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R—41—2017

FACULTY OF SCIENCE

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

MARCH/APRIL, 2017

(New Course)

BOTANY

Paper XIV

(Plant Physiology, Biochemistry and Biotechnology)

(Monday, 27-3-2017)

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. What is respiration ? Describe the process and significance of TCA cycle. 8

Or

Write in brief :

- (a) C_4 plants
(b) Photosynthetic pigments.

2. What is nitrogen fixation ? Describe the asymbiotic N_2 fixation. 8

Or

Write in brief :

- (a) Lock and key model of enzyme action
(b) Concept of Holoenzyme.

3. What is tissue culture ? Describe the various steps involved in tissue culture techniques. 8

Or

Write in brief :

- (a) Anther culture
(b) Synthetic seeds.

P.T.O.

4. What is gene cloning ? Describe the process and significance of gene cloning. 8

Or

Write in brief :

- (a) Transgenic plants
(b) Genomic library.
5. Write short notes on any *four* : 8
- (i) Significance of Glycolysis
(ii) Structure of ATP
(iii) Physical N₂ fixation
(iv) Coenzymes
(v) Totipotency of cell
(vi) *Agrobacterium tunisfaciens*.