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**B—48—2019**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**B.Sc. (Third Year) (Sixth Semester) EXAMINATION**

**MARCH/APRIL, 2019**

**(CBCS Pattern)**

**BOTANY**

**Paper-XIV (Compulsory)**

**(Plant Metabolism Biochemistry and Biotechnology)**

**(Friday, 22-03-2019)**

**Time : 10.00 a.m. to 12.00 noon**

*Time—2 Hours*

*Maximum Marks—40*

*N.B. :— (i) Attempt All questions.*

*(ii) All questions carry equal marks.*

*(iii) Draw neat and well labelled diagrams wherever necessary.*

1. Write short notes on (any four) : 8

(a) Photo synthetic pigments.

(b) Lactic acid fermentation.

(c) Enzymes nomenclature.

(d) Cellular totipotency.

(e) DNA Ligase.

(f) Ti plasmid.

2. Write notes on (any two) : 8

(a) Ultrastructure of chloroplast.

(b) Cyclic photophosphorylation.

(c) Lock and Key model of enzyme action.

3. Describe in detail Krebs cycle. 8

*Or*

Describe in detail biological symbiotic nitrogen fixation.

P.T.O.

4. Write notes on (any *two*) : 8
- (a) Tissue culture media.
  - (b) Anther culture.
  - (c) NCBI.
5. Describe process of disease free plants production through tissue culture.8

Or

Describe in detail *Agrobacterium* mediated gene transfer.