

## DEVELOPMENTAL BIOLOGY & GENETICS

Paper : ZOO-301  
(Theory)

Time : Three Hours]

[Maximum Marks : 70

Note : Attempt *two* questions each from Section A and B carrying 12 marks each. Section C is compulsory consisting of 11 short answer type questions carrying 2 mark each.

### Section - A

1. Describe in detail about the embryonic polarization and gastrulation in different animal groups. 12
2. (a) Describe in detail the process of Fertilization. 6  
(b) What is Parthenogenesis ? Explain. 6
3. Give the detail of the embryonic development in Rabbit. 12
4. (a) Describe metamorphosis in Herdmania. 6  
(b) What are regressive and progressive changes in tadpole of frog ? 6

### Section - B

5. (a) What is incomplete dominance ? Describe in detail. 6  
(b) Describe the inheritance of dextral and sinistral shell in snail. 6
6. Give an account of human blood group and their inheritance. 12
7. (a) Describe the characteristics of sex linked inheritance. 6  
(b) Write in detail about significance of crossing over. 6
8. (a) Define gene frequency and how we determine gene frequency. 6  
(b) Give the detail of genetic drift. 6

**Section - C**

9. Give answer in short :

- (a) Mention the three phases of gametogenesis.
- (b) What is spermatophore ?
- (c) Explain the process of epibody.
- (d) What is non-disjunction ?
- (e) What is Barr body and mosaic embryo ?
- (f) What is meridional cleavage ?
- (g) What is Mendel's law of dominance ?
- (h) Name the two kinds of linkage.
- (i) What is Down's syndrome ?
- (j) Define Dermatoglyphics.
- (k) Give the genotype of blood group 'A' and 'O'.

(11×2=22)