

AP-451

5. Explain :

- (a) Artificial seeds. 4
- (b) Flowering habit in Cucurbits. 4
- (c) History of vegetable crop improvement. 4

OR

- (d) Vegetative propagation. 4
- (e) Objectives of vegetable breeding. 4
- (f) Genetic Male Sterility in Tomato. 4

6. Define clonal selection. Explain in detail the method of collection of clones. 12

OR

Describe in brief pollination methods in vegetables. 12

7. Comment on :

- (a) Root crop. 4
- (b) Effects of environment on seed setting. 4
- (c) Plant protection during seed production. 4

OR

- (d) Present status of vegetable seed production. 4
- (e) Bulbous crops. 4
- (f) Nursery Management during vegetable seed production. 4

B.Sc. (Part-II) Semester-III Examination
3S : SEED TECHNOLOGY (Vocational)
(Hybrid Seed Production and Vegetable
Seed Production)

Time—Three Hours] [Maximum Marks—80

Note: (1) **ALL** questions are compulsory.

(2) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks : 2

- (i) Tomato is normally _____ pollinated.
- (ii) The soil for chilli fields should be well _____ and aerated.
- (iii) Spinach is an example of _____ vegetable.
- (iv) In classification of vegetable Colocasia includes in _____.

(B) Choose appropriate alternative : 2

- (i) Onion is a _____ crop and takes two full seasons to produce seeds.
 - (a) Annual
 - (b) Biennial
 - (c) Perennial
 - (d) None of the above

(ii) Seed production of _____ is possible only in hill areas.

- (a) Onion
- (b) Chillies
- (c) Cabbage
- (d) None of the above

(iii) _____ is a temperate vegetable.

- (a) Radish
- (b) Cauliflower
- (c) Trigonella
- (d) None of the above

(iv) In potato seed production minimum isolation distance is _____ required.

- (a) 10 meters
- (b) 7 meters
- (c) 5 meters
- (d) None of the above

(C) Answer in **one** sentence : 4

- (i) What is isolation distance ?
- (ii) What is pollination ?
- (iii) What is emasculation ?
- (iv) What is double cross ?

2. Explain the following :

- (a) Genetic basis of heterosis 4
- (b) Apomixis 4
- (c) Exploitation of heterosis in Sorghum. 4

OR

- (d) Fixation of Apomixis in Rice 4
- (e) Exploitation of heterosis in Cotton 4
- (f) Biochemical basis of heterosis. 4

3. Comment on :

- (a) Role of marker genes 4
- (b) Cytoplasmic Male Sterility 4
- (c) Seed production of restorer line 'R'. 4

OR

- (d) Advantages of genetic Male Sterility 4
- (e) Seed production of CMS line 'A' 4
- (f) Importance of maintenance of Seed Parents. 4

4. Give an account of floral biology seed production planning, land and isolation requirement in Sunflower. 12

OR

Describe in detail Hybrid seed production in Cotton. 12