

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

Time : Three Hours]

[Maximum Marks : 80

- N.B. :**— (1) Question No. 1 is compulsory and carries 8 marks.
(2) Question 2-7 carry equal marks.
(3) Draw well labelled diagrams wherever necessary.

1. (a) Fill in the blanks :
- (i) The pollination by wind is known as _____ pollination. ½
 - (ii) Rich source of vitamins is found in _____. ½
 - (iii) Anther is _____ reproductive part of the flower. ½
 - (iv) _____ is one of the applied branch of palynology. ½
- (b) Choose correct alternatives (MCQ) :
- (v) *Eukalyptus* is rich source of flowering in :
(a) June-July (b) March-May
(c) Nov.-January ½
 - (vi) The product of fertilization is :
(a) Bud (b) Fruit
(c) Leaf ½
 - (vii) The transfer of pollen grains is :
(a) Phenology (b) Pallinology
(c) Pollination ½
 - (viii) The pollination by honey bee is known as :
(a) Anemophilly (b) Hydrophilly
(c) Entemophilly ½
- (c) Answer in **one** sentence each :
- (i) Define bee plant. 1
 - (ii) What are pollinating agents ? 1
 - (iii) Define floral calendar. 1
 - (iv) Define honey. 1
2. Describe the following :
- (a) Floral biology. 4
 - (b) Names of crop bee plants (any eight). 4
 - (c) Functions of nectary glands. 4
- OR**
- (d) Floral structure of *Hibiscus*. 4
 - (e) Composite fruit (any two). 4
 - (f) Composition of nectar. 4

3. Explain the following :
- (a) Role of ornamental bee plants in bee management. 4
 - (b) Classification of local bees. 4
 - (c) Horticultural bee plants (enlist any eight). 4
- OR**
- (d) Avenue bee plants. 4
 - (e) Nectar bearing flowering plants. 4
 - (f) Cultivated bee plants (enlist any eight). 4
4. Describe the following :
- (a) Poisoning to bees. 4
 - (b) Floral gaps and its disadvantages. 4
 - (c) Seasonal and perennial bee flora. 4
- OR**
- (d) Plants of local area (any four). 4
 - (e) Flowering sequence of bee plants. 4
 - (f) Advantages of floral calendar. 4
5. (a) Describe the structure of pollen bag on hind leg with suitable diagram. 6
- (b) Describe the types of pollination on the basis of pollinating agents. 6
- OR**
- (c) Explain the different types of pollinating agents. 6
 - (d) Explain the identification of floral source. 6
6. Describe the cross pollination with suitable diagrams and enumerate their different pollinating agents. 12
- OR**
- Give brief account of methods of self and cross pollination in bee plants. 12
7. Explain in brief :
- (a) Advantages of honey bee colony migration. 4
 - (b) Chemical composition of honey. 4
 - (c) Methods of honey bees placement in farms and orchards. 4
- OR**
- (d) Effects of insecticide on honey bees. 4
 - (e) Preventive measures for the insecticidal effects on honey bees. 4
 - (f) Management practices for honey bee colonies during pollination. 4