

**S-183**

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## **MSCZO-507**

**Molecular Biology and Biotechnology**

M.Sc. Zoology (MSCZO)

2nd Semester Examination, 2022 (Dec.)

**Time : 2 Hours]**

**Max. Marks : 70**

**Note :** This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

### **SECTION–A**

**(Long Answer Type Questions)**

**Note :** Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. Describe in detail the process of transcription with suitable diagram.

2. Explain Lac Operon and trp Operon models for regulation of gene expression.
3. What are different mechanisms for DNA damage removal?
4. What is AFLP? Explain its procedure and limitations.
5. Describe different post- translational modifications of protein.

## **SECTION-B**

### **(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)

1. Enlist various enzymes and their role in DNA replication.
2. Describe PBR 322 and its use as a cloning vector along with a well labelled diagram.
3. Describe various practical aspects of Biotechnology.
4. Explain Western Blotting with the help of a suitable diagram.
5. Write a note on Cryobiology and its applications.

6. Explain cell culture and its utilization.
  7. What is the cDNA and cDNA library?
  8. Describe the Structure and use of *E. coli* as cloning vector.
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