

## Sample Question Paper

Session 2023-24

Biology

Class - 12

Time - 3 hours 15 minutes

M.M.-70

### **Instructions:**

1. First 15 minutes are allotted for the candidates to read the question paper.
2. All questions are compulsory.
3. Illustrate your answers with labelled diagrams wherever necessary.
4. Marks allotted to all the questions are mentioned in front of them.

### **1. Choose the correct option and write in your answer sheet.**

- (a) Which of the following part represents the male reproductive organ of the flower? 1
- i- Androecium ii- Gynoecium  
iii- Megasporangium iv- Pollination
- (b) Sex determination in human child occur- 1
- i- by sex chromosome of mother ii- by size of egg  
iii- by size of sperm iv- by sex chromosome of father
- (c) Genetic Engineering is used- 1
- i- In medical ii- In Agriculture  
iii- In both of these iv- Not in any
- (d) Which of the following is consider a hot-spot of biodiversity in India. 1
- i- Aravali mountain ii- Indo-gangetic plain  
iii- Western ghats iv- Eastern ghats

### **2. Very Short Answer Questions-**

- (a) Write the number of chromosomes in Klinefelter's and Turner's syndrome. 1
- (b) By which division do male germ cells produce sperms? 1
- (c) What is the number of chromosomes in pollen mother cell? 1
- (d) Write the name of the enzyme which breaks the DNA molecule into fragments. 1
- (e) Which type of hypothesized pyramids are present in the population? 1

### **3. Short Answer Questions-I**

- (a) Explain sex determination in birds. 2
- (b) Draw neat labelled diagram of double helical model of DNA proposed by Watson and Crick. 2
- (c) What is immunity? 2
- (d) An orchid plant is growing on the branch of mango tree. How do you describe this interaction between the orchid and the mango tree. 2
- (e) Diagrammatically represent decomposition cycle in a terrestrial ecosystem. 2

**4. Short Answer Questions-II**

- (a) Explain any three differences between microsporangia and megasporangia. 3
- (b) In our society the women are often blamed for giving birth to daughters. Can you explain why this is not correct? 3
- (c) Explain Mendel's Law of dominance by using example of monohybrid cross. 1+2
- (d) Which property of DNA double helix led Watson and Crick to hypothesise semi-conservative mode of DNA replication? Explain. 3
- 5.** (a) Draw neat and labelled diagram of life cycle of Malarial Parasite. 3
- (b) In which way has the study of biology helped us to control infectious diseases? 3
- (c) How do biofertilisers enrich the fertility of the soil? 3
- (d) What are Baculoviruses? 3
- 6.** (a) Write note on the following :  $1\frac{1}{2} + 1\frac{1}{2}$
- (i) PCR
- (ii) Restriction enzyme
- (b) What is the use of biotechnology in the field of agriculture? 3
- (c) What do you mean by transgenic animals? Give any one example. 2+1
- (d) Explain the differences between the following:  $1\frac{1}{2} + 1\frac{1}{2}$
1. Production and decomposition.
2. Parasitism and commensalism.
- 7.** Describe the human male reproductive system with diagram. Where are sperms stored in it? 2+2+1
- OR
- Describe the microsporogenesis in flowering plants with diagram. 2+3
- 8.** What is genetic code? Describe its main characteristics. 2+3
- OR
- What is called organic evolution? Describe evolution of plant forms with diagram through geological periods. 2+3
- 9.** The species diversity of plants (22 percent) is much less than that of animals (72 percent). What could the explanations to how animals achieved greater diversification? 5
- OR
- What are the major causes of species losses in a geographical region. 5