

B.Sc. 3rd Semester (Honours) Examination, 2018 (CBCS)

Subject : Zoology

Paper : SEC-I

Time: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Candidates are instructed to attempt either Section-A or Section-B

Section-A

(Apiculture)

Group-A

1. Answer *any five* questions from the following: 2×5=10
 - (a) Write the chemical composition of honey.
 - (b) Name the causative agent of Nosema and Acarine disease of adult honey bee.
 - (c) Who is known as the father of modern bee science and in which year firsts 'bee keeping research station' in India was established?
 - (d) What are waggle and round dance?
 - (e) What is propolis?
 - (f) Write four economically important species of honey bee found in India.
 - (g) What is royal-jelly and royal-actin?
 - (h) What is swarming?

Group-B

- Answer *any two* questions from the following: 5×2=10
2. Describe briefly about the Langstroth five in artificial bee rearing method. 5
3. What is Nuptial flight? Mention any four uses of honey. 1+4=5
4. Write down briefly about the basic bee keeping equipments. 5
5. Describe briefly about the social behaviour in honey bees. 5

Group-C

- Answer *any two* questions from the following: 10×2=20
6. Write down the causative organisms, symptoms and control measures of 'sacbrood' disease and any two larval diseases of honey bees. Name two natural enemies of honey bee. 8+2=10

7. Write brief accounts on: 5+5=10
 (a) Apiculture as cottage industry
 (b) Bee pasturage
8. Write down the modern methods of extraction of honey.
9. Briefly describe the modern methods in employing artificial beehives for cross pollination in horticultural gardens.

Section-B (Sericulture)

Group-A

1. Answer *any five* questions from the following: 2×5=10
- (a) Mention the scientific names of muga silk worm and its host plant. 1+1=2
- (b) What is the use of black-boxing of silk worm eggs? 2
- (c) Write full form of RKO and mention its use. 1+1=2
- (d) Give one example of univoltine and one of bivoltine silk worm. 1+1=2
- (e) Mention the locations of silk glands. State the function of Lyonet's glands. 1+1=2
- (f) Write the names of two sericulture research institute in India. 2
- (g) Name any two proteins present in silk thread. 2
- (h) What is mounting? Mention two mounting methods. 1+1=2

Group-B

Answer *any two* questions from the following: 5×2=10

2. Define silk. Write the chemical composition of silk. 2+3=5
3. With neat sketch, describe life cycle of *Bombyx mori*. 2+3=5
4. Write the scientific names of one fly and one beetle pest of silk worm. Write symptoms and control of the disease caused by any one of them. (1+1)+(1½+1½)=5
5. Mention two Indian varieties of mulberry plant. How should land be prepared for establishment of mulberry garden? What is mulching? 2+2+1=5

Group-C

Answer *any two* questions from the following: 10×2=20

6. Describe rearing room of silk worm larva. Mention various types of mount ages. 7+3=10
7. Write the name (of the disease), causative agent, symptom, remedies of one bacterial disease and one viral disease of silk worm. (1+1+1½+1½)×2=10

(3)

SH-III/Zoology/SEC-I/18

8. Write the location and nature of silk gland. Describe the structure of silk gland with proper diagram. State the uses of silk. (1+1)+(3+2)+3=10

9. Write short notes (any two):

5×2=10

- (a) Silk route and its importance
(b) Present status of sericulture
(c) Uses of silk

Full Marks: 40

Candidates are requested to give their answers in their own words as far as practicable.

Candidates are requested to attempt either Section-A or Section-B

Section-A

Section-A

Group-A

1. Answer any five questions from the following:

2×5=10

- (a) Write the structure and function of honey bee.
(b) Name the different types of honey bees and their uses.
(c) Who is known as the father of modern bee keeping and in which year did he start his research on bees?
(d) What are the basic bee keeping equipments?
(e) What is a queen bee?
(f) Write four economically important species of honey bee found in India.
(g) What is the difference between queen bee and worker bee?
(h) What is the importance of honey bees?

Group-B

Answer any two questions from the following:

5×2=10

1. Describe briefly about the Langstroth hive in artificial beekeeping.
2. What is Nuptial flight? Mention any four uses of honey.
3. Write down briefly about the basic bee keeping equipments.
4. Describe briefly about the social behaviour of honey bees.

5

1+4=5

5

5

Group-C

Answer any two questions from the following:

10×2=20

1. Write about the causative organisms, symptoms and control measures of 'American' disease and any two other diseases of honey bees. Name two natural enemies of honey bee.
2. Write about the causative organisms, symptoms and control measures of 'European' disease and any two other diseases of honey bees. Name two natural enemies of honey bee.

8+2=10