

**2 0 1 9**

**BIO-ZOOLOGY**

**( Theory )**

*Full Marks : 35*

*Time : 1½ hours*

*General Instructions :*

- (i) Write all the answers in the Answer Script.
- (ii) Attempt all parts of a Group serially in one place.
- (iii) *All* questions are compulsory.
- (iv) The figures in the margin indicate full marks for the questions.
- (v) This question paper consists of 5 (five) Groups—A, B, C, D and E.

Group—A consists of 4 questions (multiple-choice type). Each question (Q. Nos. **1–4**) carries 1 mark.

Group—B consists of 4 questions (very short-answer type). Each question (Q. Nos. **5–8**) carries 1 mark and to be answered in one sentence.

Group—C consists of 4 questions (short-answer type—I). Each question (Q. Nos. **9–12**) carries 2 marks and to be answered in 20–30 words.

Group—D consists of 3 questions (short-answer type—II). Each question (Q. Nos. **13–15**) carries 3 marks and to be answered in 30–40 words.

Group—E consists of 2 questions (long-answer type). Each question (Q. Nos. **16** and **17**) carries 5 marks with alternatives to be answered in 60–80 words.

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GROUP—A

Choose and write the correct answer of the following : 1×4=4

1. Immunoglobulins are
  - (a) antigens
  - (b) antiseptics
  - (c) antibiotics
  - (d) antibodies
  
2. The process of enrichment of nutrients in water bodies and then loss of species diversity is known as
  - (a) biological magnification
  - (b) eutrophication
  - (c) algal bloom
  - (d) All of the above
  
3. Which of the following drugs is a type of hallucinogen?
  - (a) Valium
  - (b) LSD
  - (c) Opium
  - (d) Cocaine
  
4. Which one of the following is an example of *in situ* conservation?
  - (a) Botanical garden
  - (b) Zoological park
  - (c) National park
  - (d) Cryopreservation

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GROUP—B

5. Define metastasis. 1
6. What is the full form of VNTR? 1
7. What happens to a DNA molecule when a restriction enzyme is added to it, under appropriate conditions? 1
8. Name any one hormone released by placenta during pregnancy. 1

GROUP—C

9. How is polyspermy prevented during fertilisation? 2
10. What are hot spots of biodiversity? Name any two hot spots in India. 1+1=2
11. What are homologous organs? Give an example. 1+1=2
12. Why is haemophilia also known as bleeder's disease? 2

GROUP—D

13. Define spermatozoa. Draw a labelled diagram of a mammalian sperm. 1+2=3
14. Define vaccine. How does vaccination help in immunity of the body? 1+2=3
15. What is human genome project? What are the main aims of the project? 1+2=3

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GROUP—E

- 16.** State and explain Mendel's law of segregation with the help of a suitable cross. 1+4=5

*Or*

Describe the salient features of Lamarck's theory of inheritance of acquired characters. 5

- 17.** What is oogenesis? With the help of suitable diagram, describe the steps involved in this process. 1+3+1=5

*Or*

Define menstrual cycle. Describe the various phases of menstrual cycle. 1+4=5

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