

B.Tech DEGREE EXAMINATION, NOVEMBER 2023

Seventh Semester

18BMO122T - HEALTH INFORMATION SYSTEMS

(For the candidates admitted during the academic year 2020 - 2021 & 2021 - 2022)

Note:

- i. **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
- ii. **Part - B** and **Part - C** should be answered in answer booklet.

Time: 3 Hours

Max. Marks: 100

PART - A (20 × 1 = 20 Marks)

Marks BL CO

Answer all Questions

- | | | | | |
|----|---|---|---|---|
| 1. | What is a comprehensive technology system that allows hospitals to manage all aspects of operation? | 1 | 1 | 1 |
| | (A) Holy Information System | | | |
| | (B) Hospital Information System | | | |
| | (C) Health Information Style | | | |
| | (D) Health Integration System | | | |
| 2. | The first medical college was established in India at : | 1 | 1 | 1 |
| | (A) Madras in 1835 | | | |
| | (B) Calcutta in 1835 | | | |
| | (C) Delhi in 1835 | | | |
| | (D) Mumbai in 1835 | | | |
| 3. | A good health triad does not include: | 1 | 1 | 1 |
| | (A) Economic Status | | | |
| | (B) Physical Status | | | |
| | (C) Social Status | | | |
| | (D) Mental Status | | | |
| 4. | In health research, Study which proceed from effect to cause is also known as | 1 | 2 | 1 |
| | (A) Cohort study | | | |
| | (B) Case Control study | | | |
| | (C) Ecological study | | | |
| | (D) Experimental study | | | |
| 5. | Among the following, which services are not a part of the hospital services | 1 | 1 | 2 |
| | (A) Essential Services | | | |
| | (B) Additional Services | | | |
| | (C) Utility Services | | | |
| | (D) Administrative Services | | | |
| 6. | Supportive services of the hospital includes all of the options, except: | 1 | 1 | 2 |
| | (A) Pharmacy services | | | |
| | (B) Laboratory services | | | |
| | (C) House-keeping services | | | |
| | (D) Laundry services | | | |
| 7. | As norm for planning purpose, the average number of patients expected to visit the OPD daily are : | 1 | 1 | 2 |
| | (A) 2 for every Authorised Bed | | | |
| | (B) 5 for every Authorised Bed | | | |
| | (C) 10 for every Authorised Bed | | | |
| | (D) 10 for every 100 Authorised Bed | | | |
| 8. | In the context of hospital, what is HIPAA? | 1 | 2 | 2 |
| | (A) A regulation to combat waste, fraud, and abuse in the health care setting | | | |
| | (B) An act to amend and improve the portability of health insurance coverage | | | |
| | (C) Game played by hospital employees | | | |
| | (D) A rule to set standards with respect to the rights of individuals to their health information | | | |
| 9. | Which of the following is NOT a resource (Input) in the universal health system. | 1 | 1 | 3 |
| | (A) Technology | | | |
| | (B) Time | | | |
| | (C) Information | | | |
| | (D) Capital | | | |

| | | | | |
|---|--|---|---|---|
| 10. Term that defines, Permission to use and disclose information for uses other than treatment, payment, and operations. (A) Authorization (C) HIPAA | (B) Covered entities (D) PHI | 1 | 1 | 3 |
| 11. Writing details about a patient's medical condition during or after a physician-patient encounter are called as: (A) Dashboard (C) Progress notes | (B) Lab Report (D) Entry Data | 1 | 1 | 3 |
| 12. Among different levels of interoperability, the layer that defines the format of the data exchange that takes place between systems is also known as: (A) Foundational interoperability (C) Semantic interoperability | (B) Structural interoperability (D) Organizational Interoperability | 1 | 2 | 3 |
| 13. Medical related images and simulations available to educate patients is an example of (A) nursing call centers (C) remote monitoring of vital signs | (B) continuing medical education (D) video conferencing | 1 | 1 | 4 |
| 14. Which category finds an increase in applications targeting health and fitness? (A) Industrial IoT (C) Community IoT | (B) Personal IoT (D) Primary IoT | 1 | 1 | 4 |
| 15. Which of the service is not a part of preventive care, for public health informatics: (A) Sentinel surveillance (C) Non communicable disease prevention | (B) Nutritional counselling (D) OPD services | 1 | 1 | 4 |
| 16. All except one, is the output indicator of risk management in hospital system: (A) Patient satisfaction (C) Quality of care | (B) Public relation (D) Machines | 1 | 1 | 4 |
| 17. A Medico legal case is a medical case with _____ (A) judiciary (C) public sector | (B) legal implications (D) complications | 1 | 1 | 5 |
| 18. With reference to the wearable sensors, BAN stands for _____ (A) Brain Area Network (C) Band Area Network | (B) Body Area Network (D) Body Aid Network | 1 | 1 | 5 |
| 19. Which of the following is least related to Telemedicine technologies. (A) Databases (C) DC Motor | (B) Satellites (D) Wireless and Broadband Internet | 1 | 1 | 5 |
| 20. Telemedicine allows hospitals to optimize the use of their personnel by (A) cross training doctors, nurses and maintenance workers (C) allowing them to take more vacation days | (B) outsourcing all possible work (D) allowing outside specialists to view patient x-rays | 1 | 1 | 5 |

PART - B (5 × 4 = 20 Marks)

Answer any 5 Questions

Marks BL CO

| | | | |
|---|---|---|---|
| 21. Write about Evolution Health Care and highlight the recent advances in health care system. | 4 | 2 | 1 |
| 22. List out the major divisions and goals of pharmacy services. | 4 | 2 | 2 |
| 23. Justify the expectation of Quality outcome for engineering services by different sectors, like patient, clinical team, etc., in hospital environment. | 4 | 3 | 2 |

| | | | | |
|-----|--|---|---|---|
| 24. | Give the significance of electronic medical records in Timely Admissions, Discharges, and Transfers | 4 | 3 | 3 |
| 25. | Explain the significance of platform and network interoperability of middleware. | 4 | 3 | 3 |
| 26. | Give the minimum two examples of computer aided diagnostics. | 4 | 2 | 4 |
| 27. | Outline the applications of Bar Coding, and Smart Cards in research in Hospital has eased the work of medical professionals. | 4 | 4 | 5 |

PART - C (5 × 12 = 60 Marks)

Answer **all** Questions

| | | Marks | BL | CO |
|-----|---|-------|----|----|
| 28. | (a) Classify the different stake holders of health care system and explain about their contribution to designing a good information system. (OR) (b) Explain the different types of data in Health care and how to incorporate it in Hospital Information System. | 12 | 3 | 1 |
| 29. | (a) Explain about medical records and Health Insurance Portability and Accountability Act (HIPAA). (OR) (b) List the minimum ten Modules in Hospital Information System(HIS) and mention the working of the Scheduling & Registration process for patients | 12 | 2 | 2 |
| 30. | (a) Explain about the Information Systems Life Cycle (OR) (b) With appropriate example , write about the Architecture and Interfacing for Healthcare Technology. | 12 | 2 | 3 |
| 31. | (a) Clarify about Key functions of Clinical decision support systems, with necessary example. (OR) (b) Enunciate about Issues and Ethics in maintain health record under health information. | 12 | 3 | 4 |
| 32. | (a) Give an example each of Handheld Technologies in Healthcare at home and in hospital, stating about their use for patients and health care professionals. (OR) (b) Describe about Automated Patient Identification in medicine and how it affects eHealth. | 12 | 3 | 5 |

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