D 11610

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Name.......................................

Reg. No..................................

THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Botany

BOT 3C 07—PLANT PHYSIOLOGY, METABOLISM AND BIOCHEMISTRY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend **all** questions in each section.*

2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*

3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*

4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Write short notes on any *four* questions. Each answer not to exceed *five sentences* :

1 What is symbiotic nitrogen fixation ?

2 What is absorption and action spectra ?

3 What are different types of enzyme inhibitors ?

4 What are major fate of pyruvic acid ?

5 Define amphibolic pathways and anapleurotic reactions.

6 Explain supramolecular architecture of membranes.

7 Define secondary metabolites. What are ecological significances of secondary metabolites ?

(4 × 2 = 8 weightage)

Turn over

Part B

II. Answer any *four* of the following. Each answer not exceed 250 words :

8   Explain the ascent of xylem water and uptake of water by roots.

9   Illustrate C3 cycle.

10 List important physiological functions of cytokinins.

11 Give an account on phloem transport.

12 Explain classes of enzyme. Give examples.

13 Outline tricarboxylic acid cycle.

14 Explain structure and synthesis of triacylglycerol.

$(4 \times 3 =)$

Part C

III. Answer any *two* questions. Each answer not to exceed 500 words :

15 Give an elaborate account on plant response to various stresses.

16 Illustrate electron transport chain and synthesis of ATP.

17 Explain biological nitrogen fixation. Add a note on genetics of nitrogen

18 Give an account on classification of lipids. Explain structural and func
    lipids.

$(2 \times)$