

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: $2 \times 5 = 10$
 - (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:

$5 \times 2 = 10$

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:

$10 \times 2 = 20$

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
- Apiculture as cottage industry
 - 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: $2 \times 5 = 10$
- Mention the scientific names of muga silk worm and its host plant. 1+1=2
 - What is the use of black-boxing of silk worm eggs? 2
 - Write full form of RKO and mention its use. 1+1=2
 - Give one example of univoltine and one of bivoltine silk worm. 1+1=2
 - Mention the locations of silk glands. State the function of Lyonet's glands. 1+1=2
 - Write the names of two sericulture research institute in India. 2
 - Name any two proteins present in silk thread. 2
 - What is mounting? Mention two mounting methods. 1+1=2

Group-B

Answer *any two* questions from the following: $5 \times 2 = 10$

- Define silk. Write the chemical composition of silk. 2+3=5
- With neat sketch, describe life cycle of *Bombyx mori*. 2+3=5
- 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. $(1+1)+(1\frac{1}{2}+1\frac{1}{2})=5$
- 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: $10 \times 2 = 20$

- Describe rearing room of silk worm larva. Mention various types of mount ages. 7+3=10
- Write the name (of the disease), causative agent, symptom, remedies of one bacterial disease and one viral disease of silk worm. $(1+1+1\frac{1}{2}+1\frac{1}{2}) \times 2 = 10$

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*): $5 \times 2 = 10$

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

Consider any two questions to give there answer in about one page.

Consider any two questions except either Section-A or Section-B.

Group-A

1. Answer *any five* questions from the following: $2 \times 5 = 10$
- (a) Write the life cycle of honey bee.
 - (b) Name the parts of a honey bee and mention the function of each part.
 - (c) Who is known as the father of modern bee keeping? State in which year did he begin his research work on bees and what was it?
 - (d) What are sting and honey glands?
 - (e) What is propolis?
 - (f) Write four commercially important species of honey bee found in India.
 - (g) What is bee-keeping and royal jelly?
 - (h) Define swarming?

Group-B

*Answer *any two* questions from the following:*

$5 \times 2 = 10$

- 1. Describe briefly about the Langstroth five in apiculture terminology. 5
- 2. What is Nuptial flight? Mention any four uses of Honey bee. $1+4=5$
- 3. Write down briefly about the basic bee keeping requirements. 3
- 4. Describe briefly about the social behaviour in Honey bee. 5

Group-C

*Answer *any two* questions from the following:*

$5 \times 2 = 10$

5. Write down the causative organisms, symptoms and control measures of "naphew" disease and any two other diseases of Honey bees. Name two natural enemies of Honey bee. $5+2=7$ $8 \times 2 = 10$