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6 SEM TDC BOT M 1

2018

(May)

BOTANY

(Major)

Course : 601

(Plant Physiology)

Full Marks : 48
Pass Marks : 19/14

Time : 2 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Fill in the blanks with appropriate word : 1×5=5

(i) The special chemical compound ____ is found in the root nodules of legumes.

(ii) Nyctinastic movement is a combined effect of light and ____.

(iii) Germination in mangrove is ____ type.

(iv) Plasmolysis occurs when a cell is placed in a ____ solution.

(v) Non-development of chlorophyll in plant is called ____.

(b) Write short accounts on the following : 3×

(i) Diffusion pressure deficit

(ii) Physiology of seed germination

(iii) Emerson effects in photosynthesis

2. What is transpiration? Write about the mechanism of opening and closing of stomata in transpiration. What is the significance of transpiration? 2+6+3

Or

What is photoperiodism? Write the differences between short-day and long-day plants. What role does phytochrome play in flower initiation? 2+6+3

3. Describe the Calvin cycle. How does this cycle differ from Hatch-Slack cycle? 8+3

Or

Write explanatory notes on the following : 6+3

(a) ETS in respiration

(b) Symbiotic nitrogen fixation

(Continued

4. Write explanatory notes on any *three* of the following : 4×3=12

(a) Role of microelements in plant nutrition

(b) Dixon's theory of ascent of sap

(c) Phytohormones

(d) Differences between C_3 and C_4 plants

(e) Sigmoid curve of growth

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