

**Meghalaya**  
**Class XII**  
**Bio Zoology**  
**Sample Paper-1**

**Time allowed: 1.5 hours**

**Maximum Marks: 35**

**General Instructions:**

- (i) Write all the answers in the Answer Script.
- (ii) Attempt all parts of a question together at one place.
- (iii) All questions are compulsory.
- (iv) This question paper consists of 4 (four) Groups – A, B, C and D.

GROUP 'A' – Consists of **6** (six) Questions (Nos. **1-6**) of 1 (one) mark each; very short answer to be answered in 1 word or 1 sentence each.

GROUP 'B' – Consists of **4** (four) Questions (Nos. **7-10**) of 2 (two) marks each; which one alternative from the same units; short answer, to be answered in 20-30 words each.

GROUP 'C' – Consists of **3** (three) Questions (Nos. **11-13**) of 3(three) marks each; with one alternative, to be answered in 30-40 words each.

GROUP 'D' – Consists of **3** (three) Questions (Nos. **14-16**) of 4 (four) marks each; with one alternative, long answer type, to be answered in 60-70 words each.

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**GROUP – A**

- 1.** Both vaccine and colostrum produce immunity. Name the type of immunity produced by these. **1**
- 2.** Define Variable Number Tandem Repeats. **1**
- 3.** State two different roles of spleen in the human body. **1**
- 4.** Which bacterium is involved in the production of Swiss cheese? **1**

Sample Paper 1

5. Why in a natural environment with plenty of food but no predation, a population shows J-shaped growth curve? **1**
6. A multinational company outside India tried to sell new varieties of turmeric without proper rights. What is such an act referred to? **1**

**GROUP - B**

7. Name the phenomenon which leads to situations like 'XO' abnormality in human. How do humans with 'XO' abnormality suffer? Explain. **2**

**Or**

In GIFT, gametes are transferred to the fallopian tube. Can gametes be transferred to the uterus to achieve the same result? Explain.

8. What is parturition? Which hormones are involved in it? **2**
9. A low level of expression of lac operon occurs all the time. Can you explain the logic behind this phenomenon? **2**
10. Why Cro-magnon man is called the extinct representative of modern man? **2**

**GROUP - C**

11. What do you understand by differential reproduction and reproductive isolation? In what context are these terms used? **2+1=3**
12. Differentiate between S-shaped and J-shaped growth curve. **3**

**Or**

How does a transgenic organism differ from the rest of its population? Give any two examples of such organisms for human advantage.

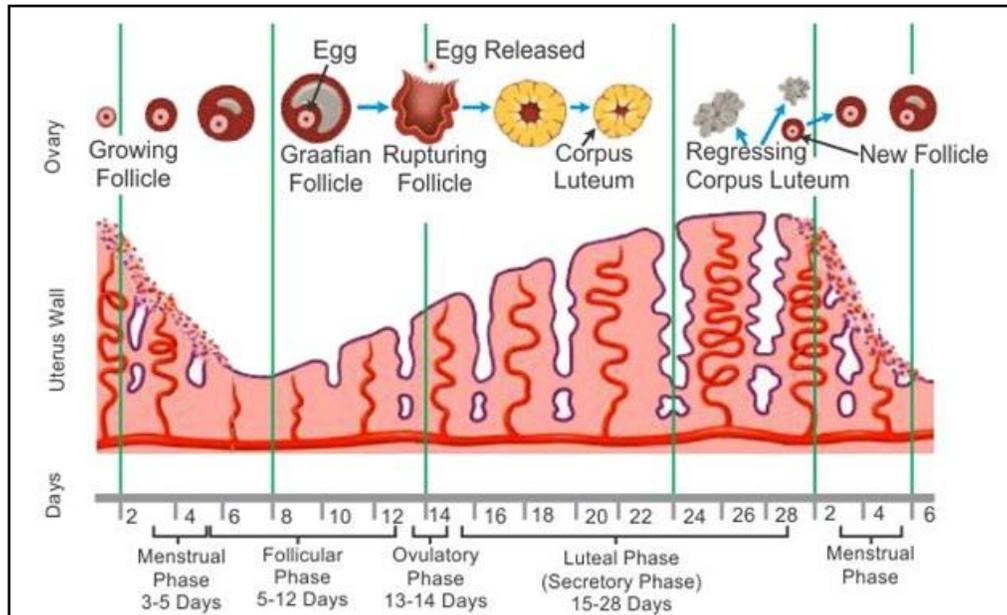
**2+1=3**

13. Mention the phenomenon of sex determination in the following cases: **1+1+1=3**
- (a) Male *Drosophila* - XY  
(b) Female fowl - ZW  
(c) Male grasshopper - XO

**GROUP – D**

**14.** Study the following figure and answer the questions that follows:

**4**



- Why is corpus luteum important even though it is the remains of a ruptured follicle?
- On the basis of the differing levels of hormones at various stages, can you say which hormone should be used as a birth control pill and how does it act?
- How is estrogen related to menstrual cycle?
- How does FSH and LH regulate the menstrual cycle?

**Or**

- How is activated sludge produced during sewage treatment?
- Explain how this sludge is used in biogas production.

**15.** What is adaptation? Describe the adaptations of plants and animals in the desert. **1+3=4**

**16.** State and explain the factors affecting allele frequency in populations.

**4**