

[4]

SECTION 'C' $4 \times 10 = 40$

Long Answer questions (Word limit 400-450 words.)

UNIT-I

Q. 1. Define acent of sap? Discuss the theories regarding acent of sap

OR

Discuss root microbe interaction in facilitating nutrient uptake.

UNIT-II

Q. 2. Write in brief about factors affecting transpiration.

OR

Explain calcium calmodulin cascade.

UNIT-III

Q. 3. Describe the classification of stresses.

OR

Write a note on water stress.

UNIT-IV

Q. 4. What do you know about cryptochromes.

OR

Write a note on photoperiodism.

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[1]

ROLL NO.....

BOT. 203/22

II SEMESTER EXAMINATION, 2022

M.Sc. (BOTANY)

PAPER-III

PLANT PHYSIOLOGY

TIME: 3 HOURS

MAX.- 80

MIN.- 16

Note: The question paper consists of three sections A, B & C. All questions are compulsory.

Section A- Attempt all multiple choice questions.

Section B- Attempt one question from each unit.

Section C- Attempt one question from each unit.

SECTION 'A' $2 \times 8 = 16$

MCQ (Multiple Choice Questions)

1. In which plant stomata are open at night
 - (a) Mesophytes
 - (b) Hydrophytes
 - (c) Succulents
 - (d) All of the above
2. Blocking enzyme by blocking its active site is called as -
 - (a) Allosteric inhibition
 - (b) Competitive inhibition
 - (c) Feedback inhibition
 - (d) None of the above

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3. G protein coupled receptors are referred to as -
(a) Seven transmembrane receptors
(b) Five transmembrane receptors
(c) Cytosine
(d) None of the above
4. Michaelis-Menten model is referred to as -
(a) Michaelis-Menten plot (b) Rapid equilibrium model
(c) Cadic-Hojslee plot (d) None of the above
5. An enzyme acts by -
(a) Reducing the energy of activation
(b) Increasing the energy of activation
(c) Decreasing the energy of pH
(d) Increasing the energy of pH
6. Which of the following is required for the formation of flowers in plant -
(a) adequate O₂ (b) adequate moisture
(c) definite photoperiod (d) none of the above
7. Which hormone is responsible for flowering
(a) IAA (b) GA
(c) ABA (d) Florigin
8. The condition under which transpiration is most rapid -
(a) low humidity and high temperature
(b) high humidity
(c) excess water in soil
(d) none of the above

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SECTION 'B'

4 × 6 = 24

Short Answer Type Questions (Word limit 200-250 words.)

UNIT-I

- Q. 1.** What are the three types of passive transport.

OR

What is the relationship of DPD to OP, TP and WP?

UNIT-II

- Q. 2.** Explain two component sensor-regulator system in bacteria.

OR

Briefly write about receptors in signal transduction.

UNIT-III

- Q. 3.** Write a short note on water deficit and drought resistance.

OR

Discuss the biotic stress caused by microorganism.

UNIT-IV

- Q. 4.** What are the two theories explaining mechanism of enzyme action.

OR

What are isoenzymes.