

**Board of Secondary Education Rajasthan, Ajmer**  
**Practice Question Paper Sr. Secondary Examination-2022**

**SUBJECT : BIOLOGY**

**CLASS-XII**

**Time: 2 Hours 45 minutes**

**Marks : 56**

**GENERAL INSTRUCTION TO THE EXAMINEES :**

- Candidate must write first his/her Roll No. on the question paper compulsorily.
- All the questions are compulsory.
- Write the answer to each question in the given answer book only.
- For questions having more than one part the answers to those parts are to be written together in continuity.
- If there is any error/difference/contradiction in Hindi & English version of the question paper, the question of the Hindi version should be treated valid.

**(SECTION-A)**

**Que-1. Select the correct answer of following question and write then in to answer book only.**

- (i) Oestrus cycle is found in [1]  
 (A) Gibbon (B) Gorilla (C) Cow (D) Monkey
- (ii) Pollen grain represents [1]  
 (A) Female gametophyte (B) Male gametophyte  
 (C) Sporophyte (D) Anther
- (iii) How many true breeding pea plant varieties were selected by Mendel [1]  
 (A) 7 (B) 14 (C) 21 (D) 28
- (iv) Double helix model of DNA is proposed by- [1]  
 (A) Watson and Crick (B) Schleiden schwann  
 (C) Singer and Nicholson (D) Kornberg and Khurana
- (v) Widal test is employed for detecting [1]  
 (A) Pneumonia (B) Malaria (C) Typhoid (D) Cholera
- (vi) Ringworm in humans is caused by: [1]  
 (A) Viruses (B) Bacteria (C) Fungi (D) Nematodes
- (vii) Which of the following enzyme are known as molecular scissors? [1]  
 (A) DNA Ligase (B) DNA Polymerase-  
 (C) Reverse Transcriptase (D) Restriction endonuclease
- (viii) Transgenic *Brassica napus* has been used for the synthesis of [1]  
 (A) Hirudin (B) Heparin (C) Polgalacturonase (D) Cry protein
- (ix) What is the result of mating between male horse and female donkey? [1]  
 (A) Donkey (B) Horse (C) Hinny (D) Mule

**Que.2 Fill in the blanks.**

- (i) In 2000, maize hybrids that had twice the amount of the amino acids \_\_\_\_ and \_\_\_\_\_, compared to existing maize hybrids were developed. [1]
- (ii) India has only \_\_\_\_\_ x \_\_\_\_\_ of world's land area but have \_\_\_\_\_ y \_\_\_\_\_ of global species diversity [1]
- (iii) Less than \_\_\_\_\_ of the human genome codes for proteins. [1]
- (iv) Production and productivity can be represented by \_\_\_\_\_ x \_\_\_\_\_ and \_\_\_\_\_ y \_\_\_\_\_ respectively. [1]

**Que.3 Give the answer of following question in one word or one line.**

- (i) When and in which type of cell division stage crossing over occurs? [1]
- (ii) How many base pairs are found in haploid set of DNA of human beings? [1]
- (iii) Name two cells where HIV multiply after entering the human body. [1]
- (iv) Name the variety of wheat resistant to leaf and stripe rust. [1]
- (v) Write the name of two endonuclease enzymes. [1]
- (vi) Which bacteria produces Bt-toxin? [1]
- (vii) How do prickles help cactus survive in desert? Give two methods. [1]
- (viii) In India more than 50,000 strains of rice are available. What type of biodiversity it represents. [1]

**(SECTION-B)****Short answer question (Word limit 50 words).**

4. What is the suitable time for MTP. [1½]
5. What is lactational amenorrhoea? [1½]
6. What is inbreeding depression? Which method is used to overcome inbreeding depression. [1½]
7. Write two uses of Lactic acid bacteria. [1½]
8. Write four goals of human genome project. [1½]
9. Represent diagrammatically the *E. coli* cloning vector pBR 322. [1½]
10. What are genetically modified organisms? How the GM plants are useful for us? [1½]
11. Describe the contribution of transgenic animals that produce useful biological products. [1½]
12. Write the pioneers in succession starting in xeric and hydric conditions. [1½]
13. Write three parameters for depicting ecological pyramids. Give one example where the ecological pyramid is inverted for number. [1½]
14. In rivet popper hypothesis, the rivets of wing of airplane are compared with which structures. [1½]
15. Write causes of the loss of biodiversity. [1½]

**(SECTION-C)****Long answer questions (Word limit 100 words).**

16. Write the definition of internal fertilization. Write the two differences between asexual and sexual reproduction.

**OR**

Write the definition of parthenogenesis. Write the two differences between Oviparous and Viviparous. [1 + 2 = 3]

17. Write the causes and two symptoms of Klinefelter's syndrome chromosomal disorder.

**OR**

Write the causes and two symptoms of Turner's syndrome chromosomal disorder. [1 + 2 = 3]

18. Write the name of AIDS pathogen and what measure would you take to prevent it?

**OR**

Write the name of typhoid pathogen and mention two symptoms. How is this disease transmitted to other? [1 + 2 = 3]

**(SECTION-D)****Essay type answer question (Word limit 100 words)**

19. What is double fertilization? Where does it take place? Draw a labelled diagram of a maize seed.

**OR**

Draw a labelled diagram of LS of an ovule and describe it briefly. [1 + 1 + 2 = 4]

20. What is a nucleosome? Draw a labelled diagram of a DNA double stranded molecule. Explain its structure.

**OR**

'DNA replicates semiconservatively'. Prove it with the help of Matthew Meselson and Franklin Stahl experiment. Draw the linear diagram of the experiment. [1 + 1 + 2 = 4]