

[4]

SECTION 'C'

4 × 10 = 40

Long Answer questions (Word limit 400-450 words.)

UNIT-I

Q. 1. Explain the process of carbon assimilation through carbon cycle.

OR

Write a note on photorespiration.

UNIT-II

Q. 2. Describe the electron transport system and explain its importance in glycolysis and kreb's cycle.

OR

Explain the following biochemical reaction -

- (a) Conversion of glucose – 6 phosphate into pyruvate.
- (b) Conversion of ribulose phosphate to phosphoglyceric acid.

UNIT-III

Q. 3. Give an account of the biological nitrogen fixation.

OR

Describe the sulphur metabolism in plants.

UNIT-IV

Q. 4. Write a essay on role of auxin in plants.

OR

Write short notes –

- (a) Gaseous plant hormone
- (b) Cytokinin

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[1]

ROLL NO.....

BOT. 204/22

II SEMESTER EXAMINATION, 2022

M.Sc. (BOTANY)

PAPER-IV

PLANT METABOLISM

TIME: 3 HOURS

MAX.- 80

MIN.- 16

Note: The question paper consists of three sections A, B & C. All questions are compulsory.

Section A- Attempt all multiple choice questions.

Section B- Attempt one question from each unit.

Section C- Attempt one question from each unit.

SECTION 'A'

2 × 8 = 16

MCQ (Multiple Choice Questions)

1. The quantum yield in photosynthesis is -
 - (a) 4%
 - (b) 8.5%
 - (c) 12.0%
 - (d) 14.5%
2. How many ATP and NADH₂ are required for fixation of one molecule of con-
 - (a) 3 ATP & 3 NADPH₂ molecule
 - (b) 3 ATP & 2 NADPH₂ molecule
 - (c) 3 ATP & 1 NADPH₂ molecule
 - (d) 1 ATP & 2 NADPH₂ molecule

[2]

3. The respiratory coefficient is affected by -
(a) Light (b) Temperature
(c) From substrate (d) From respiratory product
4. High equilibrium compensation point are found in which plants.
(a) C₂ plants (b) C_s plants
(c) Cu (d) Alpine vegetation
5. Leghemoglobin inhibits the activity of -
(a) Nitrogenemase (b) Catalase
(c) Nitrate reductage (d) Cytocrome
6. Which of the following element is used in the reduction of nitrate in nitrogen metabolism -
(a) Mn (b) Mo (c) Bo (d) Zn
7. The primary precursor of auxin is -
(a) Tyrosin (b) Tryptophan
(c) Lucine (d) Phenylalnine
8. The motivetor for morphology in Tissue culture is-
(a) Zibberellins (b) Cytokinin
(c) IAA (d) Ethylene

[3]

SECTION 'B'

4 × 6 = 24

Short Answer Type Questions (Word limit 200-250 words.)

UNIT-I

- Q. 1. Write a note on CAM plants.

OR

Give difference between C₃ & C₄ plants.

UNIT-II

- Q. 2. Write a note on compensation point.

OR

Describe biosynthesis of fatty acid.

UNIT-III

- Q. 3. Define the Nitrogen cycle in nature.

OR

Write the mechanism of nodule formation in leguminous plant.

UNIT-IV

- Q. 4. Write short notes on-

(a) Bolting effect

(b) Apical Dormancy

OR

State the use of growth hormone in agriculture.