

B.Sc.(Ag.) Honours Semester– III Examination, 2014**Course No. : CPH –211 (Elementary Crop Physiology)****(Old Syllabus)**

Signature of Centre Superintendent

Roll No.: (in figure) _____	(in words) _____
Student Index No. _____	Regn. No. _____ of _____

Time : Two hours**Full marks : 50***Questions are of value as indicated in the margin***Part-I****(Objective and Short Answer Type)****(Use only ball point pen)****Time : 30 minutes****Full marks : 20**

- Note:** 1. Answer in question paper itself.
2. Striking, rewriting and overwriting are not allowed in the objective type questions.

1. Write True (T) or False (F) for the following sentences within the space provided for (any five):

0.5×5=2.5

- i) P680 is also known as PS-I, where as P700 is known as PS-II.
- ii) PEP carboxylase has greater affinity towards CO₂ as compared to Rubisco.
- iii) CO₂ compensation point of C₄ plants is higher than C₃ plants.
- iv) The mode of transport of gibberellins is polar.
- v) Respiratory quotient is the ratio of Vol. of O₂ taken in to Vol. of CO₂ released.
- vi) Xanthophylls are oxidized carotene pigments.
- vii) CO₂ is the source of oxygen evolved during photosynthesis.
- viii) One Quantasome is known to contain 230 molecules of chlorophyll.

2. Fill up the blanks of the following (any five):

0.5×5=2.5

- i) The maximum value of water potential is _____.
- ii) The net gain of ATPs in anaerobic respiration is _____.
- iii) In C₄ plants, C₄ cycle occurs in _____ cells.
- iv) Auxins are biosynthesized from a precursor compound _____.
- v) The primary acceptor of CO₂ in Calvin cycle is _____.
- vi) DPD can be mathematically expressed as _____.
- vii) Respiratory Quotient for anaerobic respiration is _____.
- viii) Light reaction of photosynthesis occurs at _____ part of chloroplast.

3. Match the following (Column A with Column B and write your answer in the space provided in the Column C)

0.5×10=5

Column A	Column B	Column C
a) Antiauxin	i) Fruit ripening	
b) Ethylene	ii) ABA	
c) Photoperiodism	iii) Peroxisome	
d) Protein synthesis	iv) Khaira disease	

[2]

- e) Krantz anatomy
- f) Zinc
- g) Peroxisome
- h) Photorespiration
- i) Gibberellins
- j) Stress hormone

- v) Phytochrome
- vi) Ribosome
- vii) Bolting
- viii) C₄ plants
- ix) Photorespiration
- x) TIBA

4. Define and explain in brief *any five* of the following:

2×5=10

(i) Cell Theory

(ii) Diffusion

(iii) Mobile elements

(iv) Apical dominance

(v) Antitranspirants

(vi) Hydroponics

(vii) Essential elements

B.Sc.(Ag.) Honours Semester–III Examination, 2014
Course No. : CPH –211 (Elementary Crop Physiology)
(Old Syllabus)

Part–II
(Descriptive Type)

Time : 1.5 Hours

Full marks : 30

Questions are of value as indicated in the margin.

Answer **any three** questions .

5. Differentiate between the following (**any four**): 2.5×4=10
- i) Osmosis and Diffusion
 - ii) SER and RER
 - iii) Aerobic respiration and Anaerobic respiration
 - iv) Prokaryotic cell and Eukaryotic cell
 - v) Transpiration and Guttation
 - vi) Active absorption and Passive absorption
6. Write short notes on **any four** of the following: 2.5×4=10
- i) Physiological role of nitrogen in plant
 - ii) Mitochondria
 - iii) Photosynthetic pigments
 - iv) Blackman's Law of limiting factors
 - v) Photorespiration
 - vi) Importance of water in plant life
7. (a) What is water potential? Write in brief about different components of water potential. 4
(b) What is ascent of sap? Explain in brief Dixon's theory of ascent of sap. 6
8. What is Glycolysis? Write a note on the fate of Pyruvic acid under aerobic and anaerobic conditions. Describe the Kreb's cycle reaction and discuss its significance? 3+2+5=10
9. What is Phytohormone? How is it different from plant growth regulators? Discuss the physiological roles of different phytohormones in plants along with their commercial applications. 1+1+8=10
-