

2019

B.Sc. (Hons.)

2nd Semester Examination

BIOTECHNOLOGY

Paper—C4T

Full Marks : 40

Time : 2 Hours

*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* of the following : 5×2
 - (a) What is protostele ? Where does it occur ? 1+1
 - (b) What is meant by fascicular cambium ? 2
 - (c) Give two examples of permanent tissues of plants. 1+1
 - (d) What is meant by guttation ? 2
 - (e) What is imbibition ? State the role of imbibition in seed germination. 1+1
 - (f) What are CAN plants ? 2

[Turn Over]

(g) Name the accessory pigments of plants used during photosynthesis.

(h) What are guard cells and subsidiary cells ?

1+1

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

4×5

(a) What is secondary growth ? How does it occur in plants ?

2+3

(b) What are micro and macro nutrients ? Write down the deficiency symptoms of any four micronutrients in plants.

3+2

(c) What is transpiration ? Discuss the mechanisms of opening and closing of stomata.

1+4

(d) What is photoperiodism ? Discuss the role of phytochrome in flowering.

2+3

(e) Illustrate the mechanism of ascent of sap in plants.

5

(f) Discuss the mechanism of molecular N_2 fixation in pulses.

5

3. Answer any *one* question from the following :

1×10

- (a) Define photosynthesis. Schematically discuss the 'Z' scheme in photosynthesis. What is photophosphorylation ? 2+6+2
- (b) What is meant by growth hormone ? Give two examples of natural auxins. Discuss the role of plant growth hormones in human welfare. 1+2+7
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