



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER DECEMBER 2022 EXAMINATIONS**

**UNIT CODE: AIU 113 INFORMATION AND COMMUNICATION TECHNOLOGY
DATE: 30TH NOVEMBER 2022
TIME: TWO HOURS START: 4:00PM FINISH: 6:00 PM**

INSTRUCTIONS

SECTION A: Multiple Choice Questions (20 Marks)

ANSWER ALL QUESTIONS. MAXIMUM SCORE – 20 MARKS

SECTION B: Short Answer Questions (30 Marks)

ANSWER ALL QUESTIONS. MAXIMUM SCORE – 30 MARKS

SECTION C: Long Answer Questions (20 Marks)

LONG ANSWER QUESTIONS: ANSWER ANY TWO (2) QUESTIONS

EACH QUESTION CARRIES 10 MARKS.

SECTION A: Multiple Choice Questions (20 Marks)

1. Closely dependent systems in an organisation:

- A) Operate in a closed system
- B) Experience feedback problems
- C) Experience coupling problems
- D) All of the above are correct

2. The Internet is ...

- A) A global network of computers networks.
- B) A government-owned agency that links computers.
- C) Software for sending e-mail around the world.
- D) A specialised form of local area network.

3. What is not an integral part of a system ?

- A) Input
- B) Output
- C) Processing
- D) Environment

4. Which of the following is a function of an Operating system

- A) Allowing a user to create databases
- B) Providing the user with a Graphical user interface to allow them to interact with the computer
- C) Allowing a user to create documents
- D) All of the above

5. A _____ is anything that can cause harm.

- A) Vulnerability
- B) Phish
- C) Threat
- D) Spoof

6. A hacker that changes or forges information in a database, is engaging in _____.

- A) Denial of service
- B) Sniffing
- C) Hacking
- D) Data manipulation

7. Computers gather data, which means that they allow users to _____ data.

- A) Present
- B) Input
- C) Output
- D) Manipulate

8. Web addresses beginning with _____ indicate secure connections

- A) HTML
- B) HTTP
- C) HTTPS
- D) WWW

9. Encryption safeguard against

- A) Virus
- B) Information theft
- C) Trojan horse
- D) None of the above

10. Which of the following is not an input device

- A) Mouse
- B) Keyboard
- C) Camera
- D) Speaker

11. Which of the following fields in a patients file can be used as a primary key?

- A) Age

- B) Weight
- C) Temperature
- D) None of the above

12. The main circuit board of the computer that connects all other parts is known as _____

- A) Motherboard
- B) Expansion board
- C) System Unit
- D) All of the above

13. When developers start to acquire equipment or software, the _____ stage of the SDLC has been reached.

- A) Development
- B) Implementation
- D) Needs analysis

14. Adding new features is typically performed during the _____ phase.

- A) Implementation
- B) Needs analysis
- C) Development
- D) Maintenance

15. Analysing the current system is performed during the _____ phase.

- A) Development
- B) Design
- C) Implementation
- D) Needs analysis

16. In the needs analysis section of the SDLC, the _____ typically defines a need for a new system

- A) Manager
- B) System analyst
- C) User

D) Client

17. In this phase of the SDLC, new or alternative information systems are designed.

- A) Preliminary investigation
- B) Systems analysis
- C) Systems design
- D) Systems development

18. After designing alternative systems, the system analyst must

- A) Prepare a system design report
- B) Diagram the system
- C) Prepare a data flow diagram
- D) Select the best alternative

19. _____ is any illegal act involving a computer, including theft, act of sabotage or manipulating data for personal use.

- A) Computer theft
- B) Cybercrime
- C) Hacking
- D) Unauthorized use

20. Which device is not necessary for a computer to run

- A) Processor
- B) Speaker
- C) Keyboard
- D) RAM

SECTION B: Short Answer Questions (30 Marks)

21. List and explain two primary issues in Computer Ethics

(3 Marks)

22. What is encryption as pertains to an Information System, why do we need encryption in Information Systems?

(3 Marks)

23. There are two main types of communication models? If you are examining a patient which is the ideal type of communication?

(3 Marks)

24. As a nurse what would be three attributes of an information system that would make your job easier when reviewing a patient?

(3 Marks)

25. Why are computer ethics important especially in the medical field?

(3 Marks)

26. If you cannot judge the reliability of Information on the Internet at times does this mean the Internet is not ideal for use in the medical field?

(3 Marks)

27. What are three of the biggest threats to information technology in the Medical field?

(3 Marks)

28. What in your view are two advantages of the Internet in relation to the use of IT in the field of Radiology?

(3 Marks)

29. How is a pandemic a public health issue and how can computers be used as a tool for public health specifically in relation to a pandemic?

(3 Marks)

30. What makes Computers and IT in general attractive in the field of Surgery?

(3 Marks)

SECTION C: Long Answer Questions (20 Marks)

Answer any 2 questions (10 Marks Each)

31. You are part of the team that is tasked with separating conjoined twins in a hospital, Explain how and why you would use information and communication technology to ensure the best possible outcome of the separation surgery?

32. Triage is the process of determining the severity of a patient's condition. Patients with the most severe emergencies receive immediate treatment. That is why some patients may receive medical care before you, even if they arrived at the Medical Facility after you. When you arrive at the Medical Facility, medical personnel determine the reason for your visit. A registered nurse will take your medical history and perform a brief examination of your symptoms. You have been tasked to assist with coming up with a way of using IT to improve the triage process. What would you recommend to be done?

33. What are the factors affecting the adoption of Information Technology in surgery in Kenya. Why is Information Technology in surgery attractive for the Kenyan situation and what would lead to its success in this particular setting. Is this something the Kenyan government should concentrate on why, explain your answer?

34. What are some of the risks associated with using computers in the medical field? In your view do the risks associated with using computers outweigh the advantages provided by medical informatics, justify your answer?