G-2/212/21

Roll No. .....

M.Sc. II Semester Examination, 2021

BOTANY

Paper IV

(Plant Metabolism)

Time : 3 Hours] [Max. Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

SECTION A **1×8=8**

(Objective Type Questions)

Choose the correct answer :

1. In C_3 plant CO_2 acceptor is :

(a) RUDP (b) PGA

(c) PEP (d) DAA

2. Kranz anatomy found in :

(a) Maize (b) Pea

(c) Soyabean (d) None of the above

3. Kreb's cycle operates in :

(a) Chloroplast (b) Mitrocondria

(c) Cytoplasm (d) Ribosome

P.T.O.

4. Storage of Lipids takes place in :

(a) Ribosome (b) Chromosome

(c) Sphaerosome (d) None of the above

5. Curling of root hair done in presence of hormone :

(a) Gibbereline (b) Abscisic acid

(c) Indole Acetic Acid (d) Cytokinine

6. Nitrogenase enzyme found in :

(a) Chara (b) Nostoc

(c) Volvox (d) Oedogonium,

7. Gaseous hormone is :

(a) Cytokinine (b) Ethylene

(c) Auxine (d) Gibbereline

8. The hormone which is responsible for apical dominance is :

(a) Auxine (b) Jasmonic acid

(c) Cytokine (d) Abscisic acid

SECTION B **4×6=24**

(Short Answer Type Questions)

Note : Answer with word limit 250 words. Draw well-labelled diagram wherever necessary.

Unit-I

1. Write short notes on photosynthetic pigments.

Or

Give an illustrated account of NADP-ME type of mechanism of C_4 pathway.

Unit-II

2. Give an account of Biosynthesis of Fatty acids.

Or

Give an account of different steps of Kreb's cycle.

Unit-III

3. Write short notes of Ammonium Assimilation.

Or

Give an account of mechanism of nodule formation.

Unit-IV

4. Write short notes on Gibberellins.

Or

Write short notes on Vernalization.

SECTION C **12×4=48**

(Long Answer Type Questions)

Note : *Attempt all the four Questions. Each Question carry 12 Marks. Draw well labelled diagrams wherever necessary. Long answer type Questions with the word limit of 500 words.*

Unit-I

1. What is photorespiration ? Describe mechanism and significance of Photorespiration.

Or

Give an illustrated account of Z-scheme related to light reaction.

Unit-II

2. Describe different steps of β-oxidation of Fatty acids.

Or

What is anaerobic respiration ? Describe different steps of Glycolysis.

Unit-III

3. Give an account of asymbiotic Nitrogen fixation.

Or

Describe mechanism of nitrate uptake and its reduction.

Unit-IV

4. Describe physiological process and mechanism of action of Auxins.

Or

Give an account of endogenous clock and its regulation.

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