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(Pages : 2)

Name.....

Reg. No.....

**THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, NOVEMBER 2022**

(CBCSS)

Botany

BOT3C07—PLANT PHYSIOLOGY, METABOLISM AND BIOCHEMISTRY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Part A

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

- 1 What is Hill reaction ?
- 2 What is water oxidizing clock ?
- 3 What are allosteric enzymes ? Add a note on its significance.
- 4 Give an account on amphibolic nature of TCA cycle.
- 5 What is phytochrome? Add a note on mechanism of phytochrome.
- 6 Explain role of lipids in supramolecular architecture of membrane.
- 7 What is the structural composition of nucleotides.

(4 × 2 = 8 weightage)

Part B

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

- 8 Explain the concept of water potential.
- 9 Illustrate C2 cycle. What are the cell organelles involved in C2 cycle ?
- 10 List important physiological functions of gibberellins.
- 11 Give an account on genetic and hormonal regulation of development.
- 12 Explain mechanism of enzyme action.
- 13 Explain glyoxylate cycle. What is its significance ?
- 14 Outline the biosynthesis of fatty acids.

(4 × 3 = 12 weightage)

Turn over

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Part C

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

- 15 Give an elaborate account on biological nitrogen fixation.
- 16 Describe physiological effects of salt and water stress.
- 17 Define secondary metabolites. How they are classified ? Explain ecological, phy importance of secondary metabolites.
- 18 Explain electron transfer reactions in mitochondria and synthesis of ATP.

(2 × 5 = 10_w)