

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester	: III (New)	Term	: I	Academic Year	: 2013-14
Course No.	: ENTO 231	Title	: Insect Morphology and Systematics		
Credits	: 3(2+1)				
Day & Date	: Friday, 25.10.2013	Time	: 9.00 to 12.00	Total Marks	: 80

- Note :**
1. Solve ANY EIGHT questions from SECTION "A".
 2. All questions from SECTION "B" are compulsory.
 3. All questions carry equal marks.
 4. Draw neat diagrams wherever necessary.

SECTION "A"

- Q.1 Enlist different types of mouthpart observed in insects with example. Explain the mouthparts of cockroach along with well- labeled diagram.
- Q.2 Describe the female reproductive system of cockroach.
- Q.3 Define "metamorphosis". Describe types of metamorphosis with suitable examples.
- Q.4 Describe the insect integument with well-labeled diagram and mention its functions.
- Q.5 Define "Entomology" Explain with suitable examples how insects are related to man.
- Q.6 Write short notes on: (Any Two)
- 1) Insect sense organs.
 - 2) Typical leg of an insect.
 - 3) Enlist the characters of class insecta.
- Q.7 Draw well- labeled diagram of typical antenna of an insect. Enlist types of antenna with one example each.
- Q.8 State the distinguishing characters of order Lepidoptera. Enlist four families of agricultural importance along with one example.
- Q.9 Describe wing- coupling apparatus observed in insects with examples.
- Q.10 State the distinguishing characters of order Hemiptera. Enlist four families of agricultural importance along with one example

SECTION "B"

- Q.11 Define the following terms.
- 1) Species
 - 2) Synapse
 - 3) Pterothorax
 - 4) Taxonomy
 - 5) Ecdysis
 - 6) Propodeum
 - 7) Systematics
 - 8) Paedogenesis
- Q.12 Answer in one sentence.
- 1) State the order of mustard sawfly.
 - 2) Which gland secretes juvenile hormone?
 - 3) State the function of malpighian tubules.
 - 4) Who is called as the father of taxonomy?
 - 5) Termite belongs to which order?
 - 6) State the function of peritrophic membrane.
 - 7) Crab belongs to which class?
 - 8) State the type of wings present in rhinoceros beetle.

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