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Total No. of Pages : 02

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**B.Sc. (Hons.) (Agriculture) (Sem-8)**  
**FUNDAMENTALS OF PLANT BIOCHEMISTRY AND BIOTECHNOLOGY**

Subject Code : BSAG-801-19

M.Code : 93453

Date of Examination: 16-05-2023

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write short notes on :**

- a) Totipotency
- b) Somaclone
- c) Anther culture
- d) Catabolism
- e) Explant
- f) Callus
- g) Calliclone
- h) Caulogenesis
- i) In vitro
- j) Anabolism.

### SECTION-B

2. Write a note on TCA cycle.
3. What is in vitro grafting? How it is useful in crop improvement?
4. What are haploids? How they are useful in plant breeding?
5. Write a note on golden rice.
6. How somaclonal variations are useful in plant breeding? Discuss with suitable examples.

### SECTION-C

7. a) What are enzymes? Write their mechanism of action.  
b) What are proteins? Write their importance and classification.
8. What are nucleotides? Write a note on their secondary and tertiary structure.
9. What is genetic engineering? Write its role in crop improvement.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**