

Roll No.

Total Pages : 3

GSE/M-21

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, selecting *two* questions each from Section A and B. Question No. 1 is compulsory. Draw diagrams wherever required.

Compulsory Question

1. Give short answer to the following questions :

- (a) Clitellum and its significance.
- (b) Why chlorogogen cells are considered to be analogous to liver of vertebrates ?
- (c) Coxal glands.
- (d) Sericulture and Apiculture.
- (e) What type of mouth parts are found in grasshopper ?
- (f) Gene pool.
- (g) Pleiotropy.
- (h) Which type of honey bee is produced parthenogenetically?

- (i) A man has hypertrichosis of the ears, a condition due to agene on the Y-chromosome. Show the types of male and female children he has.
- (j) Map unit. (1×10=10)

SECTION–A

2. Give an illustrated account of Alimentary Canal of Pheretima. 7½
3. Write notes on :
- (a) Trochophore Larva. 2½
- (b) Characters of Class Insecta. 2½
- (c) Coelom. 2½
4. Explain the following :
- (a) Malpighian Tubules. 2½
- (b) Setae and Setal Sac. 2½
- (c) Oviposition. 2½
5. (a) Give an illustrated account of Male reproductive system of grasshopper. 4
- (b) Describe the circulatory system of grasshopper. 3½

SECTION–B

6. What is gene interaction ? Explain the complimentary gene interaction with the help of suitable cross. 7½

7. Define crossing over. Explain the molecular mechanism of crossing over. 7½
8. (a) Describe the inheritance of sex-linked disorder, red-green colour blindness. 4
- (b) Explain the inheritance of Kappa particles in Paramecium. 3½
9. Write notes on :
- (a) Chiasma Frequency (Two point test-cross). 2½
- (b) Back Cross and Test Cross. 2½
- (c) Gynandromorphs and their types. 2½
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