

B.Sc. (Ag.) Honours Semester-III Examination, 2016

Course No: AEN-211 (Insect Morphology and Systematics)

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| 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 of the following statements:** 0.5×10=5
- (a) Chitin is absent in epicuticle
 - (b) Antenna is absent in Protura
 - (c) Prolegs are present on 3rd, 4th, 5th, 6th and 10th abdominal segments of caterpillar
 - (d) Ligula is commonly found in cockroaches
 - (e) Propodeum is found in the order Homoptera
 - (f) Insect possesses hexapod orientation of leg during locomotion
 - (g) Anamorphic development is found in Protura
 - (h) The phenomena of bloated abdomen in queen termite is called Physogastry
 - (i) Geniculate antenna is found in house fly
 - (j) The orientation of head in grasshopper is hypognathus
2. **Fill up the blanks with most appropriate words :** 0.5×10=5
- a) Major organ involved in excretion in insects is _____
 - b) Pre-oral cavity in between hypopharynx and labium forms the _____
 - c) In all pterygote insects, mandibles are articulated with the head cranium by _____ joints
 - d) The endoskeleton of insect head is called _____
 - e) Psuedohaltare is found in _____
 - f) Jhonstons organ is found in the _____ segment of the antenna
 - g) Pterostigmata is found in the order _____
 - h) The segments bearing two pairs of wings in insects is called _____
 - i) Young ones of mosquitoes are called _____
 - j) The inverted 'Y' shaped suture present in the insect head is _____

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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 from the following

3. Describe the salient features of the order Coleoptera. Write the economic importance of this order. Cite four important families of this order with examples. 3.5+2+2=7.5
 4. Differentiate between the bug type and mosquito type of mouth parts with neat diagram. How does an adult Lepidoptera feed nectar? 4+3.5=7.5
 5. Write descriptive notes on (*any three*): 2.5×3=7.5
 - a) Digestive system in insects
 - b) Wing modification in insects
 - c) Abdominal appendages in insects
 - d) Difference between moth and butterflies
 - e) Respiration in insects
 6. Describe the exoskeleton of the insect with neat diagram. Discuss upon the role of enzymes which aid in the moulting process. 4+3.5=7.5
 7. Discuss the various modifications found in insect legs. 7.5
 8. Write short notes on (*any five*) : 1.5×5=7.5
 - a) Salient features of the order Thysanoptera
 - b) Apodeme and Apophyses
 - c) Types of pupa
 - d) Stridulation in short horned grasshopper
 - e) Caste system in Isoptera
 - f) Features of Collembola
 - g) Frenate and jugate wing coupling
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