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W—78—2018

FACULTY OF SCIENCE

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

OCTOBER/NOVEMBER, 2018

(CBCS/CGPA Pattern)

BOTANY

Paper IV

(Genetics and Plant Breeding)

(MCQ+Theory)

(Friday, 19-10-2018)

Time : 10.00 a.m. to 12.00 noon

Time—Two Hours

Maximum Marks—40

N.B. :— (i) Attempt all questions.

(ii) All questions carry equal marks.

(iii) Draw well labelled diagram wherever necessary.

MCQ

10

1. (i) is regarded as 'Father of Genetics'.

(a) Bateson

(b) Morgan

(c) Watson

(d) Mendel

(ii) Genetic constitution of an organism is called as

(a) inheritance

(b) genotype

(c) phenotype

(d) heredity

(iii) Dihybrid test cross ratio is

(a) 1 : 1

(b) 9 : 3 : 3 : 1

(c) 1 : 1 : 1 : 1

(d) 3 : 1

P.T.O.

- (iv) Sex linked characters include
- (a) Colourblindness (b) Hypertrichosis
- (c) Haemophilia (d) All of these
- (v) Nullisomy is
- (a) $2n - 2$ (b) $2n + 2$
- (c) $2n - 1 - 1$ (d) $2n + 1 + 1$
- (vi) Webbed neck and gonadal dysfunction is found in syndrome.
- (a) Down (b) Klinefelter
- (c) Turner (d) Patau
- (vii) Emasculation, bagging, labelling are the steps involved in
- (a) Selection (b) Hybridization
- (c) Mutation (d) Introduction
- (viii) The main objective of plant breeding is to
- (a) Produce disease and pest resistance
- (b) Produce high yielding varieties
- (c) Both of the above
- (d) None of the above
- (ix) The substance used to induce mutation is called
- (a) Oncogen (b) Nitrogen
- (c) Teratogen (d) Mutagen
- (x) Introducing plant in a new locality is called
- (a) Introduction (b) Selection
- (c) Hybridization (d) Mutation

Theory

2. Describe Duplicate gene action with suitable example.

Or

Write notes on :

- (a) Sex determination in insects
- (b) Down syndrome.

3. Describe sex linked inheritance in birds with reference to barred feathers.

Or

Write notes on :

- (a) Clonal selection
- (b) Crossing in hybridization.

4. What is Male Sterility ? Describe the types of male sterility.

Or

Write notes on :

- (a) Acclimatization
- (b) Application of Heterosis.