



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Fourth Semester – 2019

Paper: Botany-IV (Plant Physiology and Ecology)

Course Code: BOT-203 / BOT-22300 Part – I (Compulsory) Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the right answer cutting and overwriting is not allowed. (10x1=10)

1. The outer solution having equal concentration as that of the cell sap is called

(A) Hypotonic solution (B) Isotonic solution (C) Hypertonic solution (D) Neutral solution

2. The leaves turn and become yellow due to deficiency of:

(A) Na (B) K (C) Ca (D) Fe

3. _____ is precursor for abscissic acid (ABA)

(A) Zeatin (B) Lutein (C) Violaxanthin (D) Mevalonic acid

4. Which of the followings is trace element?

(A) Ca (B) K (C) Mg (D) Cu

5. To produce 3 glucose molecules _____ ATP and _____ NADPH₂ molecules are required.

(A) 54, 36 (B) 54, 30 (C) 36, 60 (D) 18, 12

6. Seed dormancy is due to the:

(A) Ethylene (B) Abscisic acid (C) IAA (D) Starch

7. Which of the following is NOT a Nastic movement?

(A) Photonasty (B) Thigmonasty (C) Seismonasty (D) Phytonasty

8. The bottom area where production is less than respiration in a pond ecosystem is termed as

(A) Profundal zone (B) Tidal zone (C) Benthic zone (D) Limnetic zone

9. The ability of a population to increase under ideal environmental conditions is called

(A) Natality (B) Carrying capacity (C) Biotic potential (D) Absolute natality

10. In an ecosystem, the energy flow is always

(A) Always unidirectional (B) Always bidirectional

(C) In any direction (D) Always down directional

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Paper: Botany-IV (Plant Physiology and Ecology)
Course Code: BOT-203 / BOT-22300 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. NO. 2: Give brief answers of following questions. (10 x 2)

1. What is difference between C2 and C3 Plants?
2. What do you know about the Xerophytes and Hydrophytes?
3. What are methods of sampling vegetation?
4. What are the ecological characteristics of plant community?
5. What is the difference between the role of abscisic acid and ethylene?
6. What are the methods of breaking seed dormancy?
7. What is the difference between absorption and translocation of water?
8. What are the role and deficiency symptom of macronutrients?
9. What is phototropism?
10. What is the role of phytochromes?

Q. NO. 3: What is the importance of the water potential concept in plant physiology what are the components of the water potential?(8)

Q. NO. 4: Classification of plants based on photoperiodic response. (06)

Q. NO. 5: Explain in detail the Krebs cycle in plants (8)

Q. NO. 6: Explain major vegetation types of the local area. (8)

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