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BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(Ag)-Hons-2022/B.Sc.(Ag)-Hons-2023/B.Sc.(Ag)-Hons-2024
Course Name – Fundamentals of Crop Physiology
Course Code - CC-BAG277(T)
(Semester II)

Full Marks : 50 **Time : 2:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) In which type of plant, critical photoperiod should always be extended ?

a) Short day plant
b) Long day plant
c) Short long day plant
d) Long short day plant

(ii) 'Ghost Cell' is basically related with which of the following?

a) Cell raptures when put in hypotonic solution
b) Cell become shrink & flacid when put in hypertonic solution
c) Cells getting dried out due to transpired heavily
d) none of these

(iii) Which type of cell organelle is the site of phospho-lipid biosynthesis?

a) Ribosome
b) Peroxisome
c) Rough ER
d) Smooth ER

(iv) Name of family of proteins that form channels to facilitate the transport of water across cell membranes ?

a) Porin
b) Symporin
c) Aquaporin
d) Carrier protein

(v) Select the event which is occurred in the inner matrix of Mitochondria .

a) TCA cycle
b) Fatty acid breakdown
c) Both TCA cycle & Fatty acid breakdown
d) Glycolysis

(vi) Who discovered the nucleus?

a) Robert Brown
b) Robert Cork
c) J. C. Bose
d) Stephen Hales

(vii) In plant Which one is responsible for guttation?

a) Root pressure
b) Photosynthesis
c) Transpiration
d) Osmosis

(viii) Transpiration mostly affected by which factor?

a) Humidity
b) Temperature
c) Light
d) Wind

(ix) How many wavelength ranges for Photosynthetically active radiation?

a) 340 – 450
b) 200 – 300
c) 400 – 700
d) 640 – 650

(x) Photosynthesis is most active and fast in for which type of light?

a) Blue light
b) White light
c) Red light
d) UV light

(xi) Which is immediate electron donor to PS-I?

a) Plastocyanin
b) Plastometheonin
c) Ferredoxinin
d) Both Plastometheonin and Ferredoxinin

(xii) How many net ATP molecules formed in glycolysis?

a) 38
b) 12
c) 2
d) 1

(xiii) One NADH2 produce how many number of ATP?

a) 6 ATP
b) 1 ATP
c) 38 ATP
d) 3 ATP

(xiv) Which one is the stress hormone?

a) GA
b) IAA
c) ABA
d) NAA

(xv) Among the Following, Indole-3 acetic Acid is Similar to Which Amino Acid?

a) Methionine
b) Tryptophan
c) Proline
d) Phenylalanine

(xvi) Which Type of Plants Store Maleic Acid in Vacuoles?

a) CAM
b) C3
c) C4
d) C2

(xvii) Which type of reactions pertaining to plant photosynthesis where Peroxisomes are involved ?

a) Calvin Cycle
b) Glycolytic cycle
c) Glyoxylate cycle
d) Bacterial photosynthesis

(xviii) Outline the gain product of light reaction.

a) ATP and NADPH2
b) NADPH2
c) only ATP
d) only O2

(xix) Why does Stomata open and close?

a) circadian rhythm
b) genetic clock
c) pressure of gases inside the leaves
d) turgor pressure of guard cells

(xx) Which process is primarily responsible for the ascent of sap in plants?

a) Root Pressure
b) Capillary Action
c) Transpiration Pull
d) Osmosis

Group-B

(Short Answer Type Questions) 2.5 x 10=25

2. Construct a list for criteria for essentiality of elements. (2.5)
3. What is Osmotic Pressure? Give example. (2.5)
4. What are the deficiency symptoms of P? (2.5)
5. Recall the importance of osmosis in plant. (2.5)
6. Why transpiration is called necessary evil? (2.5)
7. Outline the specific role of boron. (2.5)
8. Simplify the term "Omega oxidation". (2.5)
9. What is facilitated diffusion? (2.5)
10. Define photosynthesis and give the equation of it. (2.5)
11. Distinguish between transpiration and guttation. (2.5)

OR

List the objections of root pressure theory. (2.5)

Group-C

(Long Answer Type Questions) 5 x 1=5

12. Elaborate the Physiological role of cytokinin. (5)

OR

Discuss chemiosmotic theory of ATP synthesis at the time of photo synthesis. (5)

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