



*"Investing in Africa's Future"*

**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES**

**DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES**

**BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS**

**NSLS 300 LABORATORY MANAGEMENT AND ADMINISTRATION**

**END OF SEMESTER FINAL EXAMINATIONS**

**NOVEMBER 2024**

**LECTURER: Dr S L MUTAMBU**

**DURATION: 3 HOURS**

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### ***INSTRUCTIONS***

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1. Write your candidate number on the space provided on top of each page
2. Answer **all** questions in section A, PART 1 AND PART 2 on the question paper.
3. Answer **all** questions in section B on separate answer sheets provided.
4. Answer any **2** questions in section C on separate answer sheets provided
5. The mark allocation for each question is indicated at the end of the question
6. Credit will be given for logical, systematic and neat presentations in sections B and C

**SECTION A****PART I: TRUE FALSE MULTIPLE CHOICE QUESTIONS [20 MARKS]**

Answer **all questions** by encircling the correct response **T** for **TRUE** or **F** for **FALSE** for each statement in all the questions. Each correct response is allocated a quarter mark.

1. The efficient operation of a clinical laboratory and the effective delivery of medical laboratory services to clinicians and their patients requires a complex interaction of experts in these areas:  
T      F      a) Medical  
T      F      b) Scientific  
T      F      c) Technical  
T      F      d) Clerical
2. The consequences of accurate test results can be very significant and they include:  
T      F      a) Failure to provide the proper treatment  
T      F      b) Delay in correct diagnosis  
T      F      c) Additional and necessary diagnostic testing  
T      F      d) Treatment successes
3. Long range planning by a laboratory director is concerned with growth potential, for example, bringing in house a battery of analyses previously sent to a reference laboratory. His/her planning steps would include:  
T      F      a) Identifying sufficient equipment  
T      F      b) Identifying space and skilled personnel  
T      F      c) Development of a series of written protocols and procedures  
T      F      d) Determination of cost per test analysis
4. The process of decision making in the medical laboratory includes  
T      F      a) Problem analysis  
T      F      b) Development and analysis of alternative course of action  
T      F      c) Decision implementation and control  
T      F      d) Changing the vision of the laboratory
5. Medical Laboratory Services are important to all aspects of health care and they should produce results that are:  
T      F      a) Accurate  
T      F      b) Reliable  
T      F      c) Technical  
T      F      d) Specific
6. Some of the key elements of effective leadership are:  
T      F      a) Credibility  
T      F      b) Environmental intelligence  
T      F      c) Esteem  
T      F      d) Uniqueness

7. Laboratory management must know:

- |   |   |   |
|---|---|---|
| T | F | a) How much it costs to provide a test          |
| T | F | b) How much the laboratory is paid for the test |
| T | F | c) Relationship of costs and revenue            |
| T | F | d) Needs of supplier of commodities             |

8. Verbal communication barriers include:

- |   |   |                                   |
|---|---|-----------------------------------|
| T | F | a) Speaking too fast              |
| T | F | b) Using jargon                   |
| T | F | c) Tone and content               |
| T | F | d) Complicated ambiguous language |

9. Each of the following is a statement on the outcome of job analysis:

- |   |   |                          |
|---|---|--------------------------|
| T | F | a) Performance appraisal |
| T | F | b) Job evaluation        |
| T | F | c) Job description       |
| T | F | d) Job specification     |

10. The following statement describes an organogram:

- |   |   |                         |
|---|---|-------------------------|
| T | F | a) Organizational chart |
| T | F | b) Recruitment method   |
| T | F | c) Relative ranks       |
| T | F | d) Job relationships    |

11. In financial management, laboratory managers should:

- |   |   |  |
|---|---|--|
| T | F | a) Develop the SOPs for each test in the laboratory  |
| T | F | b) Use data from past minutes to prepare budgets     |
| T | F | c) Understand sources of cost information            |
| T | F | d) Know the cost of each test done in the laboratory |

12. The following are part of expenditure of a clinical laboratory:

- |   |   |  |
|---|---|--|
| T | F | a) Reagent purchases                       |
| T | F | b) Salaries                                |
| T | F | c) Equipment maintenance bills             |
| T | F | d) Processing tests for another laboratory |

13. Features of a Laboratory Information Management System include:

- |   |   |                                  |
|---|---|----------------------------------|
| T | F | a) Instrument Integration        |
| T | F | b) Storage Location Manager      |
| T | F | c) Billing/Charge Manager        |
| T | F | d) Standards and Reagent Manager |

14. The following visual aids are useful for effective presentation:

- |   |   |                |
|---|---|----------------|
| T | F | a) Flip charts |
| T | F | b) Word Point  |
| T | F | c) Pictures    |
| T | F | d) Videos      |

**15.** The following methods can be used to motivate staff in the laboratory:

- |   |   |   |
|---|---|---|
| T | F | a) Setting clear mission and vision statements          |
| T | F | b) Recruitment of educated team of employees            |
| T | F | c) Adopting a transparent performance management system |
| T | F | d) Implementing team approach to problem solving        |

**16.** Some of the Benefits of a Quality Management System (QMS) include

- |   |   |  |
|---|---|--|
| T | F | a) Laboratory accreditation                            |
| T | F | b) Reduce clerical work by skilled scientists          |
| T | F | c) Improved quality of products and services           |
| T | F | d) Better management and a more technical organization |

**17.** Aims of a Laboratory Information Management System (LIMS) are to:

- |   |   |  |
|---|---|--|
| T | F | a) Improved customer satisfaction                                |
| T | F | b) Enhance the quality of data and accessibility                 |
| T | F | c) Increase compliance to GLP, FDA regulations and ISO Standards |
| T | F | d) Improve laboratory throughput                                 |

**18.** Financial ratios important to a laboratory manager include:

- |   |   |                                      |
|---|---|--------------------------------------|
| T | F | a) Cost per test                     |
| T | F | b) Labour cost per test              |
| T | F | c) Profit margin per billable test   |
| T | F | d) Workload per laboratory scientist |

**19.** The process of monitoring performance, comparing it with goals and correcting any significant deviations is known as:

- |   |   |               |
|---|---|---------------|
| T | F | a) Planning   |
| T | F | b) Organizing |
| T | F | c) Leading    |
| T | F | d) Evaluating |

**20.** Characteristics of a good leader include:

- |   |   |              |
|---|---|--------------|
| T | F | a) Integrity |
| T | F | b) Charm     |
| T | F | c) Trust     |
| T | F | d) Curiosity |

**PART II: MULTIPLE CHOICE MATCHING QUESTIONS [10 MARKS]**

Answer **all questions** by matching List I with correct answer in List II. Each correct response carries one (1) **mark**.

LIST I	LIST II	ANSWER
A. Power	I. Prepared account of what happened about a particular event presented in a formal and organized format backed with statistical evidence	
B. Leadership	II. Set of activities that aim to improve and assure the safety, quality and cost efficiency of medical laboratory services.	
C. Vision statement	III. The level of stock at which decisions to reorder may occur <i>e.g.</i> one month of stock	
D. Efficiency	IV. A one sentence statement describing the clear and inspirational long term change, resulting from an organization's work	
E. Policy	V. A tool used by a leader to influence subordinates to follow him/her to achieve the goals of the organisation	
F. Oral presentation	VI. A written statement of overall intentions and directions defined by those in the organization and endorsed by management."	
G. Minimum stock level/ Minimum quantity	VII. Achieving maximum productivity with minimum wasted effort or expense.	
H. Personnel Management	VIII. Ability to persuade others to move with passion towards the attainment of organizational goals	
I. Quality Improvement Process	IX. Ideas, concepts or issues talked about or spoken to a group or audience	
J. Written report	X. Primarily concerned with human resources of an organisation.	

**SECTION B****SHORT ANSWER QUESTIONS (30 MARKS)**

Answer **all questions in this section on separate answer sheets provided.**

1. List any five (5) types of jobs that are related to a medical laboratory: (5 marks)
2. Name any four (4) methods that management can use to recognize employees (4 marks)
3. Name five (5) rights for stock management (5 marks)
4. List six (6) Quality Principles that apply to Medical Laboratories. (6 marks)

5. State five (5) objectives of performance appraisal (5 marks)
6. State five (5) pieces of information on a stock card (5 marks)

### **SECTION C**

#### **LONG ESSAY ANSWERS [40 MARKS]**

**Answer any 2 questions from this section on separate sheets provided. Each question carries 20 marks.**

1. Illustrate and give a detailed account on Data Management System in a Medical Laboratory.
2. Discuss in detail the WHO framework of the 12 Quality System Essentials (QSE) that is recommended to control, assure and manage the quality of Medical Laboratory's processes.
3. Compare and contrast medical records and medical documents.
4. Giving examples, discuss in detail:
  - a) The challenges that laboratory managers face in quantification and procurement of laboratory commodities. (15 marks)
  - b) What recommendations can you give to the managers to assist them in making correct forecasts for the commodities? (5marks)

**THE END**