

**S-1048**

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## **BOT-504**

### **Biochemistry and Plant Physiology**

M.Sc. Botany (MSCBOT)

1st Year Examination, 2022 (Dec.)

**Time : 2 Hours]**

**Max. Marks : 70**

**Note :** This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

### **SECTION–A**

#### **(Long Answer Type Questions)**

**Note :** Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. What are nucleic acids? Describe the chemistry and structure of DNA and RNA.

2. Classify the carbohydrates and give a detailed account on structural aspects of monosaccharides.
3. Write an essay on photosynthetic carbon reduction cycle.
4. Describe the pathway, energy conservation and functions of glycolysis.
5. What are plant growth regulators? Discuss their applications in detail.

## **SECTION-B**

### **(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)

1. Explain the structure of proteins.
2. Describe any two of the following :
  - (a) Functions of carbohydrates.
  - (b) Peptide bonds.
  - (c) Transcription.
3. Write a short note on photoperiodism.

4. Give a short note on classification of lipids.
  5. Write short note on :
    - (a) First law of thermodynamics.
    - (b) Nucleotides.
  6. Write a short note on Kreb's cycle.
  7. Differentiate between the following :
    - (a) Photosystem I and II.
    - (b) Long Day Plants and Short Day Plants.
  8. Give a short note on Vernalization.
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