AR – 543

Third Semester B. Sc. (Part - II) Examination

SEED TECHNOLOGY (VOC.)

(Hybrid Seed Production and Vegetable Seed Production)

P. Pages : 6

Time : Three Hours] [Max. Marks : 80

Note : (1) All questions are compulsory.
(2) Draw well labelled diagram wherever necessary.

1. (A) Fill in the blanks.

(i) The choice of parents depends upon the _____ of breeding programme. $\frac{1}{2}$

(ii) DNA _____ is related to gene expression in plants. $\frac{1}{2}$

(iii) _____ different ms genes are reported in maize. $\frac{1}{2}$

(iv) Genetic male sterility is ordinarily governed by a _____ recessive gene. $\frac{1}{2}$

(B) Choose the correct alternative. (MCQ)

(v) _____ reproduction is involved in the fusion of male and female gametes.

(a) Asexual

(b) Vegetative

(c) Sexual

(d) None $\frac{1}{2}$

(vi) Pollination takes place by water is known as _____ .

(a) Anaemophily

(b) Hydrophily

(c) Entomophily

(d) None $\frac{1}{2}$

(vii) The cytoplasmic male sterility is determined by _____ .

(a) Gene

(b) Cytoplasm

(c) Chloroplast

(d) None $\frac{1}{2}$

(viii) The purpose of _____ is for providing information.

(a) Bagging

(b) Tagging

(c) Both

(d) None $\frac{1}{2}$

(C) Answer in one sentence.

(ix) Define apomixes. 1

(x) What is polyembryony ? 1

(xi) What is meant by TGMS ? 1

(xii) Define pure line selection. 1

2. Explain :

(a) Genetic basis of heterosis. 4

(b) Exploitation of heterosis in Sunflower. 4

(c) Inbreeding depression. 4

OR

(p) Exploitation of heterosis in Pigeon pea. 4

(q) Fixation of heterosis. 4

(r) Genetic basis of heterosis. 4

3. Comment on :

(a) Genetic male sterility. 4

(b) Procedure of hybrid seed production in Sunflower. 4

(c) Synchronization methods of hybrid seed production. 4

OR

(p) Disadvantage of genetic male sterility. 4

(q) Seed production of CMS line 'A'. 4

(r) Maintenance of seed parent in Pigeon pea. 4

4. Describe in detail special agronomic practices and maintenance of varietal purity in cotton. 12

OR

Discuss field inspection, harvesting and threshing in Maize. 12

5. Discuss :

(a) Explain genetic male sterility in Brinjal. 6

(b) Female gamete formation. 6

OR

Describe in detail asexual reproduction in vegetable crops. 12

6. Comment on :

(a) Bulk method. 4

(b) Single and double cross method of hybridization. 4

(c) Emasculation. 4

OR

(p) Pedigree selection method. 4

(q) Pureline selection in vegetables. 4

(r) Procedure for single plant selection. 4

7. Explain :

(a) Bulbous crops. 4

(b) Drying and grading in vegetable seed production. 4

(c) Land requirement in production of leaf vegetable. 4

OR

(p) Nursery management. 4

(q) Importance of vegetable seed production. 4

(r) Planting and cultural practices in Brinjal. 4