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- (b) What are model organisms? Discuss the role of model organisms in genetic studies with suitable examples. (10)

6. Write a short note on **any three** of the following :

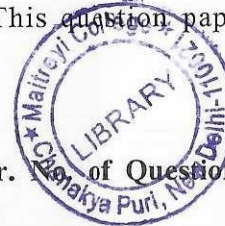
- (a) Endosymbiotic theory  
(b) Speciation  
(c) Mendel's law of inheritance  
(d) Natural Selection  
(e) Plasma membrane (3×5)

(1000)

20/11/2023

E. V. V. V.

[This question paper contains 4 printed pages.]



Your Roll No.....

Sr. of Question Paper : 2265

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Unique Paper Code : 2234002002

Name of the Paper : Introduction to Biology

Name of the Course : B.Sc. (H) Zoology (NEP)

Semester : III (Zoo-GE-6)

Duration : 2 Hours

Maximum Marks : 60

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Answer **FOUR** questions in all.
3. Question No. 1 is compulsory.

1. (a) Define the following (**any five**) : (5)

(i) Phenotype

(ii) Reducing sugars

(iii) Crossing over

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(iv) Speciation

(v) RNA

(vi) Ecosystem

(b) Give the contributions of the following scientist  
(any five) : (5)

(i) Robert Hooke

(ii) Singer and Nicolson

(iii) Robert Brown

(iv) Miller and Urey

(v) Charles Darwin

(vi) Hardy-Weinberg

(c) Fill in the blanks : (5)

(i) Two monosaccharides are joined together  
by \_\_\_\_\_ bond to create a disaccharide.

(ii) \_\_\_\_\_ are building blocks of proteins.

(iii) Process of synthesis of RNA from DNA  
is known as \_\_\_\_\_.

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(iv) \_\_\_\_\_ is called the powerhouse of the  
cell.

(v) Germ cells divide by \_\_\_\_\_ cell division.

2. (a) What is the significance of lipids? Describe various  
types of lipids with suitable examples. (8)

(b) What is macroevolution? Explain with example.  
(7)

3. (a) Draw a well labeled diagram of a eukaryotic cell.  
Briefly discuss the functions of various cell  
organelles. (12)

(b) State the limitations of Hardy-Weinberg law.  
(3)

4. (a) Describe the major events in the history of life.  
(7)

(b) What is cell-cycle? Explain different phases of  
somatic cell-cycle. (8)

5. (a) What are different levels of structures of proteins?  
(5)

P.T.O.