

Roll No. : .....

Total No. of Questions : 11 ]

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# **BPMS-504**

**M.Sc. (Previous) Examination, 2023**

**BOTANY**

Paper - IV

**(Biochemistry and Plant Physiology)**

*Time : 3 Hours ]*

*[ Maximum Marks : 75*

**Section-A**

**(Marks : 2 × 10 = 20)**

*Note :-* Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

**Section-B**

**(Marks : 5 × 5 = 25)**

*Note :-* Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

**Section-C**

**(Marks : 10 × 3 = 30)**

*Note :-* Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

**Section-A**

1. (i) Write functions of Pectins.
- (ii) Give *two* examples of unsaturated fatty acids.

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- (iii) What is SPAC ?
- (iv) Write important functions of Tannins.
- (v) Write role of Calmodulin.
- (vi) Write *two* examples of C<sub>4</sub> plants.
- (vii) Define Respiratory Quotient (R.Q.) with examples.
- (viii) Define Entropy.
- (ix) Define Vernalization.
- (x) Write *two* physiological effects of Ethylene in Plants.

### **Section-B**

2. Write a short note on Mode of Action of Enzymes.

*Or*

Write a short note on 'β-Oxidation' of Lipids.

3. Write a note on functions of Alkaloids.

*Or*

Write a note on Stomatal Regulation of Transpiration.

4. Write a note on CAM Pathway.

*Or*

Write differences between C<sub>3</sub> and C<sub>4</sub> pathways of Photosynthesis.

5. Explain TCA cycle with Enzyme System.

*Or*

Explain Glyoxylate Cycle in detail.

6. Describe the Physiological effects of Gibberellic Acid.

*Or*

Describe the Photoperiodism in detail.

**Section–C**

7. Give a detailed account of structures, properties and functions of Proteins.
8. Describe classification, Biosynthesis and functions of Secondary Metabolites.
9. Write a detailed note on Active and Passive uptake of Minerals in Plants.
10. Explain in detail 'Biological Nitrogen Fixation'.
11. Explain Biosynthesis and Physiological effects of Auxins.