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AO—69—2018

FACULTY OF SCIENCE

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

MARCH/APRIL, 2018

(CBCS/CGPA)

BOTANY

Paper IV

(Genetics and Plant Breeding)

(MCQ + Theory)

(Tuesday, 27-3-2018)

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. (1) In Mendelian cross with purity of contrasting character F_1 shows only one character is called

 - (a) Law of purity of gametes
 - (b) Law of segregation
 - (c) Law of dominance
 - (d) Law of independent assortment

- (2) Mendel was born in

 - (a) Austria
 - (b) Australia
 - (c) Sweden
 - (d) Germany

P.T.O.

- (3) In Mendel's monohybrid cross, the test cross ratio is
- (a) 3 : 1 (b) 1 : 1
(c) 1 : 1 : 1 : 1 (d) 1 : 2 : 1
- (4) Complementary gene action ratio is
- (a) 9 : 7 (b) 9 : 3 : 4
(c) 9 : 3 : 3 : 1 (d) 15 : 1
- (5) Colour blindness is linked character.
- (a) XY (b) Y
(c) X (d) Autosomes
- (6) Wheat is an example of
- (a) Diploid (b) Triploid
(c) Tetraploid (d) Hexaploid
- (7) methods are used in crop improvement.
- (a) Pureline selection (b) Mass selection
(c) Clonal selection (d) All of these
- (8) Emasculation, crossing, bagging etc. techniques are steps involved in
- (a) Mass selection (b) Hybridization
(c) Clonal selection (d) None of these
- (9) Naturally occurring mutations are called as mutations.
- (a) Spontaneous (b) Induced
(c) Artificial (d) All of these
- (10) Adjustment of plant of new locality is called
- (a) Selection (b) Introduction
(c) Acclimatization (d) All of these

(Theory)

2. What is supplementary gene action ? Describe in detail with suitable example. 10

Or

Write notes on :

- (a) Sex determination in birds
(b) Cytoplasmic male sterility

3. What is polyploidy ? Describe allopolyploidy with reference to Raphanobrassica. 10

Or

Write notes on :

- (a) Holandric gene
(b) Advantages of Mutation.

4. Describe in detail the process of hybridization. 10

Or

Write notes on :

- (a) Objectives of plant breeding
(b) Acclimatization.