

Roll No.

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Candidates must write the code on the title page of the answer book

- Please check that this question paper contains **3** printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer book by the candidate.
- Please check that this question paper contains **26** questions.
- **Please write down the serial number of the question before attempting it.**
- **15** minutes' time has been allotted to read this question paper. The student will read the question paper only and will not write any answer on the answer script during this period.

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First Pre-Board Examination, 2017-2018

Biology

Grade: 12

Time: 3 hours

Date: X.X.XXXX

Max. Marks: 70

General Instructions:

- All questions are compulsory*
- Marks for each question are indicated against it.*
- Question number 1 to 5 are very short-answer questions and carry 1 mark each.*
- Question numbers 6 to 10 are short-answer questions and carry 2 marks each.*
- Question numbers 11 to 22 are also short-answer questions and carry 3 marks each.*
- Question number 23 is a value based question and carries 4 marks.*
- Question numbers 24 to 26 are long answer questions and carry 5 marks each.*
- Use Log Tables, if necessary. Use of calculators is **not** allowed*

1. What is the number of chromosome in human zygote? (1)
2. What is totipotency? (1)
3. What are palindromic sequences? (1)
4. What is Allen's rule? (1)
5. How would you define NPP? (1)
6. Write the transcription product sequence for (2)
 - a. 5' ATGCACTGATCCAA 3'
 - b. 3'GTACGTACGTAC 5'

7. Complete the table (2)
- | | |
|------------|---------|
| Cross | ratio |
| Monohybrid | ----- |
| ----- | 1: 2: 1 |
8. What are the different types of acquired immunity? (2)
9. Which microbe converts milk to curd? (2)
10. Give two examples of vector born diseases and their insect vectors. (2)

OR

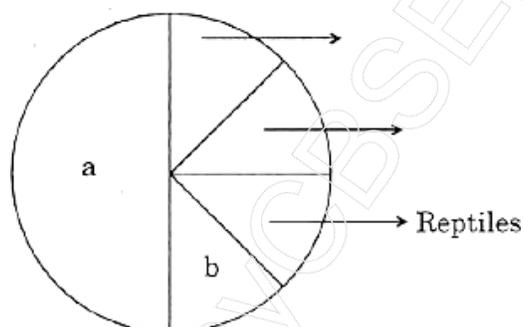
What are the different methods of breeding?

11. List the salient features of DNA double helix model. (3)
12. What is the fate of the product of fertilization in humans? (3)
13. How was the genetic code elucidated? (3)
14. Explain the equation, $p^2 + 2pq + q^2 = 1$. (3)
15. What are the different levels at which gene regulation can be achieved? (3)
16. What are primary lymphoid organs? (3)
17. Explain gene therapy with an example. (3)
18. Diagrammatically represent the replication of retrovirus. (3)
19. How have cry proteins been utilized? (3)

OR

Explain carbon cycle with diagram.

20. Explain two reasons for the loss of biodiversity. (3)
21. List out the adaptations of desert plants to survive the heat. (3)
22. What does the picture represent? (3)



23. In art class the teacher asked Sunita to mix green and yellow paint and report on the combined colour formed. Sunita could not find green colour in his box and was scolded by the teacher who found it lying right in front. Suddenly Vijay realized that Sunita was not able to identify red colour and reported the matter to the teacher who was of the opinion that he lacked colour concept. After school was over, Vijay reported this matter to Sunita's parents. (4)

a. What values did Vijay possess?

b. Did Sunita lack knowledge of colours? If not, give the biological reason for the same.

c. Give the technical term for this type of inheritance. Explain with a typical example.

24. Explain with diagram the experiment that proved that DNA is the genetic material.

OR

Explain anemophily and hydrophily. (5)

25. Give the journey of sperm formation with diagram. What are the hormones involved?

OR

Explain the technique of fingerprinting with diagram. (5)

26. Explain parasitism? What are the different type parasitisms?

OR

Explain ecosystem services? (5)