

**UNIVERSITY OF JAFFNA**  
**BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES**  
**THIRD YEAR FIRST SEMESTER EXAMINATION- JANUARY 2016**  
**MLSBM 3103 BIOTECHNOLOGY AND MOLECULAR BIOLOGY I**



**Date: 29.01.2016**

**Time: 1 hour**

**Answer all four questions.**

1.

1.1. Describe the transcription process in prokaryotic cells? (70 Marks)

1.2. List the post transcriptional modifications of mRNA in eukaryotes. (30 marks)

2.

2.1. Diagrammatically show and explain the DNA replication in eukaryotic cells. (80 Marks)

2.2. List the different types of DNA repair mechanism. (20 Marks)

3. Write short notes on

3.1. Frame shift mutation (30 marks)

3.2. Structural chromosomal abnormalities (30 Marks)

3.3. Southern blot technique (40 Marks)

4.

4.1. Write the principle of Polymerase Chain reaction (PCR) (15marks)

4.2. Briefly describe the steps involved in PCR technique. (60marks)

4.3. Write five advantages of Polymerase Chain reaction (PCR) (25marks)