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**B.M.S. COLLEGE FOR WOMEN, AUTONOMOUS**  
**BENGALURU – 560004**

**SEMESTER END EXAMINATION – MARCH 2023**

**B.Sc - ZOOLOGY - III SEMESTER**  
**Molecular Biology, Bioinstrumentation & Techniques in Biology**

Course Code: ZOO3DSC03

Duration: 2 ½ Hours

QP Code: 3017

Max. Marks: 60

*Instructions to Candidates:*

- 1. Draw neat labelled diagram wherever necessary.*
- 2. Answer should be completely in English.*

**PART -A**

**I. Answer the following in one word or one sentence (5X1=5)**

1. What is Muton?
2. Name the inducer of Lac Operon.
3. Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?
4. Name the measurement of a molecule in a chromatography.
5. What is the main enzyme component of Sanger sequencing?

**PART- B**

**II Answer any five of the following (5X3=15)**

1. Enumerate any three salient features of Genetic Code.
2. Differentiate between Cistron and Recon.
3. Write a note on RNA Polymerase II.
4. Give a short account on Polyadenylation.
5. How does a Transmission Electron Microscope works?
6. Write principle of Thin layer Chromatography?
7. What are the applications of Southern Blotting?

**PART- C**

**III. Answer any four of the following (4X5=20)**

1. Explain the initiation phase of eukaryotic transcription.
2. Describe Ubiquitine- proteasome pathway.

3. Explain the role of chromatin in gene expression.
4. Write a note on the principle and applications of centrifugation.
5. State Beer Lambert's Law. Mention its applications.
6. Illustrate the steps involved in DNA finger printing.

#### PART- D

#### IV. Answer any two of the following

(2X10=20)

1. Explain the process of translation in Prokaryotes.
2. Describe Trp operon in *E.coli*
3. Write short notes on the following
  - a. HPLC
  - b. Principle of fluorescence microscope.
4. Explain the steps involved in Polymerase chain reaction

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