U.G. 5th Semester Examination - 2020

BOTANY

[HONOURS]

Course Code : BOT-H-CC-T-11

(Plant Physiology)

Full Marks : 40   Time : $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1.   Answer any **five** of the following questions:

$2\times5=10$

a)   Why root pressure is not considered as mechanism for ascent of water to the top of a tree?

b)   What is beneficial element? Write an example.

c)   What are the differences between diffusion and facilitated diffusion?

d)   What is P-protein?

e)   Write the structure of a synthetic auxin.

f)   Define critical day length.

g)   What is phototropin?

h)   Define dormancy.

2.   Answer any **two** of the following questions:

$5\times2=10$

a)   During transport of water through xylem if cavitation occurs, write with sketches how a plant prevent embolism?   5

b)   Write down the roles of Nitrogen and Magnesium as essential element and write down the deficiency symptoms of them.

$2\frac{1}{2}+2\frac{1}{2}=5$

c)   What is short distance transport? Write about phloem loading. $1+4=5$

d)   Write down the chemical nature and physiological roles of Jasmonic acid.

$2\frac{1}{2}+2\frac{1}{2}=5$

3.   Answer any **two** of the following questions:

$10\times2=20$

a)   Name the disease and causal organism from which Gibberellins were discovered. What structural characteristics are required for an active Gibberellin? Write down the physiological roles of Gibberellins.

$1+1+3+5=10$

b) With example classify plants based on photoperiodic responses. Write briefly about Florigen Concept and Flowering Locus T.

$$5+2\tfrac{1}{2}+2\tfrac{1}{2}=10$$

c) Write the structure of Pfr form of phytochromobilin and discuss briefly the chemical nature of phytochrome. Write down the role of phytochrome in photomorphogenesis. $5+5=10$

d) Write down the difference between dormancy and quiescence. Discuss about the causes of dormancy and methods of breaking dormancy.

$$2+4+4=10$$

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