

Roll No. ....

Total Pages : 3

**GSE/M-20**

**1489**

**ZOOLOGY**

(Life and Diversity from Annelida to  
Arthropoda and Genetics-I)  
Paper-I

Time : Three Hours]

[Maximum Marks : 40

**Note :** Attempt *five* questions in all. Q. No. 1 is compulsory.  
Select *two* questions from Section A and two from Section  
B. Draw suitable diagram wherever necessary.

**Compulsory Question**

**1.** Write in 20 words on following :

- (a) Hypognathus.
- (b) Metameric segmentation.
- (c) Tegmina.
- (d) Alary muscles.
- (e) Egg-pad.
- (f) Non-disjunction.
- (g) Cumulative genes.
- (h) Epistasis.
- (i) Pleiotropy.
- (j) Sex limited genes.

(1×10=10)

## SECTION-A

2. Write short notes on :
- (a) Auditory organs of Grasshopper. 2½
  - (b) Body wall of Earthworm. 2½
  - (c) Nephridium of Earthworm. 2½
3. (a) Discuss circulatory system of Earthworm. 5
- (b) Discuss structure of Trochophore Larva. 2½
4. (a) Give characters of class insects and classify it upto orders with suitable examples. 4
- (b) Describe the male reproductive system of Grasshopper. 3½
5. (a) Describe the Nervous System of Grasshopper. 4½
- (b) Describe the external features of Grasshopper. 3

## SECTION-B

6. Write notes on the following :
- (a) Heterogametic males. 2½
  - (b) Monogenic and polygenic inheritance. 2½
  - (c) Chromosome map. 2½
7. (a) Give in detail the mechanism of crossing over. 5
- (b) What is sex linked inheritance. 2½

8. (a) Discuss in detail regarding cytoplasmic inheritance. 5  
(b) Discuss mechanism of sex determination in Honey bee. 2½
9. (a) Discuss interference and co-incidence. 3½  
(b) State and explain Mendel's law of Independent Assortment with suitable example. 4
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