

BOT–504**Biochemistry and Plant Physiology**

M. Sc. BOTANY (MSCBOT–12/13/16)

First Year, Examination, 2017

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. What are Enzymes ? Describe the mode of action of Enzyme.
2. What is transpiration ? Describe the various methods of transpiration in plants.
3. Describe in brief the mechanism of aerobic respiration in plants. How are ATPs produced during this process ?

4. What are plant growth regulators ? Describe their physiological role in Gibberellins.

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 the unique properties of water ? How are they life supporting ?
2. What is osmotic absorption of water ? Describe briefly.
3. What are amino acids ? Describe their biological role.
4. What are carbohydrates ? Explain the different groups of carbohydrates.
5. What is structure of a protein molecule ? Describe briefly.
6. What are microelements ? What is their role ?
7. What are Auxins ? What is their physiological role in plant growth ?
8. What is fermentation ? How is it differ from aerobic respiration ?

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.

Choose the correct alternative :

1. In thermodynamics, a living organism is an example of
(Closed system/Open system)

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2. When growth rate of a plant is plotted against time the shape of curve is (S-shaped/hyperbolic)
3. Auxin is synthesized mainly in
(Non-meristematic region/Meristematic region)
4. In primary roots the gravity stimulus is perceived by (root trip/root caps)
5. ABA occurs in plants predominantly in
(Stems/green leaves)

Fill in the blanks with correct words :

6. During complete aerobic respiration one mole of glucose would yield kcals.
7. Minimum quantum requirement of photosynthesis is
8. The available form of water in soil is
9. The stomata generally remain open in night in plants.
10. Reaction centre in Pigment System I is

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