COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES
DEPARTMENT OF HEALTH SCIENCES
BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

SHI200 HEALTH INFORMATICS

END OF FIRST SEMESTER EXAMINATIONS

JANUARY/JUNE2019

LECTURER: MR MAGWAGWA

DURATION: 3 HRS

INSTRUCTIONS

You are required to answer questions as instructed in each section

Start **each** question on a new page in your answer booklet

Answer all questions in **Section A**

Answer all questions in Section **B**

Answer any Three (3) questions from **Section C**

Credit will be awarded for logical, systematic and neat presentations

SECTION A (20 marks) *(Answer on Grid - Each Question is 1 Mark)*

1. An example of an administrative system safeguard is
a. Automatic log-off after a period of inactivity
b. Back up and recovery procedures
c. Locating equipment in a secure area
d. Use of a surge protector on equipment

2. A _____ is a computer system that supports some aspect of the human decision-making process.
a. transaction system
b. decision support system
c. physiologic monitoring system
d. management information system

3. Which of the following is an example of an authentication tool:
a. Audit Trails
b. Passwords
c. Log files
d. Encryption

4. What is the difference between phishing and malware when it comes to data security?
a. Malware infects the computer while phishing only infects email.
b. Malware infects the computer while phishing is an attempt to acquire sensitive information by masquerading as a trustworthy entity.
c. Malware gains access to information and reports back, while phishing keeps the information local.
d. Malware infects a computer and makes it difficult to access, while phishing allows the user to retain access to information.

5.An Operating Room information system is an example of a(n)
a. Clinical Information System
b. ADT System
c. Medical Record System
d. Enterprise-Wide Network

6. Data in Public Health Informatics is defined as:
a. an arithmetical value, expressed by a word, symbol, or figure,
b. Data A measurement or characteristic of the person or the thing that is the focus of an information system
c. a numerical quantity that is not a whole number
d. a rate, number, or amount in each hundred.

7. An electronic patient chart kept by an single physician's office, practice or community health centre is called a/an:
a. Electronic Medical Record (EMR)
b. Electronic Health Record (EHR)
c. Electronic Patient Record (EPR)
d. Personal Health Record (PRH)

8. The interdisciplinary domain that sits at the intersection of clinical practice, information technology, information management and management practices is known as
a. Health Informatics
b. Biomedicine
c. Health Information Management
d. Telehealth

9. An EHR is defined as being both interoperable and _____:
a. Longitudinal
b. Confined to one organization, though it may encompass different sites
c. Simple to achieve
d. None of the above

10. A system of computers, peripherals, terminals and databases connected by communication lines is known as a(n)
a. Operating system
b. Network
c. Hardware
d. Information Technology Unit

11. The major benefit of a telehealth system is that it
a. Facilitates sharing of information across sites
b. Allows patients in remote areas to receive care without having to travel
c. Saves money
d. Guarantees a patient's privacy

12.Ensuring a new system meets international, national, provincial, or local standards is called
a. Certification
b. Functionality
c. Conformance
d. Accreditation

13. A health records clerk in a HIM Department can see different level of information/data in the hospital information system that a nurse can. This is an example of:
a. Administrative Safeguards
b. Physical Security Controls
c. Access Controls
d. Authentication Tools

14. Systems that assist clinicians in making accurate choices regarding patient care are known as _____.
a. Management Information Systems
b. Executive Information Systems
c. Expert Systems
d. Decision Support Systems

15. The hospital administration is working towards providing their employees higher workplace satisfaction, and they are selecting ergonomically designed office fixtures as one of their strategies to meet this goal. Ergonomics is the science of designing:
a. the most efficient use of time by workers.
b. the quickest method of getting work done.
c. the work environment for the usability of workers.
d. the work environment for the purpose of challenging workers.

16. The system that automates almost all processes involved in medication administration is called:
a. Electronic Medication Administration Record
b. Automatic Medication Administration System
c. Central Medication Administration Record
d. Facility medication Administration System

17. These tools are used to verify or confirm the identity of the user requesting access to information:
a. Administrative Controls
b. Authentication
c. Access Controls
d. Physical Controls

18. Computer Architecture refers to
a. Overall size of the computer
b. Physical space requirements of the computer
c. Physical construction of hardware components and their relationship to one another
d. Physical equipment that makes up the information system

19. Communication portals allow clinicians to access patient information from anywhere in the country or from anywhere in the world. True or false?

20. Electronic signatures are not legally admissible because they do not guarantee authentication by the clinician. True or false?

Section B (20 marks) *(Answer in Booklet - Each Question is 1 Mark)*

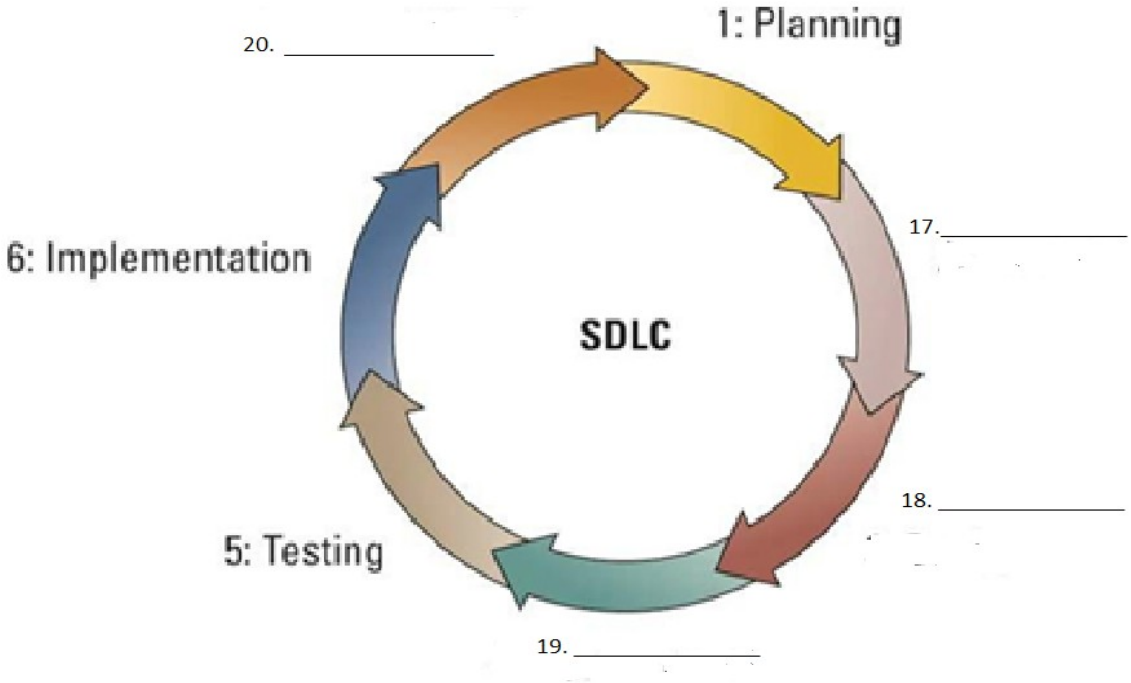
1. Informatics related to the population is called _____
2. Informatics related to organ and tissue is called _____
3. A _____ is a computer system that supports some aspect of the human decision-making process.
4. The world's leading standard for the electronic exchange of healthcare information is _____.
5. The moving of computer data from one format to another in order to comply with changing standards for data and file handling is known as _____.
6. A remotely-connected, secure internet communication system that transmits information between providers or between provider and patient is known as:_____
7. _____ refers to continuous longitudinal record of patient care in one health organisation.
8. DIKW hierarchy/ pyramid, Application of information refers to _____.
9. When staff members gossiped and talked about their patient's condition during lunch. they have violated what right of the patient_____.
10. Electronic movement of health-related information among organizations is called _____.
11. Hospital Administrator uses password and PIN codes for their respective computers during their duty at their respective ward. this is _____

Match the activities with the System development life Cycle. For Question 12, 13, 14, 15 and 16

#	Activities	Stage
12	Upgrades to the system are completed as released by the vendor	

13	Workflow and process analysis is done in order to plan for changes that will occur with the new system in place	
14	The goals and the scope of the project are defined	
15	A detailed assessment of user needs takes place	
16	Vendors are evaluated and, ultimately, one is chosen during this phase	

17 to 20, Identify stages of the System development life cycle missing



Section C (60 marks) *(Answer Any 3 Questions- Each question is 20 Marks)*

1. In a telemedicine project, discuss any 5 hardware and 5 software tools used in its implementation by clearly showing the importance.

2. a) Identify and Explain in great detail any 5 security measures a Hospital can setup to protect patient data. **(10 Marks)**

   b) State and explain any 5 reasons why people would not want to use Information Communication Technology(ICT) **(10 Marks)**

3. Briefly discuss the all the stages of the system development life cycle, relating to the health system that has been developed at Parirenyatwa Group of Hospitals

4. a) State the characteristics of admission, discharge and transfer module **(10 Marks)**

   b) Discuss the DIKW hierarchy/ pyramid and show how it applies in health care **(10 Marks)**

5. a) Identify and explain in great detail any 5 security measures a hospital can setup to protect patient data. **(10 Marks)**

   b) State and explain any 5 data protection principles **(10 Marks)**