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GIET UNIVERSITY, GUNUPUR – 765022

B. Sc. (Ag) (Sixth Semester) Examinations, June' 2021

EN-363 – Management of Beneficial Insects

Time: 2 hrs

Maximum: 50 Marks

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The figures in the right hand margin indicate marks.

**PART – A****Q.1. Fill in the blanks with suitable word / figure.****(0.5 x 10 = 5 Marks)**

- Flachari disease in silkworm is caused by .....
- Honey bee species suitable for Indian condition is.....
- The lac producing insect is in the family.....
- The ratio of fibroin and sericin in silk is.....
- India have monopoly in .....silk
- .....is the host plant of silkworm, *Bombyx mori*
- .....mite attack at trachea of adult honey bee.
- Central Muga, Eri Research and Training Institute is located at.....
- The highest yielding species of honey bee is .....
- Scientific name of lac isect is.....

**Q. 2. Define (or) Explain the following in one or two sentences.****(1 x 5 = 5 Marks)**

- Multivoltine
- Scavengers
- Absconding
- Brood lac
- Chawki rearing

**Q3. Match the following****(0.5 x 10 = 5 Marks)**

Column – A		Column – B	
(a)	Rangeeni	(i)	<i>Tricholyga bombycis</i>
(b)	Muscardine	(ii)	Tassar silkworm
(c)	Rove beetle	(iii)	Rearing of 1 <sup>st</sup> and 2 <sup>nd</sup> instars
(d)	Rock bee	(iv)	Weed killer
(e)	<i>Xylocopa</i> sp.	(v)	<i>Beauveria bassiana</i>
(f)	Uzi fly	(vi)	Pollinator
(g)	<i>Antheraea mylitta</i>	(vii)	Lac insect
(h)	<i>Dactylopius tomentosus</i>	(viii)	Scavaenger
(i)	Chawki Rearing	(ix)	<i>Apis dorsata</i>
(j)	<i>Apis mellifera</i>	(x)	Italian bee

**Q.4. Write True or False against each statement**

**(0.5 x 10 = 5 Marks)**

- a. Largest size of the honey bee is *Apis florea*.
- b. Muscardine disease in silkworm is fungal.
- c. The fully ripened honey contains the highest amount of glucose.
- d. Karl Von Frisch was awarded Nobel prize for discovering the language of honey bee.
- e. Uzi fly is an important pest of silkworm.
- f. Som and Soalu are the host plant for muga silk.
- g. Stinging apparatus is absent in worker.
- h. India rank first in lac production.
- i. The acarine disease of honey bee is caused by mite.
- j. Dragon flies and damsel flies are very good parasitoids.

**PART – B**

**Attempt ANY FIVE questions. All question carries equal marks**

**(6 x 5 = 30 Marks)**

5. Discuss the method involved in the mass multiplication of *Trichogramma* and preparation of trichocard.
6. Explain the biology of lac insect and its inoculation methods.
7. List out the different species of silkworms and give brief account of diseases and pests of silkworm.
8. What are major species of honey bee found in India. Mention their characteristics and productivity.
9. Write down the mulberry silkworm rearing appliances and their importance for the successful cocoon production.
10. Explain the seasonal management of honey bees in apiary. Write a note on thaisac brood diseases.

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