



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER AUGUST 2023 EXAMINATIONS**

COURSE CODE AND TITLE: BSN 416 HEALTH INFORMATICS

DATE: 11TH AUGUST 2023

Duration: 2 HOURS START: 11:15 A.M. FINISH: 1:15 P.M.

INSTRUCTIONS

- 1.** This exam is out of 70 marks
- 2.** This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)
- 3.** Answer ALL Questions.
- 4.** Do Not write anything on the question paper -use the back of your booklet for rough work if need be.

SECTION I: MULTIPLE CHOICE QUESTIONS

(20 MARKS)

1. Movement of data from the point where it was collected to a point where it can be collated and prepared for analysis is referred to as;
 - A. Application
 - B. Intervention
 - C. Processing
 - D. Analysis
2. A nursing student used computers in problem identification and located current literature about the problem. The scope of nursing informatics is: -
 - A. Nursing practice
 - B. Nursing administration
 - C. Nursing education
 - D. Nursing research
3. Nurses use passwords and codes for their respective computers during their duty at their respective wards. This is: -
 - A. Confidentiality
 - B. Security
 - C. Privacy
 - D. Precaution
4. Telehealth provides alternative method of providing care to the patients in various places. The legal issues that can implicate this practice is: -
 - A. Different culture may not accept telehealth nursing
 - B. No legal implications
 - C. Language barrier may play a major legal implication in the deliverance of care
 - D. The license of a practitioner from one place may not be honoured by in the area from where the client is residing
5. One of the following constitutes a patient identifier: -
 - A. Weight
 - B. Height
 - C. Gender
 - D. Date of birth
6. The following can be considered as major development in Community Health Nursing in terms of information technology: -
 - A. Prevention of epidemiological diseases through quality care
 - B. Patient Monitoring
 - C. Telehealth
 - D. Medication dispensing

7. ----- refers to a collective term of a system of data records and activities that process and translate the data to information in an automated process.
- A. . Information system
 - B. Health information technology
 - C. Nursing informatics
 - D. Informatics
8. Consumer health informatics deals with;
- A. Health literacy and consumer education
 - B. Clinical decision support to visual images
 - C. Applied clinical informatics
 - D. Surveillance and reporting
9. The following is true about nursing informatics: -
- A. It is a study of processing, management and retrieval of information
 - B. The study of complex system, interaction and social science
 - C. Use of information technology in relation to any nursing functions
 - D. It's no longer useful in the face of internet technology
10. Informatics is: -
- A. Computer systems
 - B. Multimedia technologies
 - C. Science of information
 - D. Information communication technologies
11. An example of supportive care in health informatics and eHealth is: -
- A. Answering a question in an e-consultation
 - B. Giving feedback within a self-help course
 - C. Helping patients and healthcare professionals manage their use of antibiotics in order to decrease the spread of resistant bacteria.
 - D. Patients self-monitoring their blood sugar levels to improve self-management
12. The component of eHealth that gives opportunity for creation of new links between the patient and health expert, towards a true corporation, where choices are made mutually is: -
- A. Equity
 - B. Equality
 - C. Encouragement
 - D. Electronics
13. The perspective of eHealth that is concerned with involving patients, care providers and other stakeholders in the development process is: -
- A. Telemedicine perspective
 - B. Technological perspective
 - C. User perspective
 - D. Organization of healthcare perspective

14. An example of a wearable technology is: -
- A. Mobile apps
 - B. Websites
 - C. Patient portals
 - D. Health sensors
15. A form of an eHealth that integrate technology and services into a home environment in order to improve the inhabitants' quality of living and of life is: -
- A. Domotics
 - B. Smart watches
 - C. Health sensors
 - D. Emotional intelligent
16. The domain of health informatics in which the patient or consumer is in the lead, for example, using a website or app to find health-related information is: -
- A. Supportive care
 - B. Societal health
 - C. Domotics
 - D. Self-care and prevention
17. Application of nursing informatics to clinical practice include: -
- A. Work lists to remind staff of planned nursing interventions
 - B. Automated staff scheduling.
 - C. E-mail for improved communication.
 - D. Distance learning- web based courses and degree programs.
18. Karen, a nursing officer at at St. Karen Hospital, was asking for a computerized system that is designed to meet the information needs on patient information processing and patient registration. The system she is referring to is: -
- A. Health management
 - B. Clinical and hospital information system
 - C. Patient information management
 - D. Records management
19. The computer-based system is designed for collecting, storing, manipulating, and making clinical information important to the health care delivery process is: -
- A. Clinical and hospital information system
 - B. Patient information system
 - C. Clinical information system
 - D. Electronic health record
20. Data acquisition refers to: -
- A. Saving data so that it can be retrieved
 - B. Capturing quality data
 - C. Use of analysed data
 - D. Using graphs and charts to present information

SECTION II: SHORT ANSWER QUESTIONS

(30 MARKS)

1. List five (5) limitations of eHealth (5 marks)
2. Outline five (5) ethical challenges with health informatics (5 marks)
3. Outline five (5) reasons that has led to increase in popularity of online health information (5 marks)
4. State five (5) qualities of a good health website (5 marks)
5. Outline five (5) risks of online health information (5 marks)
6. State five (5) ways in which e-Health can be applied in societal health (5 marks)

SECTION III: LONG ANSWER QUESTION

(20 MARKS)

1. Discuss ten characteristics of eHealth as outlined by Eysenbach, 2001 (20 marks)



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SUPPLEMENTARY/SPECIAL EXAMINATIONS**

COURSE CODE AND TITLE BSN 416: HEALTH INFORMATICS

DATE:

Duration: 2 HOURS

INSTRUCTIONS

1. This exam is out of 70 marks
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)
3. Answer ALL Questions.
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PART ONE: MULTIPLE CHOICE QUESTIONS (MCQs) 20 MARKS

1. Application of nursing informatics to clinical practice include
 - a. Work lists to remind staff of planned nursing interventions
 - b. Automated staff scheduling.
 - c. E-mail for improved communication.
 - d. Distance learning- web based courses and degree programmes.
2. Informatics is
 - a. Computer systems
 - b. Multimedia technologies

- c. Science of information
 - d. Information communication technologies
3. Which of the following is a general term used to refer to the application of digital information and communication technology to health care?
 - a. digi-health
 - b. e-health
 - c. i-health
 - d. tech-health
 4. The use of mobile and wireless applications (e.g., SMS, apps, wearable devices, remote sensing and use of social media, such as Facebook, Twitter and Instagram) to health-related purposes describes _____.
 - a. e-health
 - b. i-health
 - c. s-health
 - d. m-health
 5. Karen, medical director of St. Luke Hospital, was asking for a computerized system that is designed to meet the information needs on patient information processing and patient registration. She is referring to what system
 - a. Health management
 - b. Clinical and hospital information system
 - c. Patient information management
 - d. Records management
 6. Anna, the nurse supervisor, assesses whether a result of the health care management is significant or occurred by chance. What component of nursing informatics is this?
 - a. Data
 - b. Information
 - c. Knowledge
 - d. Nursing education
 7. The computer-based system is designed for collecting, storing, manipulating, and making clinical information important to the health care delivery process is;
 - a. Clinical and hospital information system
 - b. Patient information system
 - c. Clinical information system
 - d. Electronic health record
 8. Which of the following statements made by a nurse on information technology is not correct?
 - a. "It enables us to disclose information to anybody"
 - b. "It enhances the quality of service and healthcare"
 - c. "It build strong relationship to patient"
 - d. "It develops sound decision making."
 9. One of the following integrates all the information and data of all the hospital departments and manages health information using modern information techniques
 - a. Nursing minimum data set
 - b. Dependable system
 - c. Electronic health record system
 - d. Clinical and hospital information system

10. Data acquisition refers to:
 - a. Saving data so that it can be retrieved
 - b. Capturing quality data
 - c. Use of analyzed data
 - d. Using graphs and charts to present information
11. Movement of data from the point where it was collected to a point where it can be collated and prepared for analysis is referred to as;
 - a. Application
 - b. Intervention
 - c. Processing
 - d. Analysis
12. A system that directly assist health care providers in the interpretation of data and making clinically related decision;
 - a. Medical support system
 - b. Patient monitoring system
 - c. Laboratory information system
 - d. Pharmacy information system
13. Which of the following is true about nursing informatics?
 - a. It is a study of processing, management and retrieval of information
 - b. The study of complex system, interaction and social science
 - c. Use of information technology in relation to any nursing functions
 - d. None of the above
14. A nursing student used computers in problem identification and located current literature about the problem. Which scope of nursing informatics is this?
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18. Telehealth provides alternative method of providing care to the patients in various places. Which of the following legal issues that can implicate this practice?
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19. Which of the following can be considered as major development in Community Health Nursing in terms of information technology?
- Prevention of epidemiological diseases through quality care
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 - Telehealth
 - Medication dispensing
20. Which one of the following may constitute patient identifier?
- Weight
 - Height
 - Gender
 - Age

SECTION B: SHORT ANSWER QUESTIONS (30 MARKS)

- Define the following terms as used in health informatics (5 marks)
 - Data
 - Information
 - Nursing informatics
 - Technology
 - Knowledge
- Outline five roles of health informatics in health care organizations (5 marks)
- Explain the five key elements of informatics (5 marks)
- List five clinical uses of telehealth (5 marks)
- Outline five key elements of informatics (5 marks)
- Outline five reasons that contribute to low uptake of eHealth technology among healthcare professionals (5 marks)

SECTION C: LONG ANSWER QUESTION (20 MARKS)

1. Health websites should be of high quality. Discuss the criterion for assessing quality of such websites (20 marks)

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AMREF INTERNATIONAL UNIVERSITY

COURSE OUTLINE

PROGRAM: BSc Nursing

UNIT CODE: BSN 416

UNIT TITLE: HEALTH INFORMATICS

LECTURE HOURS: 45 PRE-REQUISITES: None LECTURER: Dr BUTTO AMARCH LECTURER CONTACTS: 0724 352

450

EMAIL: buttoamarch2010@gmail.com

1.0 COURSE PURPOSE:

The purpose of this course is to enable the learner be able to acquire, store, retrieve and use health care information to foster collaboration among various health care providers.

2.0 LEARNING OUTCOMES:

By the end of this course, the learner should be able to:

- Define basic concepts in informatics
- Explain the intergrated health information system
- Apply informatics in nursing practice, education, research and community health.
- Manage health informatics ethical and security challenges

3.0 COURSE OUTLINE

Week	Topic	Subtopics	Remarks
1.	Introduction to health informatics	Definition of terms; Health informatics, electronic health records, electronic medical records, data, information, knowledge,	
2.	Introduction to health informatics	History of Medical Informatics; taxonomy of Medical Informatics;	
3.	Introduction to health informatics	Theoretical perspectives in anthropology,	
4.		Importance of health informatics; Informatics Skills; Communicating, Structuring, Questioning, Searching, Making decisions he Founding fathers of anthropology	
5.		CAT 1	

Week	Topic	Subtopics	Remarks
6.	Integrated health Information systems	Health Information; Sources, types, systems	
7.	Integrated health Information systems	Data collection methods, storage, analysis, Information utilization; applications, policy development, decision making	
8.	Application of health informatics	Health Informatics applications; Administrative applications, Practice applications,	
9.	Application of health informatics	Application in nursing education; application in nursing research;	
10		CAT II	
11	Application of health informatics	application in community health; tele-nursing.	
12	Challenges of health informatics	Health Information Privacy and Security;	
13	Challenges of health informatics	Health information ethics.	
14		Revision/SDL	
15		End of semester exams	

4.0 TEACHING METHODOLOGY

Lectures, Group discussions, simulations, demonstrations, skills lab methodology, Practicals, Bedside teaching, clinical and plenary presentations

5.0 INSTRUCTIONAL MATERIALS

LCD projectors, computers, White boards, Flip charts

6.0 COURSE EVALUATION

CAT -30MARKS

END OF TRIMESTER- 70MARKS

PASS MARK 50%

7.0 CORE READING MATERIALS

1. Wager, K. A., Lee, F. W. & Glaser, J. P. (2017). *Health Care Information Systems: A Practical Approach for Health Care Management*. John Wiley & Sons
2. Hersh, W. R. & Hoyt, R. E. (2018). *Health Informatics: Practical Guide* (7th Ed.). ISBN: 9781387642410

3. William, R.,H., & Robert, E. (2018). *Health Informatics: Practical Guide* (7th Ed.). USA: Lulu

8.0 Further Reading Materials

1. Ramona, N., & Nancy, S.(2014). *Health Informatics: An Interprofessional Approach* (2nd Ed.) St. Louis Missouri: Elsevier
2. Hoyt, R., & Yoshihashi, A., K. (2014). *Health Informatics: Practical Guide for Healthcare and Information Technology Professionals* (6th Ed.). UK: AMIA

9.0 E-Books

1. Botin, L., Bertelsen, P., & Nøhr, C. (2014). *Techno-Anthropology in Health Informatics: Methodologies for Improving Human-Technology Relations*. IOS Press
2. Mantas, J., Househ, M., & Hasman, A. (2014). *Integrating Information Technology and Management for Quality of Care*. IOS press
3. Courtney, K., Kuo, A., & Shabestari, O. (2015). *Driving Quality in Informatics: Fulfilling the Promise*. IOS press
4. Patricia, S., & Boicey, C. (2015). *Mastering Informatics: A Healthcare Handbook for Success*. Sigma Theta Tau International