

**2 0 1 7**

( 3rd Semester )

**BOTANY**

**THIRD PAPER**

**( Plant Physiology, Biochemistry and Ecology )**

*Full Marks : 55*

*Time : 2½ hours*

( PART : B—DESCRIPTIVE )

( Marks : 35 )

*The figures in the margin indicate full marks  
for the questions*

1. Describe the mechanism of light reaction in photosynthesis. 7

*Or*

Write notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) CAM pathway of carbon fixation  
(b) Water potential and its role in plants

2. Define respiration. Describe in detail the process of TCA cycle. 1+6=7

*Or*

Write notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) Assimilation of nitrate  
(b) Lowering of activation energy by enzymes

3. Define dormancy of seeds. What are the different methods of breaking the dormancy? 2+5=7

*Or*

Write notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) Physiological role of cytokinin  
(b) Vernalization

4. Discuss the process of translation during protein synthesis. 7

*Or*

Write notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) Lipids  
(b) Polysaccharide

( 3 )

5. Define ecosystem. Describe the flow of energy in an ecosystem.  $1+6=7$

*Or*

Write notes on any *two* of the following :  
 $3\frac{1}{2}\times 2=7$

- (a) Hydrosere
- (b) Water pollution
- (c) Ecological pyramid

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**Subject Code : BOT/III/03**

**Booklet No. A**

Date Stamp .....

.....

**To be filled in by the Candidate**

DEGREE 3rd Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2017**

Subject .....

Paper .....

**INSTRUCTIONS TO CANDIDATES**

- 1. The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.**
- 2. This paper should be ANSWERED FIRST and submitted within 45 minutes of the commencement of the Examination.**
- 3. While answering the questions of this booklet, any cutting, erasing, over-writing or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.**

**To be filled in by the Candidate**

DEGREE 3rd Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2017**

Roll No. ....

Regn. No. ....

Subject .....

Paper .....

Descriptive Type

Booklet No. B .....

*Signature of  
Scrutiniser(s)*

*Signature of  
Examiner(s)*

*Signature of  
Invigilator(s)*

**/123**

**BOT/III/03**

**2 0 1 7**

( 3rd Semester )

**BOTANY**

THIRD PAPER

**( Plant Physiology, Biochemistry and Ecology )**

( PART : A—OBJECTIVE )

( Marks : 20 )

*The figures in the margin indicate full marks for the questions*

SECTION—I

( Marks : 5 )

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

**1.** Dark reaction takes place in which part of chloroplast?

(a) Stroma (    )

(b) Granum thylakoid (    )

(c) Thylakoid spaces (    )

(d) Outer membrane (    )

**/123**

( 2 )

**2.** In photorespiration, the substrate is always

(a) carbohydrate ( )

(b) fat ( )

(c) glycolic acid ( )

(d) protein ( )

**3.** Glycolysis is taking place in

(a) cytoplasm ( )

(b) mitochondria ( )

(c) ribosome ( )

(d) All of the above ( )

**4.** Which of the following is a saturated fatty acid?

(a) Palmitic acid ( )

(b) Linoleic acid ( )

(c) Palmitoleic acid ( )

(d) Arachidonic acid ( )

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( 3 )

5. Numerical strength of a species in relation to a definite unit space is called

(a) frequency ( )

(b) density ( )

(c) abundance ( )

(d) dominance ( )

( 4 )

SECTION—II

( Marks : 15 )

Write notes on the following :

3×5=15

1. Transport of solutes

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( 5 )

**2. Enzymes**

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( 6 )

**3. Senescence**

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( 7 )

#### 4. Transcription

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( 8 )

**5. Food web**

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