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V—40—2017

FACULTY OF SCIENCE

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

OCTOBER/NOVEMBER, 2017

(New Course)

BOTANY

Paper XIV

(Plant Metabolism, Biochemistry and Biotechnology)

(Thursday, 12-10-2017)

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. Define respiration. Describe the process and significance of Glycolysis. 8

Or

Write in brief :

(a) Ultrastructure and functions of chloroplast.

(b) Structure and functions of ATP.

2. What are enzymes ? Describe mechanism of enzymes action. 8

Or

Write in brief :

(a) Denitrification

(b) Physical nitrogen fixation.

3. Define tissue culture. Describe the process and significance of micro-propagation. 8

Or

Write in brief :

(a) Protoplast culture

(b) Production of secondary metabolites.

P.T.O.

4. What is genetic engineering ? Describe Agrobacterium mediated gene transfer. 8

Or

Write in brief :

- (a) c-DNA Library
 - (b) Gene cloning.
5. Write short notes on (any four) : 8
- (a) Significance of TCA cycle
 - (b) Alcoholic fermentation
 - (c) Nomenclature of enzymes
 - (d) Root nodules
 - (e) Plasmids
 - (f) Synthetic seeds.