer **any six**. **Each** question carries a weightage of **2**.

- Distinguish between hydroponics and aeroponics and add a note on its advantages.
- Write the physiological role of gibberellins.
- Describe dormancy and germination of seeds.
- Illustrate nastic movements in plants.
- Briefly describe micro nutrients and their deficiencies in plants.
- Explain red drop phenomenon and Emersons enhancement effect.
- How does oxygen evolution take place during photosynthesis ?
- Describe photo respiration. How does it affects photosynthesis ?

(6×2=12)

SECTION – E

Essay type question. Answer **any one**. **Each** question carries a weightage of **4**.

- Trace the path of carbon in C₃ and C₄ cycles.
- Describe Ascent of sap and the various theories supporting it.
- Explain the theories related to translocation of solutes in plants.

(1×4=4)