

**School of Biomedical Science****Master of Science in Medical Biotechnology  
Semester End Examination - Aug 2024****Duration : 180 Minutes  
Max Marks : 100****Sem I - Q1PO113B - Molecular and Genetic Engineering***General Instructions**Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

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|-----|-------------------------------------------------------------------------------------------------------|--------|
| 1)  | What is Chargaff's rule?                                                                              | K1(2)  |
| 2)  | Compare the prokaryotic and eukaryotic ribosome composition.                                          | K2(4)  |
| 3)  | Summarize the different types of nucleases.                                                           | K2(6)  |
| 4)  | Analyze the process of post-transcriptional modifications of RNA in eukaryotes.                       | K3(9)  |
| 5)  | Discuss post transcriptional gene silencing methods.                                                  | K3(9)  |
| 6)  | Elaborate what are SV40 vectors and different kinds of these vectors used commonly.                   | K5(10) |
| 7)  | Identify the ways in which bacterial artificial chromosomes differ with yeast artificial chromosomes. | K4(12) |
| 8)  | Elaborate each of the six types of eukaryotic DNA polymerases.                                        | K5(15) |
| 9)  | Explain with examples, different kinds of animal vectors.                                             | K5(15) |
| 10) | Compile the process of transcription in eukaryotes.                                                   | K6(18) |