

**B.Sc. Part-I Semester-I Examination  
SEED TECHNOLOGY (VOC)**

**(Seed Development, Seed Physiology, and Introduction To Plant Breeding)**

Time : Three Hours]

[Maximum Marks : 80

- N.B.:**— (1) All questions are compulsory.  
(2) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks :

- (i) \_\_\_\_\_ can be defined as a fertilized ovule. ½  
(ii) In cellular type of endosperm development endosperm nucleus is followed immediately by \_\_\_\_\_. ½  
(iii) \_\_\_\_\_ pollination takes place in plants which develops bisexual flowers. ½  
(iv) The megasporangium is also known as \_\_\_\_\_. ½

(B) Choose the correct alternative (MCQ) :

- (v) If seeds are harvested too early immature seeds are found \_\_\_\_\_.  
(a) Less (b) Medium  
(c) More (d) None ½
- (vi) \_\_\_\_\_ is the crop phenol colour reaction has been extensively used for variety identification.  
(a) Maize (b) Bajara  
(c) Cotton (d) Wheat ½
- (vii) Only one fruit develops from single ovary this fruit is known as \_\_\_\_\_.  
(a) Multiple fruit (b) Simple fruit  
(c) Aggregate fruit (d) None ½
- (viii) \_\_\_\_\_ seed shows presence of caruncle.  
(a) Maize (b) Jowar  
(c) Castor (d) Cotton ½

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

- (ix) What is dormancy of seeds ? 1  
(x) What is cross pollination ? 1  
(xi) What is genuineness of variety ? 1  
(xii) What is artificial seed ? 1

2. Comment on :

- (a) Sequential approach in testing 4  
(b) Polyembryony 4  
(c) Harvestable maturity of seeds. 4

**OR**

- (p) Phenol colour reactions 4  
(q) Apomixis 4  
(r) Nuclear type of endosperm development. 4
3. Describe in brief different factors affecting on seed germination. 12
- OR**
- Describe in detail chemical composition of seed. 12
4. Comment on :
- (a) Hard seededness 4  
(b) Enzymatic activities during germination 4  
(c) Seed deterioration in storage 4
- OR**
- (p) Stimulators of seed germination 4  
(q) Role of endosperm in seeding establishment 4  
(r) Breaking of seed dormancy. 4
5. Describe in brief Invigoration treatments to improve seedling establishment. 12
- OR**
- Describe in detail production of synthetic seeds. 12
6. Comment on :
- (a) DUS system 4  
(b) Objectives of plant breeding 4  
(c) Male gametophyte development 4
- OR**
- (p) Growout test in cotton 4  
(q) Variety descriptors 4  
(r) Method of cultivar genuineness. 4
7. Explain :
- (a) Cross pollination 4  
(b) Chemical hybridising agents 4  
(c) Double fertilization 4
- OR**
- (p) Genetic male sterility 4  
(q) Structure of floral parts 4  
(r) Germination of pollen grains. 4