

SECOND SEMESTER EXAMINATION 2021-22**M.Sc. Zoology****Paper - I****Morphology & Physiology of Insects**

Time : 3.00 Hrs.

Max. Marks : 80

Total No. of Printed Page : 03

Mini. Marks : 29

Note: Question paper is divided into three sections. Attempt question of all three section as per direction. Distribution of Marks is given in each section.

Section - 'A'**Very short answer questions (in few words)****Q.1 Attempt any six questions from the following :****6x2=12**

- (i) In which insect order forewings are modified in halteres ?
- (ii) Give two differences between simple eye & compound eye ?
- (iii) Name the sensory part of ommatidia ?
- (iv) What is Johnston's organ ?
- (v) What is ring gland ?
- (vi) Name the hormones regulate synthesis of yolk protein during vitellogenesis ?
- (vii) Define cross veins ?
- (viii) What is the specific name of regenerative cells of alimentary tract ?
- (ix) What is spermatophase ?
- (x) Define cortex region of brain ?

Section - 'B'

Short answer questions (in 200 words)

Q.2 Attempt any four questions from the following :

4x5=20

- (i) Give brief account of classification of tracheal system on the basis of functional spiracle ?
- (ii) Describe structure of stemmata ?
- (iii) Describe cuticular modifications in insects ?
- (iv) Discuss cryptonephridial system ?
- (v) Give classification of Apterygota
- (vi) Describe structure of Tentorium ?
- (vii) Describe stem gastric Nervous system ?

Section - 'C'

Long answer/Essay type questions :

Q.3 Attempt any four questions from the following :

4x12=48

- (i) Write distinguishing characters of class insects and give classification of endopterygota up to orders giving characters & examples ?
- (ii) Describe evolution of insect heads & theories of head segmentation ?
- (iii) Describe structure of insect integument. Give chemical composition of cuticle biosynthesis of chitin ?
- (iv) Define pheromones and give detail account of it ?

(3)

- (v) Give detail account of (a) biting and chewing mouth parts with various modification of it in insects. (b) Lapping & chewing type mouth parts.
- (vi) Discuss endocrine control of following :
 - (a) Moulting and metamorphosis
 - (b) Diapause
- (vii) Describe mechanoreceptors in insects ?

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