

M.Sc.(Ag.) Semester – I Examination, 2014

Plant Protection

Course : AEN – 501 (Insect Morphology)

Time: 3 Hours

Full Marks: 50

Questions are of value as indicated in the margin

Answer **any five** questions

1. Mention the significance of insect integument. State briefly the different layers of insect integument with neat labelled diagram. 3+7=10
 2. Write short notes on **any four** of the following: 2.5×4=10
 - (i) Tentorium
 - (ii) Non-cellular cuticular outgrowths
 - (iii) Cerci
 - (iv) Notum
 - (v) Auxillary sclerites
 - (vi) Meron
 3. Differentiate **any four** of the following: 2.5×4=10
 - (i) Dorsal ocelli and lateral ocelli
 - (ii) Epimorphic and anamorphic development
 - (iii) Apophyses and apodemes
 - (iv) Saltatorial and raptorial leg
 - (v) Epiproct and paraproct
 - (vi) Red ant and White ants
 4. Mention the different types of orientation of insect head with suitable examples. Describe the structure of exoskeleton of an insect head with neat labelled diagram. 2+8=10
 5. Describe the mouthparts and feeding mechanism of housefly. State in brief the structural modifications of leg of Preying mantids and worker honey bee with appropriate diagram. 5+5=10
 6. State briefly the hypothetical venation of insect wing. Describe the various types of wing coupling apparatus found in insects with appropriate diagram. 5+5=10
 7. Mention the importance of morphological study of an insect. Give an account of modification of insect antennae. 3+7=10
 8. Briefly describe the structure of male and female external genitalia of insect with suitable diagram. 5+5=10
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