

Total No. of Printed Pages—3

16

PAR/CCM-74/13

2014

ZOOLOGY

SECOND PAPER

Full Marks : 200

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

GROUP—A

( Marks : 100 )

Answer Question No. 1 and any three from the rest

1. Explain any four from the following :  $10 \times 4 = 40$

- (a) Mode of inheritance of sex-linked disorders with example
- (b) Anatomical evidences of evolution
- (c) Ultrastructure and function of Golgi apparatus
- (d) Causative agents of induced mutation and their effects
- (e) Linkage maps

2. Describe the ultrastructure of cell membrane with the help of most accepted model. Write about the different modes of transport through cell membrane.

20

14T—200/148

( Turn Over )

( 2 )

3. Describe Mendel's laws of inheritance using dihybrid cross between dominant long using grey body colour (VVEE) and recessive vestigial using white body colour (vvee). Mention the phenotypic ratio in  $F_2$  generation of dihybrid cross. 20
4. Discuss Lamarck's theory of evolution. Write about the objections to Lamarckism and concept of Neo-Lamarckism. 20
5. Define Nucleic acid. Describe the chemical structure of DNA and RNA. Describe the mechanism of transcription. 20
6. What is adaptive radiation? Describe the adaptive radiation occurring in mammals at different time scales. 20

GROUP—B

( Marks : 100 )

Answer Question No. 7 and any three from the rest

7. Answer/Explain in brief any four from the following :  $10 \times 4 = 40$ 
  - (a) Blood groups in Human beings
  - (b) Mention different types of enzymes with their functions.

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( Continued )



- (c) Explain the process of oogenesis and mention its differences from spermatogenesis.
- (d) International code of Zoological nomenclature.
- (e) What is cleavage? Discuss the types of cleavage with examples.
8. Describe the structure of pituitary gland. Write about the hormones secreted by the gland and their physiological functions. 20
9. What do you understand by morphogenetic movement of cells? Describe the formation of the three germinal layers in chick. 20
10. Define placenta. Describe its formation and structure. Mention the different types of placenta and their functions. 20
11. Describe the physiology of urine formation in kidney and process of excretion by it. 20
12. Explain the historical background of classification and its importance in the study of Zoology. 20

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