

Roll No. ....

## **BOT–504**

### **Biochemistry and Plant Physiology**

M. Sc. BOTANY (MSCBOT–12/13/16/17)

First Year, Examination, 2018

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

#### **Section–A**

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

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Explain the relation between the various osmotic quantities in plant cell under normal and stressed condition.
2. Describe in detail the role of Potassium ion in stomatal movement.
3. What are Proteins ? Describe the properties and classification of proteins.
4. Define seed dormancy. Describe the different types of seed dormancy and their causes.

**(B-5) P. T. O.**

**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 *four* (04) questions only.

1. What are trace elements ? Indicate their major functions and deficiency symptoms in plants.
2. Explain non-cyclic electron transport and non-cyclic photophosphorylation.
3. What is photoperiodism ? How does it differ from vernalization ?
4. Explain various factors affecting seed germination.
5. Classify carbohydrates. Giving suitable examples.
6. Write an explanatory note on phospholipids and their occurrence.
7. Describe the structure and function of plasma membrane.
8. Describe double helical model of DNA.

**Section-C****(Objective Type Questions)**

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

Fill in the blanks :

1. Water potential value of pure water is .....
2. Glycolysis is also known as .....
3. Apical dominance in plants is caused by .....
4. .... are formed when  $\text{NADH}_2$  enters into ETS.
5. .... is involved in drought and frost resistance of plants.

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6. Bakanae disease in rice seedlings is caused by .....
7. The Science that deals with flow of heat and other forms of energy into or out of a system is known as .....
8. The study of functioning of plants under adverse environmental conditions is called as .....
9. In a polypeptide chain two consecutive amino acids are joined with ..... bond.
10. DNA differs from RNA chiefly in having ..... sugars.