

All Questions are compulsory.

Figures to the right indicate full marks.

Q.1. a) Fill in the blanks.

5 Marks

1. \_\_\_\_\_ is the father of modern ethology who demonstrated imprinting as an important form of learning. (Aristotle, L.L. Langstroth, Konrad Lorenz, Mendel)
2. Chemical communication using \_\_\_\_\_ is the oldest form of communication in animals. (Oxytocin, Neurotoxins, Pheromones, Vitelline)
3. \_\_\_\_\_ is any organism that carries the parasite from one host to another. (Pathogen, Ectoparasite, Vector, Endoparasite)
4. \_\_\_\_\_ is the applied branch of entomology which deals with the study of scientific rearing of honey bees to obtain honey and wax. (Apiculture, Vermiculture, Lac culture, Dairy science)
5. A parasite which needs only a single host to complete its life cycle is called as \_\_\_\_\_. (Digenic, Monogenic, Trigenetic, Facultative)

b) Match the column

5 Marks

- |                          |                               |
|--------------------------|-------------------------------|
| 1. Instrumental learning | a. Trial and error            |
| 2. Ectoparasite          | b. <i>Galleria mellonella</i> |
| 3. Innate behaviour      | c. Aposematic                 |
| 4. Greater wax moth      | d. Egg retrieval              |
| 5. Warning colouration   | e. Leech                      |

c) Write true or false

5 Marks

1. The branch of biology that deals with study of animal behaviour is known as ethology.
2. Head louse is an example of endoparasite.
3. The stimuli or response to a mother figure is called sexual imprinting.
4. The Viceroy butterfly is an example of Batesian mimicry.
5. American foulbrood disease is a viral disease of honey bees.

d) Write one sentence answer.

5 Marks

1. Define imprinting.
2. What is a definitive host?
3. What are the different pests of honey bees?
4. Who is the father of the modern method of apiculture?
5. Define parasitology.

**Q.2. Answer the following. (Any two)**

**20 Marks**

1. Write an account on Innate behaviour and its significance.
2. Explain displacement activities and Ritualization and their functional significance.
3. Write a note on classical conditioning and its significance.
4. Write a note on Mimicry.

**Q.3. A) Answer the following (Any one).**

**10 Marks**

1. Give an account of different types of parasites.
2. Explain life history and control measures of *Taenia solium*.

**B) Answer the following (Any one)**

**10 marks**

1. Explain morphology and life cycle, pathogenicity, control measures and treatment of bed bugs.
2. Give an account of bird flu disease.

**Q.4. Answer the following (Any two).**

**20 Marks**

1. Explain different methods of bee keeping and management.
2. What are different methods of vermiculture
3. Explain pests and bee enemies in detail.
4. Explain diseases of honey bees.

**Q.5. Write a short note. (Any four).**

**20 Marks**

1. Schooling behaviour in fish.
2. Communication in bees.
3. Parasitic adaptation
4. Host-parasite relationship
5. Economic importance of Bee wax.
6. Economic importance of honey.
7. Life cycle of *Taenia solium*.
8. Scope of ethology.