

FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
B.Sc. Medical Laboratory Science Degree Programme
Year End Examination – Year 3, 4th Batch



Laboratory Management

26th January 2016

Time: 10.00am – 12.00 noon (two hours)

Answer all questions.

Answer each question in a separate booklet

7

1.

- 1.1. What is a Laboratory Information Management System (LIMS)? (50 marks)
- 1.2. List four systems that communicate with LIMS. (10 marks)
- 1.3. Discuss the advantages and disadvantages of laboratory outsourcing. (40 marks)

2. You have been recruited as the laboratory manager of a leading private sector hospital in Galle.

2.1. What would be your main duties as the laboratory manager?

(40 marks)

2.2. In order to increase the income of the laboratory, you may plan to implement some hormone assays in the laboratory.

2.2.1. List the main types of costs that you have to consider, when calculating the cost per test. (20 marks)

2.2.2. Assume you are going to implement the Thyroid Stimulating Hormone (TSH) test in your laboratory. Briefly describe how you are going to calculate the cost per test.

(40 marks)

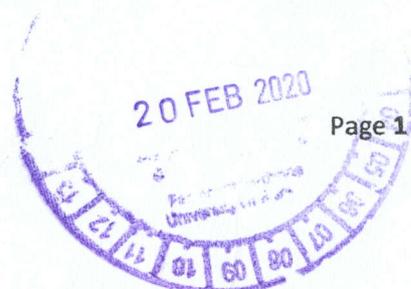
3. You are the laboratory manager of a Medicare diagnostics laboratory.

3.1. Briefly describe the general guidelines for the use of reagent kits. (40 marks)

The laboratory requires changing their Prothrombin reagent (PT) since the local supplier has stopped importing the reagent which is being used currently.

3.2. Describe how verification of new PT reagent is done in your laboratory. (60 marks)

(60 marks)



4. Assume that you are working as a senior MLT in a District hospital laboratory with total cadre of 8 MLTs. About 6000 samples per month are analyzed by 4 MLTs manually using automatic pipettes and a spectrophotometer with commercial reagent kits in the biochemistry laboratory. Each test requires 1.0 ml of the reagent which cost Rs 32.00.

You feel that by introducing an automated chemistry analyzer with the speed of 120 samples per hour, the laboratory could provide a better patient care service. Write a letter to the director justifying the purchase of an automated chemistry analyzer at a cost of Rs 1.2 million for long term cost benefit.

You may include the following points in your letter.

- Detail calculation of cost per test and long term cost benefit assuming that the automated analyzer utilizes only an average volume of 125 μ L per test.
- Better utilization of MLT cadre to expand the present test range, in other disciplines assuming that the laboratory is doing only haematology tests and Urine Full Report in addition to Biochemical tests.
- Improvement of accuracy and precision of the test results for accurate diagnosis.
- Any other benefit of automation.

(100 marks)