Total No. of Printed Pages—4

6 SEM TDC DSE BOT (CBCS) 1 (H)

2023

(May/June)

BOTANY

(Discipline Specific Elective)

(For Honours)

Paper : DSE–1

(Plant Breeding)

Full Marks : 53
Pass Marks : 21

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Choose the correct answer of the following : 1×3=3

(i) The oldest method of plant breeding is

(1) introduction

(2) selection

(3) hybridization

(4) mutation breeding

(ii) The method of selection in plants showing vegetative propagation is

(1) pedigree method

(2) pure-line selection

(3) mass selection

(4) clonal selection

(iii) Emasculation is achieved by

(1) removal of stigma

(2) removal of anther

(3) removal of calyx

(4) removal of corolla

(b) Fill in the blanks : 1×2=2

(i) N. I. Vavilov conceived the idea of _____ _____.

(ii) Superiority of F_1 hybrids over its parents is called _____.

2. Write short notes on the following (any *three*) : 4×3=12

(a) Objectives of plant breeding

(b) Plant introduction.

(c) Plant genetic resources

(d) Clonal selection

(e) Mutation breeding

3. Write explanatory notes on any *two* of the following : 6×2=12

(a) Pedigree method of breeding

(b) Mode of reproduction in crop plants

(c) Kernal colour in wheat

(d) Merits and demerits of mass selection

4. What is backcross method? Write its procedure, merits and demerits. 2+6+2+2=12

Or

Define pure-line selection. Write briefly the selection procedure of pure line. Mention its merits and demerits. 1+7+2+2=12

5. Define heterosis. Write its characteristics. Explain the genetic basis of hybrid vigour. 2+4+6=12

Or

Write notes on the following : 4×3=12

(a) Polyploidy in plant breeding

(b) Inbreeding depression

(c) Biotechnology in crop improvement

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