

**B.Sc. (Part-I) Semester-II Examination**  
**APICULTURE**  
**(Bee Botany, Pollination and Melato Palynology)**

Time : Three Hours]

[Maximum Marks : 80

**Note** :— (1) All questions are compulsory.  
(2) Question Nos. 2 to 7 carry equal marks.

1. (A) Fill in the blanks :—

- (a) Bee plant yields \_\_\_\_\_ and \_\_\_\_\_ for bees. ½
- (b) Study of Pollen grains is called \_\_\_\_\_. ½
- (c) Entomophily is pollination by \_\_\_\_\_. ½
- (d) Honey bee carries pollen grains in \_\_\_\_\_. ½

(B) Choose correct option :—

- (e) In pollination pollen grains transfer from stamens to \_\_\_\_\_. ½
  - (i) ovary
  - (ii) anther
  - (iii) stigma
  - (iv) stipul
- (f) Anemophily is a pollination by — ½
  - (i) wind
  - (ii) insect
  - (iii) bats
  - (iv) water
- (g) The horticultural crops is \_\_\_\_\_. ½
  - (i) orange
  - (ii) tulsi
  - (iii) neem
  - (iv) nerium
- (h) Conversion of nectar to honey by bees is called : ½
  - (i) regurgitation
  - (ii) foraging
  - (iii) swarming
  - (iv) derth

(C) Answer in **ONE** sentence each :—

- (i) Define cross pollination. 1
- (j) What is autogamy ? 1
- (k) What is palynology ? 1
- (l) Define bee plant. 1

- 2. (a) Give the classification of bee plants with suitable examples. 4
- (b) Explain process of fertilization in flowering plants. 4
- (c) Explain secretion of nectar. 4

**OR**

- (d) Explain male and female parts of flower. 4
- (e) Give composition of nectar. 4
- (f) Explain development of fruit. 4

3. Define bee flora and discuss any six annual bee crops with their flowering period. 12

**OR**

Discuss wild and horticultural bee plants with their flowering plants. 12

4. (g) Explain floral gap. 4

(h) Explain concept of floral sequence and its advantages. 4

(i) Describe floral calendar. give its advantages. 4

**OR**

(j) How honey becomes toxic ? 4

(k) Explain major bee crops in India with their flowering period and region. 4

(l) Describe season of major honey flow in India. 4

5. (m) Draw a diagram of pollen bag on hind leg. 4

(n) Explain honey bees are more efficient for pollination. 4

(o) Explain method for preparation of pollen slide. 4

**OR**

(p) Explain types of pollen. 4

(q) Describe the method to identify floral source. 4

(r) Give characteristics of pollen grains. 4

6. Discuss pollination with their types and its advantages and disadvantages. 12

**OR**

Discuss various pollinating agents. 12

7. (s) Explain the concept of migratory bee keeping. 4

(t) Describe measures to protect bees from insecticide spraying. 4

(u) Explain the concept of service for pollination through beekeeping. 4

**OR**

(v) Explain how bees convert nectar to honey. 4

(w) Explain advantages of honey bees to farmer and bee keeper. 4

(x) Explain advantages of migration of bee colonies. 4