

**1[CCE.M]1**

**Zoology-II**

**(24)**

Time : Three Hours

Maximum Marks : 300

**INSTRUCTIONS**

- (i) Answers must be written in English.
- (ii) The number of marks carried by each question is indicated at the end of the question.
- (iii) The answer to each question or part thereof should begin on a fresh page.
- (iv) Your answers should be precise and coherent.
- (v) The part/parts of the same question must be answered together and should not be interposed between answers to other questions.
- (vi) Candidates should attempt question nos. **1** and **5** which are compulsory and any **three** out of the remaining questions, selecting at least **one** question from each section.
- (vii) If you encounter any typographical error, please read it as it appears in the text book.
- (viii) Candidates are in their own interest advised to go through the General Instructions on the back side of the title page of the Answer Script for strict adherence.

- (ix) No continuation sheets shall be provided to any candidate under any circumstances.
- (x) Candidates shall put a cross (X) on blank pages of Answer Script.
- (xi) No blank page be left in between answer to various questions.

**SECTION–A**

1. Attempt any **three** of the following :
  - (a) Fluid mosaic model of plasma membrane.
  - (b) Define and give characters of multiple alleles, explain by taking examples of *Drosophila* and blood.
  - (c) Different chromosomal sex determination mechanisms, give in brief ratio theory of sex determination.
  - (d) Isolating mechanisms and their impact on insular fauna with one suitable example. 25×3=75
2. (a) Differentiate between smooth and rough endoplasmic reticulum. Give functions of smooth endoplasmic reticulum.
  - (b) Describe cytoplasmic inheritance with two suitable examples. 50
3. (a) Give an account in brief on DNA replication.
  - (b) Give in brief about the positive eugenics. 50
4. Write short notes (around 200 words each) on the following :
  - (a) Name Zoogeographical realms and explain any one of them
  - (b) NeoLamarckism
  - (c) Cladistics. 50

**SECTION–B**

5. Attempt any **three** of the following :
  - (a) Immunoglobulins
  - (b) Pheromones in insects
  - (c) Fate maps of frog
  - (d) Define regeneration, give its mechanisms with suitable examples. 25×3=75
6. (a) Give an account of mode of action of steroid hormones and its function.
  - (b) Give an account of hormonal control of metamorphosis in insects. 50
7. (a) Give an account of Mitchell's chemiosmotic theory for ATP synthesis during electron transport.
  - (b) Give an account of absorption of different food metabolites. 50
8. Write short notes on the following in about 200 words each :
  - (a) Action potential
  - (b) Functions of placenta in mammals
  - (c) Gastrulation in *Branchiostoma*. 50