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**Y—92—2019**

**FACULTY OF SCIENCE**

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

**OCTOBER/NOVEMBER, 2019**

**BOTANY**

**Paper IV**

**(Genetics & Plant Breeding)**

**(MCQ & Theory)**

**(Tuesday, 19-11-2019)**

**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 well labelled diagrams wherever necessary.*

**MCQ**

1. Multiple Choice Questions :

10

(i) Mendel's work was rediscovered in 1900 by.....

(a) Hugo de Vries (b) Carl Carren

(c) Eric Van Tschermak (d) All of these

(ii) Phenotypic ratio of monohybrid cross is.....

(a) 2 : 2 (b) 3 : 1

(c) 1 : 2 : 1 (d) None of these

(iii) Sex chromosomes are also called as.....

(a) Autosome (b) Allosome

(c) Polysome (d) Ribosome

(iv) .....is X-linked character.

(a) Colour Blindness (b) Haemophilia

(c) Hypertrichosis (d) Both a & b

P.T.O.

- (v) An organism with more than two genomes is called as.....
- (a) Monoploid (b) Diploid  
(c) Polyploid (d) None of these
- (vi) Autosomal abnormality is found in.....
- (a) Down's syndrome (b) Turner's syndrome  
(c) Klinefelter's syndrome (d) All of these
- (vii) .....is a step involved in Hybridization
- (a) Selection (b) Selfing  
(c) Emasculation (d) All of these
- (viii) .....method is used in the improvement of vegetatively propagating crop.
- (a) Clonal selection (b) Purcline selection  
(c) Mass selection (d) None of these
- (ix) Introducing plant into a new locality with different climate is called.....
- (a) Introduction (b) Selection  
(c) Mutation (d) None of these
- (x) TG-26 is the variety of.....
- (a) Wheat (b) Maize  
(c) Groundnut (d) Rice

### Theory

2. What is interaction of gene ? Describe complementary gene action (9 : 7) with suitable example. 10

Or

Write short notes on :

- (a) Sex determination in Birds  
(b) Acclimatization.

3. Define sex-linked inheritance. Explain X-linked inheritance in man with reference to colour blindness. 10

*Or*

Write short notes on :

- (a) Turner's syndrome  
(b) Objectives of Mutational breeding.
4. Describe in detail steps involved in Hybridization. 10

*Or*

- (a) Clonal selection  
(b) Cytoplasmic male sterility.