

**The Jammu and Kashmir State Board of School Education
Academic Division, New Campus, Bemina Srinagar**

Model Paper

BIOLOGY (12th)

Section A (Zoology)

Max. Marks: 35

Time 1 :30 hrs

Instruction:

SECTION A

Long Answer Type Questions:

- 1.** Reproduction generally involves two parents. Does it occur uniparently. How?

OR

Assisted reproductive techniques bring hope to infertile couples. Explain How.

5Marks

- 2.** Describe Darwins theory of Natural Selection.

OR

Sex is generally determined by chromosomes of an organism .Does environment also determines sex. Illustrate with examples.

5 Marks

SECTION B

Short Answer Type Questions:

- 3.** What changes occur in the uterus of a human female if the ovum does not receive a sperm? **3 Marks**

- 4.** What phenotypic symptoms are produced in an individual due to trisomy of 21st chromosome? **3 Marks**

- 5.** Match the entries under section A with the choice given under B and C. **3Marks**

A	B	C
a. <i>Blood and mucus with faeces</i> abdominal pain	<i>W. bancrofti</i>	<i>Anopheles</i>
b. Periodic fever followed by sweating, shivering	<i>E. histolytica</i>	worm
c. Excessive swelling due to blockade of lymph vessels feet and legs	Plasmodium	protozoa

6. How Genetic engineering helps in producing pest resistant crops? **3 Marks**

SECTION C

Short Answer Type Questions:

7. Draw a labeled sketch of human sperm? **2 Marks**
8. Mention two differences between analogous and homologous organs. **2 Marks**
9. Mention two applications of cloning. **2 Marks**
10. How does DNA fingerprinting helps in detecting a criminal. **2 Marks**

SECTION D

Objective Type Questions:

11. Explain ZIFT. **1 Mark**
12. Write the scientific name of Silk moth. **1 Mark**
13. Name the antibody present in Colostrum. **1 Mark**
14. Human genome is said to have approximately -----base pairs. **1Mark**
15. Give one example of point mutation. **1 Mark**

Section B (Botany)

Max. Marks: 35

Time 1:30 hrs

SECTION A

Long Answer Type Questions:

1. How does dominance differ from incomplete dominance? Illustrate with suitable example.

OR

Hershey and Chase conducted an experiment on T₂ Phage using radioisotopes.

5 Marks

What were there observations and conclusions?

2. Define an ecosystem. Write an account of energy flow in an ecosystem.

OR

Major pollutants of air are CO₂, SO₂ and NO₂. What are their sources and harmful effects on human beings and plants?

5 Marks

SECTION B

Short Answer Type Questions:

3. Vegetative propagation does not lead to variations. Why? **3 Marks**
4. What are GM crops? Give two disadvantages of GM crops? **3Marks**
5. Biofertilizers are better than Chemical fertilizers. Justify? **3 Marks**
6. What is ecological succession? Distinguish between primary and secondary succession. **3 Marks**

SECTION C

Short Answer Type Questions:

7. Why cross pollination cannot occur in cleistogamous flowers. **2 Marks**
8. What do you mean by degeneracy of genetic code? **2Marks**
9. How many phosphorus atoms are there in a DNA double helix having 10,000base pairs? **2 Marks**
10. An orchid plant grows on the branch of a mango tree. Give the interaction between the two. **2 Marks**

SECTION D

Objective Type Questions:

11. Define apomixis? **1 Marks**
12. How many cells are there in a typical angiospermic embryo sac? **1 Marks**
13. Define totipotency? **1Marks**
14. Which type of ecological interaction is represented in lichens? **1Marks**
15. What are schiophytes? **1Marks**