

1(CCE-M)6

**ZOOLOGY - II**

[24]

*Time Allowed -3 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 there of should begin on a fresh page.*
- iv) *Your answer 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 **five** questions. 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 textbook.*
- 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.*
- xii) *No programmable calculator is allowed.*
- xiii) *No stencil(With different markings) is allowed.*
- xiv) *In no circumstances help of scribe will be allowed.*

**Section - A**

1. Write notes on **any three** of the following: (20+20+20=60)
  - a) Structure and function of ribosomes.
  - b) Polyploidy.
  - c) Topoisomerases I and II.
  - d) Stages of mitosis and mitotic spindle.
2. What is double crossover? How many different kinds of double crossovers are possible? What is meant by the term pseudoautosomal inheritance? What is Down's syndrome? Elaborate. (60)
3. Define systematics and phylogeny. Why can't the fossil record provide phylogenies for all organisms? What does the fossil evidence suggest about the origins of modern humans? When and how did the human evolution take place? (60)

4. Write a detailed account on protein synthesis, folding and processing in a eukaryotic cell. (60)

**Section - B**

5. Write notes on **any three** of the following: (20+20+20=60)
  - a) Mechanism of enzyme action.
  - b) Neurulation.
  - c) Pituitary gland.
  - d) Urine formation in mammals.
6. Explain why the effects of steroid hormones are seen after a delay than the effects of peptide hormones. Compare and contrast the function of insulin with glucagon and that of prothoracicotropic hormone (PTTH) with ecdysone. (20+40)
7. Explain the entire process of oxidative phosphorylation leading upto the formation of ATP. (60)
8. For a chick embryo: write a detailed account of fertilization, cleavage and gastrulation. Describe the formation and fate of the extra embryonic membranes of the chick. (30+30)

