

2 0 1 6

( 6th Semester )

BOTANY

ELEVENTH PAPER

( **Plant Metabolism, Biochemistry, etc** )

*Full Marks : 55*

*Time : 2½ hours*

( PART : B—DESCRIPTIVE )

( *Marks : 35* )

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

1. Write an account on biological nitrogen fixation. 7

*Or*

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

- (a) Synthesis of cellulose  
(b) Biosynthesis of purine

2. What are enzymes? Briefly describe the mechanism of enzyme action.  $2+5=7$

*Or*

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

- (a) Enzyme kinetics  
(b) Allosteric enzymes

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

- (a) Auxins  
(b) Cytokinins

*Or*

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

- (a) Gibberellins  
(b) Abscisic acid

4. Describe an illustrated mechanism of  $C_2$  cycle. 7

*Or*

Give brief accounts of the following :  $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) Cyclic electron transport  
(b) ATPase chemoosmotic theory of ATP-synthesis

( 3 )

5. What is thermodynamics? Describe the laws of thermodynamics.  $1+6=7$

*Or*

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

- (a) Concept of free energy  
(b) Enthalpy and entropy change

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Subject Code : BOT/VI/11

Booklet No. **A**

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Date Stamp .....

**To be filled in by the Candidate**

DEGREE 6th Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2016**  
Subject .....  
Paper .....

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**To be filled in by the Candidate**

DEGREE 6th Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2016**  
Roll No. ....  
Regn. No. ....  
Subject .....  
Paper .....  
Descriptive Type  
Booklet No. B .....

**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, overwriting 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.

Signature of  
Scrutiniser(s)

Signature of  
Examiner(s)

Signature of  
Invigilator(s)

**BOT/VI/11**

**2 0 1 6**

( 6th Semester )

**BOTANY**

ELEVENTH PAPER

**( Plant Metabolism, Biochemistry, etc )**

( PART : A—OBJECTIVE )

( Marks : 20 )

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

SECTION—A

( Marks : 5 )

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

(a) The replication of lagging strand generates small polynucleotide fragments called as

- (i) origin ( )
- (ii) Okazaki fragments ( )
- (iii) leading strand ( )
- (iv) replication fork ( )

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( 2 )

(b) The genetic information in the DNA is transferred to a complementary sequence of RNA and the process is called

(i) transcription ( )

(ii) translation ( )

(iii) replication ( )

(iv) termination ( )

(c) Internally the chloroplast is filled with hydrophilic matrix called as

(i) thylakoid ( )

(ii) granum ( )

(iii) cytosol ( )

(iv) stroma ( )

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( 3 )

(d) The measurement of the disorder of the system is called

(i) enthalpy ( )

(ii) entropy ( )

(iii) free energy ( )

(iv) internal energy ( )

(e) Multiple forms of enzyme with the same catalytic activity but different structures are

(i) allosteric enzymes ( )

(ii) coenzymes ( )

(iii) isozymes ( )

(iv) lysozymes ( )

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( 4 )

SECTION—B

( Marks : 15 )

2. Write notes on the following :

3×5=15

(a) Nitrogen metabolism

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( 5 )

(b) Secondary structure of proteins

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( 6 )

(c) Mode of action of ethylene

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( 7 )

(d) Photosynthetic apparatus

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( 8 )

(e) Concept of internal energy

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