

Roll No.

(05/16-I)

5186

B. Sc. EXAMINATION

(Second Semester)

ZOOLOGY

First Paper

Life and Diversity from Annelida to Arthropoda
and Genetics-I

Time : Three Hours *Maximum Marks : 40*

Note : Q. No. 1 is compulsory consisting of 10 parts. Attempt *two* questions each from Section A and Section B.

1. (a) What are chloragogen cells in *Pheretima posthuma* ?
- (b) What is the function of clitellum ?
- (c) Which segments of earthworm contains spermathecal pores ?

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- (d) What is Muller's organ in grasshopper ?
- (e) What is law of independent assortment ?
- (f) What are complimentary genes ?
- (g) What is sex limited gene ?
- (h) Give an example of homogametic male.
- (i) What is dosage compensation ?
- (j) What do you mean by Freemartin ?

Section A

2. (a) Draw well labeled diagram of Reproductive system of Earthworm. 5
- (b) What is the difference between Subphylum Chelicerata and Subphylum Mandibulata. 2.5
3. (a) Give an account of Trochophore Larva. 2.5
- (b) Explain compound eyes of Grasshopper. 5
4. (a) What is the economic importance of earthworm ? 2.5

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- (b) Draw well labelled diagram of Digestive system of Grasshopper. 5
- 5. (a) Explain course of blood circulation in earthworm. 5
- (b) Explain the following in reference to Grasshopper : 2.5
 - (i) Spiracles
 - (ii) Malpighian Tubules
 - (iii) Nymph.

Section B

- 6. (a) Explain maternal inheritance with the example of Kappa particles in paramecium and milk factor in mice. 5
- (b) Differentiate dominance from Epistasis. 2.5
- 7. (a) What are complementary and supplementary genes with a suitable example? 5

- (b) What are the different factors affecting chromosomes mapping? 2.5
- 8. (a) What is non-disjunction of sex chromosomes? 2.5
- (b) Explain various non-chromosomal mechanism of sex determination. 5
- 9. (a) Explain inheritance of X linked recessive genes in Humans. 5
- (b) Differentiate between sex linked and sex influenced inheritance with example. 2.5

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