

B.Sc. (Ag.) Honours Semester-III Examination, 2014
Course No: AEN-211 (Insect Morphology and Systematics)
(New Syllabus)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : Two Hours

Full marks : 40

Questions are of value as indicated in the margin

Part - I

(Objective and Short Answer Type)

(Use only ball point pen)

Time : 20 minutes

Full marks : 10

- Note:** 1. Answer in question paper itself.
 2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. **State True (T) or False (F) in respect the following statements (any eight):** 0.5×8=4.0
 - (a) Leathery wings are found in the order Orthoptera. ☐
 - (b) Silverfish belongs to the order Thysanoptera. ☐
 - (c) Members of Ephemeroptera can not fold their wings. ☐
 - (d) Male genitalia of insect present in VIII abdominal sternite. ☐
 - (e) Pattern of leg movement in hemipteran bug is R₁ L₂ R₃ and L₁ R₂ L₃ ☐
 - (f) Pleura indicate the lateral sides of the insect body. ☐
 - (g) Fossorial legs are used for pollen collection. ☐
 - (h) Epimorphic development is very common in the order Protura. ☐
 - (i) Honeydew secreted copiously through honeytube in homopteran insect. ☐
 - (j) Epistomal sulcus demarcates the clypeus from frons. ☐

2. **Fill up the blanks with most appropriate words (any six):** 0.5×6=3.0
 - (a) Enlargement of abdomen in female termite is known as _____.
 - (b) Asynchronous type of mouth parts are very common in the order _____.
 - (c) Fore wings of Strepsiptera have been modified to _____.
 - (d) Major excretory product of terrestrial insect is _____.
 - (e) CNS consists of brain, suboesophageal ganglion and _____.
 - (f) Mosquitoes belong to the order _____.
 - (g) Endocuticle and exocuticle jointly form _____ cuticle.
 - (h) To make synchronous movement of two pairs of wings _____ is necessary.

3. Tick (✓) the correct alternatives (*any six*) :

0.5×6=3.0

- (a) Peritrophic membrane is found in (i) foregut (ii) midgut (iii) hindgut
- (b) Malpighian tubules are associated with (i) respiratory (ii) digestive (iii) excretory system
- (c) Telescopic abdomen is found in (i) termite (ii) grasshopper (iii) housefly
- (d) Midge belongs to the order (i) Coleoptera (ii) Hymenoptera (iii) Diptera
- (e) Chrysalis is a pupa of (i) moth (ii) butterfly (iii) beetle
- (f) Forelegs in preying mantid are modified into (i) saltatorial (ii) cursorial (iii) raptorial type
- (g) Trachea is (i) ectodermal (ii) mesodermal (iii) endodermal in origin
- (h) Orientation of head in aphid is (i) prognathous (ii) hypognathous (iii) opisthognathous

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Part - II
(Descriptive Type)

Time : 100 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer any four questions

4. Write the position of insect in the phylum arthropoda with a suitable example. Briefly explain the similarities and dissimilarities between different classes of this phylum. 2.5+5=7.5
 5. Mention some salient taxonomic characteristics of the order Lepidoptera. Write important characters of the family arctiidae and papilionidae. 4.5+3=7.5
 6. Give a brief account of insect antennae with different modifications. 7.5
 7. Differentiate between the following (**any five**) : 1.5×5=7.5
 - (a) Annelida and Arthropoda
 - (b) Holometabola and Hemimetabola
 - (c) Maggot and Grub
 - (d) Beetle and Weevil
 - (e) Caterpillar and Pseudocaterpillar
 - (f) Ecdysis and Apolysis
 8. Write short notes on **any three** of the following : 2.5×3=7.5
 - (a) Siphoning type of mouthparts
 - (b) Modification of wings
 - (c) Types of larva
 - (d) Tentorium
 - (e) Wing venation
 9. Discuss in brief on piercing and sucking type of mouth parts of phytophagous insects with suitable diagram. How is the plant sap sucked by them? 5.5+2=7.5
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