

**Dr. PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA**  
**SEMESTER END THEORY EXAMINATION**  
**B.Sc. (Hons.) Horticulture**

Semester : I (New) Term : I Academic Year : 2021-2022  
 Course No. : H/BOT-111 Title : Introductory Crop Physiology  
 Credits : 2(1+1)  
 Day & Date : Sunday 28/11/2021 Time : 4.00-5.00 Total Marks : 40

- Note : 1) Solve ANY FOUR questions from SECTION-A  
 2) Solve ANY SIX questions from SECTION-B  
 3) ALL questions from SECTION-C are compulsory  
 4) Send the PDF file of answer sheet to the email id of respective course teacher

**SECTION-A**

(Write the answers in 4-5 sentences only. Each question carries 4 marks)

Q. 1	Define plant cell. Give the functions of following cell organelles A) Nucleus B) Cell wall C) Chloroplast
Q. 2	Differentiate between transpiration and guttation and give the significance of transpiration.
Q. 3	Define ascent of sap. Enlist different theories of ascent of sap and explain most acceptable theory of ascent of sap.
Q. 4	Define crop physiology. Give its importance in Horticulture.
Q. 5	What is essential element? Describe the criteria for essentiality.

**SECTION-B**

(Write the answers in one sentence only. Each question carries 2 marks)

Q. 6	(Answer in one sentence/Do as directed/Define etc.)
	a) Define crop physiology
	b) Enlist types of transpiration
	c) What is active absorption of water
	d) Define osmosis
	e) What is photorespiration?
	f) Define growth
	g) Define guttation

## SECTION-C

(Choose the correct option. Each question carry 1 mark)

1) Water is absorbed through \_\_\_\_\_ in plants.

- |              |                      |
|--------------|----------------------|
| a) Root cap  | b) Root Hairs        |
| c) Root apex | d) None of the above |

2) Vivipary generally found in \_\_\_\_\_

- |               |                |
|---------------|----------------|
| a) Mesophyte  | b) Halophytes  |
| c) Xerophytes | d) Hydrophytes |

3) Respiratory quotient may be represented as

- |                                    |                                    |
|------------------------------------|------------------------------------|
| a) $O_2$ taken in / $CO_2$ evolved | b) $CO_2$ evolved / $O_2$ taken in |
| c) $CO_2$ taken in                 | d) $O_2$ taken in                  |

4) In soil, water available for plants is.

- |                  |                 |
|------------------|-----------------|
| a) Gravitational | b) Hygroscopic  |
| c) Capillary     | d) Runoff water |

5) Which hormone is produced during water stress that brings stomatal closure?

- |                 |                   |
|-----------------|-------------------|
| a) Coumarin     | b) Abscissic acid |
| c) Ferulic acid | d) Ethylene       |

6) Kranz anatomy is typical feature of

- |              |               |
|--------------|---------------|
| a) C3 plants | b) CAM plants |
| c) C4 plants | d) C2 plants  |

7) \_\_\_\_\_ is known as the site of respiration in plants.

- |                 |              |
|-----------------|--------------|
| a) Chloroplast  | b) Ribosomes |
| c) Mitochondria | d) Nucleus   |

8) The loss of water from the aerial parts of the plants in the form of vapors is known as \_\_\_\_\_.

- |                        |                |
|------------------------|----------------|
| a) Evapo-transpiration | b) Evaporation |
| c) Transpiration       | d) Guttation   |

9) Photophosphorylation takes place during \_\_\_\_\_.

- |               |                  |
|---------------|------------------|
| a) Day        | b) Night         |
| c) Both a & b | d) None of these |

10) If DPD represents diffusion pressure deficit then

- |                    |                    |
|--------------------|--------------------|
| a) $DPD = OP = TP$ | b) $DPD = OP + TP$ |
| c) $DPD = OP$      | d) $DPD = OP - TP$ |

11) Ascent of sap is best explained by

- |                     |                       |
|---------------------|-----------------------|
| a) Pulsation theory | b) Mass flow          |
| c) Root Pressure    | d) Transpiration pull |

12) The color of chlorophyll-a is \_\_\_\_\_.

- |                 |                 |
|-----------------|-----------------|
| a) Yellow-Green | b) Blue-Green   |
| c) Red-Green    | d) Green-Yellow |

\*\*\*\*\*