

**091905T4HRI**

**HEALTH RECORDS AND INFORMATION TECHNOLOGY LEVEL 5**

**HE/OS/HR/CR/02/5/A**

**MAINTAIN HEALTH RECORDS DATABASE**

**NOV/DEC 2023**



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

**WRITTEN ASSESSMENT**

**Time: 3 hours**

**INSTRUCTIONS TO CANDIDATES**

1. This paper has three sections **A**, **B** and **C**.
2. You are provided with a separate answer booklet.
3. Marks for each question are as indicated.
4. Do not write on the question paper.

**This paper consists of 8 printed pages**  
**Candidates should check the question paper to ascertain that all**  
**pages are printed as indicated and that no questions are missing**

**SECTION A: (40 MARKS)**

*Answer ALL questions*

*Each question is one mark*

1. What is the primary purpose of a health records database?
  - A. To store patient billing information
  - B. To facilitate communication between healthcare providers
  - C. To maintain a record of patient medical history
  - D. To track pharmaceutical sales
2. .... component of a health records database contains a patient's medical history, diagnoses, and treatment plans.
  - A. Master Patient Index (MPI)
  - B. Electronic Medical Record (EMR)
  - C. Picture Archiving and Communication System (PACS)
  - D. Radiology Information System (RIS)
3. Which of the following is a key benefit of electronic health records (EHR)?
  - A. Improved handwriting of healthcare professionals
  - B. Reduced data security and privacy
  - C. Enhanced accessibility and data sharing
  - D. Lower initial implementation costs
4. What is the main advantage of a centralized health records database?
  - A. Improved data security
  - B. Faster data retrieval
  - C. Enhanced patient autonomy
  - D. Lower maintenance costs
5. Which type of information is typically not found in a health records database?
  - A. Patient demographics
  - B. Laboratory test results
  - C. Weather forecasts
  - D. Medication history
6. Database model which is commonly used in health records management is;
  - A. Hierarchical database
  - B. Relational database
  - C. NoSQL database
  - D. Object-oriented database

7. The role of a Health Information Management (HIM) professional in maintaining health records databases is;
  - A. Diagnosing medical conditions
  - B. Administering vaccines
  - C. Ensuring data accuracy and security
  - D. Providing patient care
8. Which of the following is not a potential challenge in the implementation of health records databases?
  - A. Data security and privacy concerns
  - B. Improved access to patient information
  - C. Resistance to change by healthcare professionals
  - D. Interoperability issues between systems
9. Select the primary advantage of a cloud-based health records database.
  - A. Enhanced data security
  - B. Improved data ownership
  - C. Accessibility from anywhere with an internet connection
  - D. Lower upfront costs
10. .... is an example of structured data in a health records database.
  - A. A doctor's handwritten note
  - B. X-ray images
  - C. Patient's date of birth
  - D. Video consultation recordings
11. In the context of health records, what is meaningful use?
  - A. Using medical jargon for clarity
  - B. Using data for research purposes
  - C. Using electronic health records to improve patient care
  - D. Using data analytics to increase billing accuracy
12. The primary reason for enforcing strict access controls in a health records database is.....
  - A. To increase patient, wait times
  - B. To protect patient privacy and data security
  - C. To reduce healthcare costs
  - D. To standardize data entry methods

13. ....is an example of a health records database query.
- A. Writing a prescription
  - B. Retrieving a patient's vaccination record
  - C. Conducting a physical examination
  - D. Updating an operating system
14. Which technology is used to link various health records databases to provide a comprehensive view of a patient's medical history?
- A. Blockchain
  - B. PACS (Picture Archiving and Communication System)
  - C. HIE (Health Information Exchange)
  - D. EMR (Electronic Medical Record)
15. The primary goal of data mining in health records databases is.....
- A. Extracting valuable information and patterns from large datasets
  - B. Storing data for future reference
  - C. Creating complex medical images
  - D. Managing administrative tasks
16. An example of a primary data collection method is;
- A. Journals
  - B. Health Records
  - C. Documentaries
  - D. Personal Interview
17. Which one of the following is not a form of disseminating information?
- A. Written feedback
  - B. Private forums
  - C. Public forums
  - D. Electronic forums

18. Quality of a good data includes:

- A. Unreliability
- B. invalidity
- C. Inconsistency
- D. Timelines

19. Database user requirement describes;

- A. What the user does with the system, such as what activities that users must be able to perform
- B. What the user should not do in the system
- C. The hardware part of the computer
- D. The software part of the computer

20. Which one of the following is important in ensuring that health data are updated in the system?

- A. For the easy retrieval
- B. To give clear picture in the health system
- C. For easy archival
- D. For easy audition

**SECTION B: (40 MARKS)**

*Attempt ALL the questions*

21. Define the term healthcare database (2 Marks)
22. A well-designed health database is of great significance in hospital. State FOUR key components and entities that should be included in a health records database design (4 Marks)
23. Database normalization is the process of structuring a relational database in accordance with the series of normal forms in order to reduce data redundancy and improve data integrity. Outline FIVE considerations that should be taken into account for data normalization in a health records database (5 Marks)
24. Using indicators can be helpful as they allow comparison of data set to another. State THREE characteristics of good indicators (3 Marks)
25. State FOUR measures on how can the security and privacy of a health records database be ensured (4 Marks)
26. When managing healthcare data, it is important to have health information system in place. State FIVE types Health Information Systems (5 Marks)
27. List FOUR ways on how data governance and compliance can be assessed in a health records database to ensure it adheres to relevant regulations and follows best practices. (4 Marks)
28. a) Define health information system (2 Marks)
- b) State FOUR roles of health information system in healthcare facility (4 Marks)
29. Depending on measures, data can be collected from different sources. Highlight FOUR key sources of health information (4 Marks)
30. Outline THREE steps that should be taken to validate the accuracy and completeness of data in a pre-test health records database. (3 Marks)

**SECTION C: (40 MARKS)**  
*Attempt only TWO questions*

31. When reviewing a health, use the following table named **patients** to answer the following questions:

Patient Name	Patient ID	Date of Birth	Ward	Mobile No
Victor	001	12/3/2001	Surgical	072284561
John	002	14/7/2021	Pead	075643292
Cynthia	003	11/12/1994	Surgical	078666541
Denis	004	1/10/2021	Pead	076754801
Tom	005	18/4/2020	Pead	078965432
Ken	006	16/4/1997	General	076547809
Lydia	007	28/9/2004	Surgical	073412999

- a) Write a SQL query to perform the following task;
- i. Extract all patients who are in Surgical Ward. (2 Marks)
  - ii. Display the patient with mobile No. 078666541. (3 Marks)
  - iii. Insert a new record with the following value: James, 008, 14/9/1992, 070764419. (3 Marks)
  - iv. Delete the table patients (2 Marks)
- b) Explain FIVE challenges of implementing healthcare database in a health facility. (10 Marks)

32. Assessing the security and privacy measures of a health records database is crucial to ensure the protection of sensitive patient information.

- a) Discuss FIVE measures on how the security and privacy of a health records database can be assessed (10 Marks)
- b) Explain FIVE importance of ensuring security and privacy of patient database (10 Marks)

33. When managing health data uploaded in a system, several key considerations should be taken into account for effective data storage and organization.

a) Discuss FIVE considerations for managing health data uploaded in a system  
(10 Marks)

b) Explain FIVE importance of healthcare database in modern healthcare management  
(10 Marks)

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