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University Examinations 2024/2025

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICAL MICROBIOLOGY

HMM 3212: LABORATORY PRACTICE AND MANAGEMENT

DATE: JANUARY 2025

TIME: 3 HOURS

INSTRUCTIONS:

Answer *All* questions

Ensure that all your answers are properly numbered

Part I multiple Choice Questions (MCQ): Write the correct answer on the space provided in the answer booklet. Each MCQ is one mark

Part II: Short Answer Questions – Answer questions following each other on the answer booklet

Part III: Long Answer Questions – Answer each question on the answer booklet

SECTION A: MULTIPLE CHOICE QUESTIONS (20 marks)

1. What is the primary dedication of clinical laboratory personnel according to the code of conduct?
 - a) To earn the highest salary possible
 - b) To benefit mankind through clinical laboratory science
 - c) To gain recognition in their field
 - d) To work independently without accountability
2. During the manufacturing process, what does QC study to assess product quality?
 - a) The extent of quality deviation in a product
 - b) The number of units produced

- c) The time taken for production
- d) The aesthetic appeal of the product

3. Which of the following best describes the overall goal of the Quality Management Cycle?

- a) To increase costs without improving quality
- b) To create a continuous improvement process for quality
- c) To focus only on customer complaints
- d) To standardize all processes without flexibility

4. Total Quality Management (TQM) primarily emphasizes:

- a) Cost reduction
- b) Continuous improvement and customer satisfaction
- c) Strict adherence to processes
- d) Individual employee performance

5. Which of the following principles is NOT part of the Total Quality Management (TQM) approach?

- a) Customer focus
- b) Continuous improvement
- c) Top-down management
- d) Employee involvement

6. What is a primary focus of internal audits?

- a) To review customer feedback
- b) To assess compliance with internal policies and procedures
- c) To minimize staff involvement
- d) To determine market trends

7. When deciding between purchasing or leasing equipment, what factor should be considered?

- a) The size of the laboratory
- b) The criteria for selection
- c) Budget constraints and long-term needs
- d) The age of existing equipment

8. What is the primary responsibility of trial facility management regarding Good Clinical Laboratory Practice (GCLP)?

- a) To ensure profit maximization
- b) To ensure compliance with GCLP principles
- c) To hire as many staff as possible
- d) To minimize the use of equipment

9. Which of the following should be included in the title of an SOP?

- a) The date of publication only
- b) The specific procedure being described
- c) The author's personal information
- d) The company's logo

10. What is the significance of the references section in an SOP?

- a) To include unrelated documents
- b) To provide sources that support the procedure and offer additional guidance
- c) To document employee attendance
- d) To list competitor information

11. Which of the following is a possible outcome of undetected laboratory errors?

- a) Faster treatment options
- b) Undetected communicable disease outbreaks
- c) Increased trust in laboratory results
- d) Improved public awareness of health issues

12. What is one of the primary responsibilities of a laboratory director regarding staffing?

- a) Hire the maximum number of staff regardless of workload
- b) Hire an appropriate number of staff to cover the workload
- c) Hire only temporary staff
- d) Delegate hiring decisions entirely to HR

13. Why is orientation important for new employees, even if they have credible backgrounds?

- a) To discuss personal interests
- b) To ensure they are familiar with the specific laboratory environment and practices
- c) To shorten the onboarding process

d) To introduce them to upper management only

14. What is one key difference between accreditation and licensure?

- a) Accreditation is mandatory, licensure is voluntary
- b) Licensure is required by law, accreditation is a voluntary certification process
- c) Licensure improves employee satisfaction, accreditation does not
- d) Accreditation focuses on staff management, while licensure focuses on patient care

15. When should the initial competency assessment be conducted for an employee?

- a) After they have worked for several years
- b) During their first performance review
- c) At the beginning of their employment
- d) Only if a problem arises

16. What is an important aspect of sample disposal?

- a) Disposing of samples without following guidelines
- b) Establishing procedures that comply with regulations
- c) Allowing anyone to dispose of samples
- d) Keeping samples indefinitely

17. What is the primary reason for maintaining an inventory system for laboratory reagents and supplies?

- a) To keep track of employee attendance
- b) To maintain an uninterrupted flow of needed materials
- c) To increase the workload of laboratory staff
- d) To reduce the number of reagents in the laboratory

18. How does proper inventory management affect laboratory efficiency?

- a) It decreases efficiency by creating more administrative tasks
- b) It increases efficiency and effectiveness by ensuring an uninterrupted flow of needed materials
- c) It has no impact on efficiency
- d) It focuses solely on managing finances

19. Why is training staff in QC procedures important?

- a) To familiarize staff with laboratory rules

- b) To ensure staff know how to properly follow QC policies and procedures
- c) To avoid unnecessary paperwork
- d) To reduce the need for QC monitoring

20. What should be done after identifying hazards in a risk assessment?

- a) Conduct laboratory tests to verify hazards
- b) Ignore low-risk hazards
- c) Analyze the risks and implement control measures to mitigate them
- d) Postpone any decisions until a follow-up review

SECTION B: SHORT ANSWER ALL QUESTIONS (40 MARKS)

1. State key components in an inventory record	6mks
2. Outline key areas for auditing in the laboratory	6mks
3. Design a level three laboratory	6mks
4. Explain the role of a laboratory manager	6mks
5. State steps when implementing quality control program	6mks
6. Outline steps in developing equipment management program	5mks
7. Outline steps in implementing inventory management program	5mks

SECTION C: LONG ANSWER TWO QUESTIONS (40 MARKS)

a) i. Describe 5 characteristics of accreditation	10mks
ii. Describe 5 criteria for Selection a lab for accreditation	10mks
b) i. Explain 10 principles of Good Clinical Laboratory Practice	10mks
ii. Discuss 5 Competence assessment methods	10mks
c) i. A clinical laboratory, has been facing challenges with inventory management. These include frequent stock outs of essential reagents, excess inventory of non-essential items, and difficulties in tracking expiration dates. To address these issues, management has decided to implement a new inventory management program. What are the key steps management should take to effectively implement an inventory management program?	12mks

ii. Describe Program considerations in equipment management

6mks