

M.Sc. (Previous) EXAMINATION - 2022

BOTANY

FIFTH PAPER

(Plant Physiology & Metabolism)

Time Allowed: Three Hours

Maximum Marks: 100

1. Each theory paper will have 9 questions, out of which a student has to attempt 5 questions and the questions No. 1 will be compulsory. The question No. 1 will carry 20 mark and will be of short type of questions with a limit of 20 words.
2. No supplementary answer book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer book only.
3. All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

1. Short answer type questions :-

2x10=20

- (a) What is transpiration? Give **difference between** evaporation and transpiration.
- (b) What do you mean by "Nod factors"?
- (c) Write the names of photosynthetic pigments.
- (d) Define the concept of Photophosphorylation.
- (e) What is gluconeogenesis?
- (f) What do you mean by alkaloids? Give two names of alkaloids
- ~~(g) Write two names of natural and synthetic anxiolytics.~~
- (h) Define photoperiodism and vernalization.
- (i) What do you mean by transamination?
- (j) Draw the labeled diagram of chloroplast.

UNIT - I

2. Write short notes on the following :

2x10=20

- (a) Structural classification of proteins
- (b) Water potential

OR

Write notes on the following :-

2x10=20

- (a) Mechanism of enzyme action
- (b) Mechanism of membrane transport

UNIT - II

3. Discuss in detail about the classification of carbohydrates with suitable examples

20

OR

Write notes on the following :-

2x10=20

- (a) Plant photosystems (I&II)
- (b) C₄ plants

UNIT - III

4. Write notes on the following :-

2x10=20

- (a) Tricarboxylic acid cycle (TCA cycle)
- (b) Classification of steroids with suitable examples

OR

Write short notes on the following :-

2x10=20

- (a) Pentose phosphate pathway
- (b) Synthesis of long chain fatty acids

UNIT - IV

5. Write notes on the following :-

2x10=20

- (a) Cytokinins
- (b) Abscisic acid

OR

Write notes on the following :-

2x10=20

- (a) Plant growth promoters with reference to IAA and jasmonic acid only
- (b) Photoperiodism