

School of Biomedical Science**Bachelor of Science Honours in Forensic Science
Semester End Examination - Jun 2024****Duration : 180 Minutes
Max Marks : 100****Sem II - P1UC220T - Introduction of Molecular Biology***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) | Define nucleotides. | K1(2) |
| 2) | Show the phases of protein synthesis | K2(4) |
| 3) | Construct a flow chart of protein synthesis from RNA and tell how many amino acids are present in a nascent polypeptide decoded from mRNA with the reading frame having 1002 nucleotides | K2(6) |
| 4) | How transcription is initiated in prokaryotes and eukaryotes? | K3(9) |
| 5) | Illustrate the different types of DNA Damages. | K3(9) |
| 6) | Evaluate the applications of CRISPR-Cas9 technology. | K5(10) |
| 7) | Examine the Structure and function of mRNA, rRNA and tRNA. | K4(12) |
| 8) | Discuss the elongation phase of translation, including the roles of aminoacyl-tRNA, peptide bond formation, and translocation. | K5(15) |
| 9) | Explain the use of genetic engineering in agriculture. | K5(15) |
| 10) | Discuss the complete process of transcription in detail. | K6(18) |