Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Sc. Hons. (Agriculture) (Sem.–2)

FUNDAMENTALS OF ENTOMOLOGY

Subject Code : BSAG-207-19

M.Code : 77668

Date of Examination : 03-01-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt ANY FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt ANY TWO questions.**

SECTION-A

1. Write short notes on :

a) What is contribution of J. C. Fabricius to the Indian entomology?

b) Define Entomology. How an insect cliffers from the pest?

c) Define Sclerotization and melanisation. In which part of insect body sclerotization is more?

d) Describe the structure of a typical-antenna. What role they play to the insect?

e) Briefly describe piercing-sucking and chewing lapping mouth parts with one example.

f) Define wing venation. What are major modifications of insect wings?

g) Define metamorphosis and its classification into various types.

h) What are the main functions of insect saliva?

i) What type of respiratory system is there in the insects?

j) List various male reproductive organs in insects. Describe briefly **any** organ.

SECTION-B

2. Define crop loss with its types. Describe various techniques for estimation of crop losses.

3. Describe the mechanism of walking, crawling and flight in an insect.

4. Distinguish weather and climate. How abiotic factors like temperature, moisture and light affect the various activities of insects?

5. Give an outline of hierarchy of generally accepted taxopomic categories. Differentiate higher and lower categories. What are the various types of keys?

6. Explain distinguishing characters of orders Hemiptera and Lepidoptera. Give salient features of any three families with examples in each.

SECTION-C

7. Give laboratory rearing of Trichogramma and its life cycle. Explain the role of coccinellid and hymenopteran pests to the entomology.

8. Draw insect structure which might be closest to the generalized form, *i.e*. a grasshopper. Also give a schematic section of typical insect integument, showing the various layers?

9. What are wing modifications in insects? Giving short note on wing coupling and its significance, describe various types of insect wing coupling mechanisms.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.