

B.Sc. Part-II (Semester-III) Examination
APICULTURE
(Entomology and Bee Pathology)

Time : Three Hours]

[Maximum Marks : 80

Note :— ALL questions are compulsory and Question Nos. 2 to 7 carry equal marks.

1. (A) Fill in the blanks :

- (a) *Ascosphaera apis* is a _____ disease that attacks the gut of the larva. ½
- (b) *Apis florea* belongs to order _____. ½
- (c) Wax glands are located on _____ in honey bee. ½
- (d) Lizard is _____ of honey bee. ½

(B) Choose correct option :

- (a) Multiple parallel combs are build by : ½
 - (i) *Apis cerana* (ii) *Apis dorsata*
 - (iii) *Apis florea* (iv) *Trigona*
- (b) The stinz apparatus in honey bee is modified : ½
 - (i) Oviduct (ii) Ovipositor
 - (iii) Ovary (iv) Ovisector
- (c) In honey bee 'bee dance' is a means of : ½
 - (i) Locomotion (ii) Recreation
 - (iii) Communication (iv) Relation
- (d) 90% population in bee hive is of caste : ½
 - (i) Queen (ii) Drone
 - (iii) Worker (iv) Larvae

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

- (a) What is the function of drone bee ? 1
- (b) Name two predators of honey bee. 1
- (c) How do the honey bees communicate ? 1
- (d) What is the food of honey bee ? 1

2. Describe beneficial insects to man and describe bees' relation to human culture. 12**OR**

Give classification of honey bee in detail and explain solitary and social bees with example. 12

3. Explain the following :

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|---|---|
| (a) Genera of bees. | 4 |
| (b) Identification of <i>Apis dorsata</i> . | 4 |
| (c) Queen bee of <i>Apis indica</i> . | 4 |

OR

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|---|---|
| (d) Division of labour in bee hive. | 4 |
| (e) General organization of <i>Trigona</i> . | 4 |
| (f) Identification of <i>Apis mellifera</i> . | 4 |

4. Describe the following :

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|--------------------------------------|---|
| (g) Antennae of honey bee. | 4 |
| (h) Metamorphosis of queen bee. | 4 |
| (i) Respiratory system of honey bee. | 4 |

OR

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|--------------------------------------|---|
| (j) Eyes of honey bee. | 4 |
| (k) Circulatory system of honey bee. | 4 |
| (l) Digestive system of honey bee. | 4 |

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| 5. Describe significance of temperature and humidity in bee hive. | 12 |
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OR

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| Describe communication behavioral relation in honey bees and bee dance. | 12 |
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6. Explain the following :

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|---|---|
| (m) Effect of poisonous pollen and nectar on bee. | 4 |
| (n) American foul brood disease of honey bees. | 4 |
| (o) Ectoparasites in honey bee. | 4 |

OR

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| (p) Viral infection of honey bee. | 4 |
| (q) Lethal effects of chemicals on honey bees. | 4 |
| (r) Classification of bee diseases. | 4 |

7. Describe the following :

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|---|---|
| (s) Birds as enemies of honey bee. | 4 |
| (t) Control of wasp in Apiary. | 4 |
| (u) Insect predators in Apiary (any two). | 4 |

OR

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|-------------------------------------|---|
| (v) Lizard as enemies of Apiary. | 4 |
| (w) Methods of queen bee breeding. | 4 |
| (x) Control of bee mites in Apiary. | 4 |