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3 (Sem-5/CBCS) BOT HC 2

2024

**BOTANY**

(Honours Core)

Paper : BOT-HC-5026

**(Plant Physiology)**

Full Marks : 60

Time : Three hours

**The figures in the margin indicate full marks for the questions.**

1. Answer the following questions : 1×7=7

- (a) Mg is a constituent element of chlorophyll.
- (b) Aquaporins are Ferredoxin.
- (c)  $C_6H_5NO_2$  is a necessary component of nitrogenase enzyme in plants.
- (d) Chemically kinetin is known as 6 Fertile amino pressing.
- (e) Phototropins are light Karotified Serum protein.

Contd.

(f) Many microbial species produce water soluble pigments that serve as chelating agents, termed as \_\_\_\_\_.

(g) In proton pump \_\_\_\_\_ enzyme is involved. *hydrogen dectetium ergno sulphonate*

2. Answer the following questions :  $2 \times 4 = 8$

(a) Differentiate between apoplast and *symplast*.

(b) Differentiate between chlorosis and etiolation.

(c) Write the differences between Pr and Pfr forms of phytochrome.

(d) What are ABC transporters ? Mention their role in solute transport.

3. Write briefly on **any three** of the following :  $5 \times 3 = 15$

(a) Jasmonic acid

(b) Phototropins

(c) Pressure potential

(d) Role of ABA in environmental stress

(e) Donnan equilibrium

4. Answer the following questions : (**any three**)  $10 \times 3 = 30$

(a) What are gibberellins ? Describe the physiological effects of gibberellins.  $2+8=10$

(b) Describe the structure and function of cryptochrome.

(c) Describe the active and passive absorption of water by roots in plants.

(d) What is florigen concept ? Describe its role in stimulating flowering in different types of photoperiod sensitive plants.  $4+6=10$

(e) Describe the starch-sugar hypothesis and  $K^+$  pump theory of stomatal movement.  $5+5=10$

(f) What is seed dormancy ? Mention different types of seed dormancy. Describe the causes and mechanisms of breaking of seed dormancy.  $1+2+7=10$