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**AO—40—2018**

**FACULTY OF SCIENCE**

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

**MARCH/APRIL, 2018**

**(New Course)**

**BOTANY**

**Paper XIV**

**(Plant Metabolism, Biochemistry and Biotechnology)**

**(Wednesday, 21-3-2018)**

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

*Time—Two 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. What is Photosynthesis ? Describe the process and significance of Calvin cycle. 8

*Or*

Write in brief :

(a) Anaerobic respiration

(b) Electron transport system.

2. What is biological nitrogen fixation ? Describe the process of symbiotic nitrogen fixation. 8

*Or*

Write in brief :

(a) Induced fit mechanism

(b) Nomenclature of enzymes.

3. What is Anther Culture ? Describe the process and significance of anther culture. 8

P.T.O.

*Or*

Write in brief :

- (a) Cellular totipotency
  - (b) Synthetic seeds.
4. Define transgenic plants. Describe the importance of transgenic plants in agriculture. 8

*Or*

Write in brief :

- (a) Agrobacterium mediated gene transfer
  - (b) Gene cloning.
5. Write short notes on (any *four*) : 8
- (a) Draw well labelled diagram of chloroplast
  - (b) Fermentation
  - (c) Holoenzymes
  - (d) Callus
  - (e) Significance of somatic hybridization
  - (f) Plasmids.