

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.  $\frac{1}{2}$
- (b) Study of Pollen grains is called \_\_\_\_\_.  $\frac{1}{2}$
- (c) Entomophily is pollination by \_\_\_\_\_.  $\frac{1}{2}$
- (d) Honey bee carries pollen grains in \_\_\_\_\_.  $\frac{1}{2}$

(B) Choose correct option :—

- (e) In pollination pollen grains transfer from stamens to \_\_\_\_\_.  $\frac{1}{2}$
- (i) ovary (ii) anther
- (iii) stigma (iv) stipul
- (f) Anemophily is a pollination by —  $\frac{1}{2}$
- (i) wind (ii) insect
- (iii) bats (iv) water
- (g) The horticultural crops is \_\_\_\_\_.  $\frac{1}{2}$
- (i) orange (ii) tulsi
- (iii) neem (iv) nerium
- (h) Conversion of nectar to honey by bees is called :  $\frac{1}{2}$
- (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

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