2021

BOTANY — HONOURS

Paper : CC-13

Full Marks : 50

The figures in the margin indicate full marks.

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

1. Answer ***any five*** questions from the following: 2×5

(a) What is 'biological clock'?

(b) Name one naturally occurring cytokinin.

(c) What do you mean by 'cavitation' and 'embolism'?

(d) What do you mean by vernalization?

(e) Mention one symptom each caused by magnesium and boron deficiency in plants.

(f) Write two differences between apoplastic and symplastic loading mechanisms.

(g) What is 'Richmond Lang effect'?

(h) Write two differences between primary and secondary seed dormancy.

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

(a) Write a short note on 'P-protein'. Write one merit and one demerit of mass flow model of phloem transport mechanism in plants. 3+2

(b) Write the role of ABA in senescence. 5

(c) Describe the role of cryptochrome in photomorphogenesis. 5

3. Answer ***any three*** questions from the following:

(a) Briefly describe the IAA mediated cell growth mechanism in plants. Write the importance of brassinolides in regulating plant growth. 5+5

(b) Briefly describe the different strategies of breaking seed dormancy. How does GA and ABA ratio regulate seed germination in plants? 5+5

(c) Write two differences between macronutrients and micronutrients. Write the importance of phosphate in plant nutrition. Briefly describe the different components of 'Hogland solution'. 2+4+4

(d) With illustrations describe the role of CO_2 and blue light in opening and closing of stomata. 5+5

(e) What is photoperiodism? Give an account of chemical nature of phytochrome. Discuss the role of phytochrome in photomorphogenesis. 2+3+5

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