Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore – 641 043
Bachelor's Degree Examination – November 2017

V Semester

Class : III UG **Time : 3 Hours**
Major : Biochemistry and Biotechnology **Max. Marks : 100**

15BBCC12 Plant Biochemistry

Part – A **10 x 1 = 10**
Choose the Correct Answer

1. Photosynthetic pigments are located in
   a. stroma b. grana
   c. cytplasm d. thylakoids

2. The dark reaction of photosynthesis was worked out by
   a. Hatch and slack b. Melvin clavin
   c. Arnold d. Emerson

3. Respiratory enzymes are located in
   a. Mitochondrial matrix b. Cristae
   c. perimitochondrial space d. outer membrane

4. Photo respiration involves
   a. Glycolate cycle b. Kreb's cycle
   c. Calvin cycle d. CAM cycle

5. The first process by which water enters into the seed coat when a seed is placed in a suitable environment for germination is
   a. Osmosis b. Active transport
   c. absorption d. Imbibition

6. Water is lost in a liquid state in some plants through hydathodes. These hydathodes
   a. Remain closed at night b. Remain closed during day
   c. Remain always open
   d. Do not show any specificity in opening and closing

7. ---------- is created through the shikimic acid pathway, it contain a hydroxyl group attached to an aromatic ring.
   a. Alkaloids b. Terpenodis
   c. Phenolics d. flavonids

8. Which of the following is more prone to water stress
   a. xerophytes b. mesophytes
   c. hydrophytes d. both a and b

9. Precursor of Indole actetic acid is
   a. Glycine b. methionine
   c. isopenthynyl phyrophosphate d.tryptophan

10. The true – natural auxin of higher plants is
    a. indole – 3 - aceticacid b. indole – 3 - acetaledehyde
    c. indole – 3 – pyruvicacid d. indole – 3 - acetonitrile

Part – B 5 x 6 = 30

Answer the following

Answer should not exceed 400 words or two pages

11.a. Differentiate cyclic and non – cyclic phtophosphorylation.

(Or)

11.b. Write a short note on light – harvesting complexes.

12.a. How electrons are transferred through ETC?

(Or)

12.b. Give an account on ATP synthase.

13.a. Draw about the transpiration process?

(Or)

13.b. How minerals are trans located in planted

14.a. Explain the role of nitrogenous compound in plants.

(Or)

14.b. Give an account on abiotic stress.

15.a. What are the physiological effect of cytokinins.

(Or)

15.b. Detail about the biosynthesis of gibberelline.

Part – C 5 x 12 = 60

Answer the following

Answer should not exceed 800 words or four pages

16.a. Explain Hatch – slack pathway.

(Or)

16.b. Elaborate on photo phosphorylation process.

17.a. Elaborate on Kerb's cycle.

(Or)

17.b. Describe about photo respiratory pathway.

18.a. Discuss the mechanism of translation in plants.

(Or)

18.b. Explain the mechanism of loading and unloading of photo assimilates.

19.a. Explain the biosynthesis of terpenes?

(Or)

19.b. Write an essay on the response of plants to Biotic stress.

20.a. Explain the mechanism of Gibberellin action.

(Or)

20.b. Explain the role of ethylene and abscisic acid in plant growth.

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