

4. (a) Enumerate the physiological role of Ethylene as a plant hormone. (5)
- (b) Write a detailed account of the florigen concept. (5)
- (c) What is the role of Hydroponics in understanding plant's nutrient requirements? (5)
5. (a) Critically comment on the role, source, and deficiency symptoms of any two of the following: (2 x 4 = 8)
- (i) Phosphorus and Calcium
- (ii) Nitrogen and Cobalt
- (iii) Sodium and Manganese
- (b) Discuss briefly the microanatomy of guard cells and their role in functioning. (5)
- (c) Enumerate various factors affecting nutrient uptake. (2)
6. Name and describe the role of hormones involved in the mobilization of food reserves in cereal grains during germination. List the commercial applications of this hormone. (15)

(1000)

[This question paper contains 4 printed pages:]

Your Roll No.....

Sr. No. of Question Paper : 5840

K

Unique Paper Code : 2162013503

Name of the Paper : Plant Physiology

Name of the Course : B.Sc. (H) Botany

Semester : V

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt four questions in all.
3. Question No. 1 is compulsory.

1. (a) Expand the following (Any Five): (5 x 1 = 5)

- (i) IPT
- (ii) DCMU
- (iii) TIBA
- (iv) NCED

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(v) CCC

(vi) ACC

(b) Name the following (Any Five): (5 x 1 = 5)

(i) 2,4-D foliar spray stimulates flowering in which plant

(ii) Structure of ABA hormone

(iii) A PUFA derivative hormone

(iv) Chemical that works as an anti-gibberellin

(v) A hormone extending the vase life of roses

(vi) Asexual stage of Fungus after which a hormone was named

(c) Give one contribution of the following scientists
(Any five): (5 x 1 = 5)

(i) H. A. Borthwick and S. B. Hendricks

(ii) M. Chailakhyan

(iii) P. Agre

(iv) J. Levitt

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(v) H. H. Dixon and Jolly

(vi) W. F. Gericke

2. Distinguish between (Any Three): (3 x 5 = 15)

(i) Carriers and Channels

(ii) Source and Sink with reference to phloem translocation

(iii) Simple and Facilitated Diffusion

(iv) Apoplastic and Symplastic uptake of water and minerals

(v) Hydroponics and Soil Culture

3. Write short notes on (Any Five): (5 x 3 = 15)

(i) Factors affecting seed dormancy

(ii) Types of Dormancy

(iii) Significance of Transpiration

(iv) Ion theory of stomatal opening and closing

(v) Phloem sap composition

(vi) Bioassays of each Acidic nature Hormones

P.T.O.