

Roll No. ....

(09/20-I)

**5186**

**B. Sc. EXAMINATION**

(Second Semester)

**ZOOLOGY**

(For Re-appear Candidates Only)

**Paper I**

Life and Diversity from Annelida to Arthropoda  
and Genetics-I

*Time : Three Hours*

*Maximum Marks : 40*

**Note :** Attempt *Five* questions in all. Q. No. 1 is compulsory. Answer to each part of Q. No. 1 should not exceed **20** words. Attempt *two* questions from each Section. Draw well labelled diagram wherever necessary.

1. Explain the following terms :

(i) Coelom

(ii) Clitellum

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- (iii) Metamerism
- (iv) Ecdysis
- (v) Hemelytra
- (vi) Test cross
- (vii) Synapsis
- (viii) Epistasis
- (ix) Chromosome mapping
- (x) Difference between phenotype and genotype.  $1 \times 10 = 10$

#### Section A

2. (a) Enumerate general characteristics of phylum Annelida.
- (b) Write a note on role of useful insects.  $4 + 3\frac{1}{2} = 7\frac{1}{2}$
3. (a) Draw a neat and well labelled diagram of L.S. Ommatidium of grasshopper.
- (b) Write a note on trochophore larva of Annelida and its significance.  $4 + 3\frac{1}{2} = 7\frac{1}{2}$

4. Explain circulatory system of Earthworm with the help of a neat and well labelled diagram.  $7\frac{1}{2}$
5. Give an account of digestive system of grasshopper.  $7\frac{1}{2}$

#### Section B

6. (a) Explain the inheritance of sickle cell anaemia in man.
- (b) Explain the types of crossing over and its significance.  $4 + 3\frac{1}{2} = 7\frac{1}{2}$
7. Explain the inheritance of killer trait in *Paramoecium aurelia*.  $7\frac{1}{2}$
8. What are complementary genes ? Explain the phenotypic and biochemical explanation of inheritance of flower colour in sweet pea.  $7\frac{1}{2}$

9. (a) Explain sex linked inheritance in *Drosophila*.

(b) Describe mechanism of sex determination in animals with heterogametic females and genic balance mechanism.  $3\frac{1}{2}+4=7\frac{1}{2}$