

UNIVERSITY OF JAFFNA
FACULTY OF ALLIED HEALTH SCIENCES
THIRD YEAR FIRST SEMESTER EXAMINATION IN BScHons (MLS) – 2021
MLSBM 3131 BIOTECHNOLOGY AND MOLECULAR BIOLOGY 1

Date: 09.06.2023

Time: 1 Hour

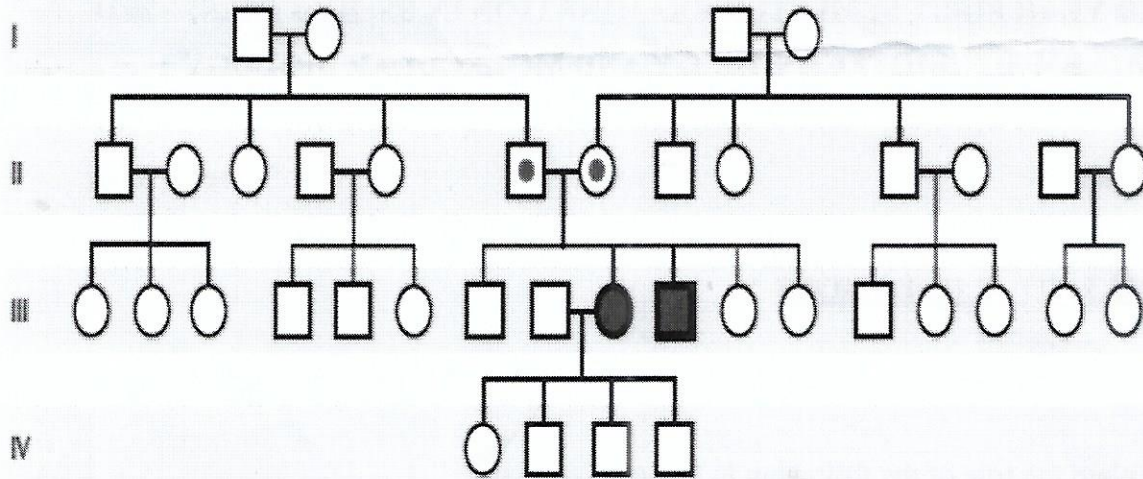
ANSWER ALL FOUR QUESTIONS

1. 1.1. Explain the role of the following in Protein synthesis.
 - 1.1.1. Initiation Factors IF, IF2 and IF3 (25 Marks)
 - 1.1.2. Elongation Factor/s (10 Marks)
 - 1.1.3. Release Factor/s (10 Marks)
 - 1.1.4. Peptidyl transferase (10 Marks)
- 1.2. Enumerate the process, Translocation. (30 Marks)
- 1.3. Briefly describe the Shine–Dalgarno sequence in prokaryotic mRNAs. (15 Marks)

2. 2.1. Write the principle of DNA Fingerprinting in individual identification. (40 Marks)
- 2.2. Give a brief account on Short Tandem Repeats (STR) in DNA Fingerprinting. (35 Marks)
- 2.3. Mention **five (05)** characteristics of STRs in the selection of STR loci for DNA fingerprinting (25 Marks)

3. Briefly discuss the following:
 - 3.1. Rho (ρ) dependent termination and Rho (ρ) independent termination (50 marks)
 - 3.2. RNA Polymerase (50 marks)

4. Refer the pedigree and answer the questions below.



- 4.1. List the classic inheritance patterns of single gene disorders transferred through the families. (20 Marks)
- 4.2. Identify the given pattern of inheritance and give **two (02)** examples. (30 Marks)
- 4.3. Enumerate the characteristic of the pattern of inheritance identified in 4.2. (50 Marks)