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V—70—2017

FACULTY OF SCIENCE

B.Sc. (First Year) (Second Semester) EXAMINATION

OCTOBER/NOVEMBER, 2017

(CBCS/CGPA Pattern)

BOTANY

Paper IV

(Genetics and Plant Breeding)

(MCQ & Theory)

(Monday, 13-11-2017)

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) Choose the correct option for MCQ.
 - (iv) Draw well labelled diagrams wherever necessary.

MCQ

1. Multiple Choice Questions : 10
- (i) Mendel's law of support the variations in off springs.
 - (a) Dominance
 - (b) Segregation
 - (c) Independent assortment
 - (d) Purity of gametes
 - (ii) Mendel's Dihybrid ratio is :
 - (a) 3 : 1
 - (b) 9 : 3 : 3 : 1
 - (c) 9 : 7
 - (d) 9 : 3 : 4
 - (iii) The branch of biology dealing with heredity and variation is :
 - (a) Plant breeding
 - (b) Cell biology
 - (c) Molecular biology
 - (d) Genetics

P.T.O.

- (iv) Supplementary gene action ratio is :
- (a) 9 : 7 (b) 9 : 3 : 4
(c) 9 : 3 : 3 : 1 (d) 12 : 3 : 1
- (v) is X-linked character.
- (a) Hypertrichosis (b) Haemophilia
(c) Both of these (d) None of these
- (vi) Raphanobrassica is an :
- (a) Allopolyploid (b) Autopolyploid
(c) Both of these (d) None of these
- (vii) Which type of selection method is used in vegetatively propagated plant ?
- (a) Mass selection (b) Pureline selection
(c) Clonal selection (d) Natural selection
- (viii) The types of male sterility are :
- (a) Cytoplasmic (b) Genetic
(c) Mendel's (d) Both (a) and (b)
- (ix) Sudden heritable change in genetic material of an organism is called :
- (a) Mutations (b) Introduction
(c) Hybridization (d) Selection
- (x) is chemical mutagenic agent.
- (a) Alpha rays (b) Mustard gas
(c) X-ray (d) Gamma rays

Theory

2. What is epistasis ? Describe Dominant epistasis (12 : 3 : 1) in detail.

Or

Write in brief :

- (i) Test cross and back cross
- (ii) Objectives of mutational breeding.

3. Write in detail regarding X linked inheritance in man with reference to Haemophilia and colourblindness.

Or

- (i) Down's syndroms
- (ii) Acclimatization.

4. Describe in detail the process and application of mass selection.

Or

- (i) Clonal selection
- (ii) Plant Introduction.