

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

- | | Marks | K – Level | CO |
|--|-------|-----------|-----|
| 1. When did telemedicine start to gain widespread acceptance and adoption?
(a) 1980s (b) 2000s (c) 1960s (d) 1920s | 1 | K1 | CO1 |
| 2. What is the aspect of healthcare does telecare primarily address?
(a) Remote patient monitoring (b) Emergency medical services
(c) Surgical procedures (d) Hospital-based care | 1 | K1 | CO1 |
| 3. Which of the following is not a component of telemedicine infrastructure?
(a) GSM satellite (b) POTS (c) ISDN (d) GPS satellite | 1 | K1 | CO2 |
| 4. What does ANT stand for in the context of telemedicine infrastructure?
(a) Advanced Network Telemedicine (b) Analog Network Transmission
(c) Advanced Networking Technology (d) Analog Network Telemedicine | 1 | K1 | CO2 |
| 5. How does the law typically regulate confidentiality in telemedicine?
(a) By requiring healthcare providers to share patient information freely
(b) By imposing strict penalties for breaches of patient confidentiality
(c) By allowing patients to access medical records of other individuals
(d) By excluding telemedicine from confidentiality laws | 1 | K1 | CO3 |
| 6. Which aspect of telemedicine may involve conflicts between different legal jurisdictions?
(a) Patient-doctor relationship (b) Data protection and security
(c) Intellectual property rights (d) Consent for treatment | 1 | K1 | CO3 |
| 7. What is PACS architecture?
(a) The physical layout of radiology departments
(b) The design and structure of the PACS software and hardware components
(c) The communication protocols used in medical imaging
(d) The regulatory framework governing the use of PACS technology | 1 | K1 | CO4 |
| 8. How does a Radiology Information System (RIS) complement PACS?
(a) By providing medical diagnoses based on imaging data
(b) By managing patient scheduling and workflow in radiology departments
(c) By directly communicating with patients regarding their imaging results
(d) By replacing the need for PACS in medical imaging | 1 | K1 | CO4 |
| 9. What does teleoncology primarily involve?
(a) Remote interpretation of medical images related to oncology
(b) Remote consultation for skin conditions
(c) Remote monitoring and diagnosis of cancer patients
(d) Remote counseling for mental health disorders | 1 | K1 | CO5 |
| 10. Define TeleHealth?
(a) The use of electronic communication for medical consultations
(b) The use of mobile health applications for patient monitoring
(c) The integration of technology into healthcare delivery systems
(d) The use of telecommunication devices for heart monitoring | 1 | K1 | CO5 |

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

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| 11. Define Tele health. | 2 | K1 | CO1 |
| 12. List the seven key factors in Non-technological drivers that are helping, the development of telemedicine. | 2 | K1 | CO1 |

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| 13. Mention the ways to address the problem faced by developed countries to implement telemedicine. | 2 | K1 | CO1 |
| 14. Specify the merits and demerits of using PSTN. | 2 | K1 | CO2 |
| 15. Classify the types of Channel used in ISDN. | 2 | K2 | CO2 |
| 16. List the Advantages and Disadvantages of ISDN. | 2 | K1 | CO2 |
| 17. Explain the Access to Health Records Act. | 2 | K2 | CO3 |
| 18. Compare and mention the three new offences created under UK Computer misuse act 1990. | 2 | K2 | CO3 |
| 19. List the key components of PACS architecture and their roles in facilitating image management and communication. | 2 | K1 | CO4 |
| 20. State the importance of PACS security measures in safeguarding patient data and ensuring regulatory compliance. | 2 | K1 | CO4 |
| 21. Explain how telepathology is utilized in medical practice and discuss its advantages. | 2 | K2 | CO5 |
| 22. List the different types of applications used in telehealth. | 2 | K1 | CO5 |

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

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| 23. a) Describe about telemedicine, telehealth and telecare with examples. | 11 | K1 | CO1 |
| OR | | | |
| b) Identify and analyse the issues and challenges associated with telehealth, elaborating on their complexities and potential impacts. | 11 | K1 | CO1 |
| 24. a) Enumerate the various types of information and data utilized within telemedicine technology. | 11 | K2 | CO2 |
| OR | | | |
| b) Explain in detail LAN and WAN technology used in telemedicine. | 11 | K2 | CO2 |
| 25. a) Explain how the patient-doctor relationship is established and maintained in telemedicine. | 11 | K2 | CO3 |
| OR | | | |
| b) Explain the importance of data protection and security in telemedicine, particularly concerning patient health information and mention the important legal framework and regulations related to data protection. | 11 | K2 | CO3 |
| 26. a) Explain the fundamentals of Picture Archiving and Communication System (PACS), its operational mechanism, and core components. Detail how PACS facilitates image acquisition, storage, retrieval, and distribution within healthcare settings. | 11 | K2 | CO4 |
| OR | | | |
| b) Explain DICOM and how does it improve medical imaging? Explain how DICOM standardizes image data transmission and storage, ensuring seamless interoperability between various medical imaging devices and systems. | 11 | K2 | CO4 |
| 27. a) Utilize the process of performing telesurgery in telehealth and outline its limitations in modern healthcare. | 11 | K3 | CO5 |
| OR | | | |
| b) Develop a case study model for telehealth and outline its applications. | 11 | K3 | CO5 |
| 28. a) (i) Describe the role and the significance of Radiology Information Systems (RIS) in healthcare. | 6 | K2 | CO4 |
| (ii) Describe about eHealth and explain its significance. | 5 | K2 | CO5 |
| OR | | | |
| b) (i) Discuss the significance of addressing technical issues in PACS strategic planning. | 6 | K2 | CO4 |
| (ii) Explain teledermatology and discuss its modalities and practice guidelines. | 5 | K2 | CO5 |