

**0906E512****M.Sc Sem.-2 Examination****P - 409****Botany****June 2022**

Candidate's Seat No : \_\_\_\_\_

Time : 2-00 Hours]

[Max. Marks : 50

**Instructions:**

- All questions in **Section-I** carry equal marks.
- Attempt any **Three** questions in **Section-I**.
- All questions in **Section-II** are **COMPULSORY**.

**Section-I**

- Q-1 A.** Biosynthesis, structure and metabolism of Proteins. [07]  
**B.** Explain in detail water absorption and transport in plants. [07]
- Q-2 A.** Write a short note on NPK metabolism and assimilation in plants. [07]  
**B.** Write in brief about importance and deficiency symptoms of essential elements. [07]
- Q-3 A.** Give note on- measurements of photosynthesis and transpiration. [07]  
**B.** Explain in detail Glycolysis. [07]
- Q-4 A.** What is Photosynthesis? Give general account on photosynthetic apparatus, evolution of photosynthesis and factors affecting photosynthesis. [07]  
**B.** Write short note on CAM pathway. [07]
- Q-5 A.** Explain in detail Physiological effects and role of Polyamines and Salicylic acid in plants. [07]  
**B.** Write a short note on Seed germination. [07]
- Q-6 A.** Define Growth and different growth indices in detail. [07]  
**B.** Explain in brief about biosynthesis, bioassay, mechanism of action, physiological effects and applications of Cytokinin hormone. [07]
- Q-7 A.** Describe in detail Pr and Pfr structure. [07]  
**B.** Write a short note on water stress in plants. [07]
- Q-8 A.** Explain in detail shoot apex modification and floral meristem. [07]  
**B.** Give a note on Photoperiodism. [07]

**Section-II****Q-9 MCQs:**

1. Which among the following is not  $N_2$  fixing free living microorganisms? [08]  
 A) Clostridium  
 B) Rhizobium

P.T.O

- C) Rhodospirillum  
D) Azotobacter
2. Which process includes the conversion of soil  $\text{NO}_3^-$  to  $\text{N}_2$ ?  
A) Nitrogen fixation  
B) Ammonification  
C) Denitrification  
D) Nitrification
3. Which of the following is a macro-element?  
A) Molybdenum  
B) Boron  
C) Magnesium  
D) Zinc
4. Which form of sugar is transported through phloem?  
A) Ribose  
B) Fructose  
C) Sucrose  
D) Glucose
5. The end product of Calvin cycle is \_\_\_\_\_.  
A) RuBP  
B) PGAL  
C) PGA  
D) ADP+ NADP
6. The reason behind bending of plant towards light as it grows is \_\_\_\_\_.  
A) Since plants need light for photosynthesis  
B) Since green plants are phototrophic  
C) Light stimulates cells on that side to grow faster  
D) Because auxin gathered on the shaded side stimulates higher cell elongation
7. Where does dark reaction takes place?  
A) Lamella  
B) Grana  
C) Stroma of chloroplast  
D) Mitochondria
8. Gibberellins can promote seed germination because of their influence on \_\_\_\_\_.  
A) Production of hydrolyzing enzymes  
B) Absorption of water through hard seed coat  
C) Rate of cell division  
D) Synthesis of Abscisic acid
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