



**FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA**  
**B.Sc. Medical Laboratory Science Degree Programme**  
**Year End Examination Year 3- 5<sup>th</sup> Batch**

**Biotechnology (MLS 3104) - SEQ**

Date: 08<sup>th</sup> September 2016

Time: 10.30 a.m - 11.30 a.m

Duration: 01 hour

Index Number: .....

Answer all questions

1.

1.1 State the function of following agents used in DNA isolation. (20 marks)

- a) Sodium dodecyl sulphate
- b) Urea
- c) Chelating agents
- d) Protease
- e) RNase

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1.2 Describe **two** methods used in isolating genomic DNA. (30 marks)

1.3 List the **two** methods practiced in RNA isolation and briefly explain one of them. (30 marks)

1.4 a) Absorbance of the 1 in 10 diluted DNA sample at 260 nm and 320 nm are 0.409 and 0.124, respectively. If the absorbance unit of the DNA is 50 µg/mL, find the concentration of this isolated DNA sample. (10 marks)

b) Absorbance at 280 nm of this sample is 0.270. Comment on the purity of this DNA sample. (10 marks)

2.

2.1 List **three** mechanical cell disruption techniques used in protein isolation and purification. (15 marks)

2.2 Briefly explain the techniques mentioned in 2.1. (30 marks)

2.3 List **three** laboratory techniques used in high resolution purification of proteins. (15 marks)

2.4 Describe **two** of the methods mentioned in 2.3. (40 marks)

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