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Question Paper Code: 99B10

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Professional Elective

Biomedical Engineering

19UBM910-MEDICAL TECHNOLOGY

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Classify the organizational setup of medical technology. CO1U
2. Interpret the role of manufacturers in medical technology. CO1 U
3. List the various types of medical devices. CO1 U
4. Explain medical device terminology. CO1 U
5. Explain the need for medical devices at home CO1 U
6. Recall the telehealth and remote monitoring CO1 U
7. Explain the need for telehealth consultations CO1 U
8. Summarize the technological requirements to establish an infrastructure for telecare. CO1 U
9. Dynamic configuration of medical services. CO1 U
10. Mention the key aspects of dynamic configuration of medical services. CO1 U

PART – B (5 x 16= 80 Marks)

11. (a) Explain the Software and Systems and the supporting infrastructure required in health care technology CO1 U (16)
Or
(b) Explain the significance of compliance with waste disposal regulations in healthcare CO1 U (16)
12. (a) Analyze the potential safety and efficacy risks associated with the design and use of implantable medical devices. CO4- An (16)
Or
(b) Analyze in detail about various medical imaging techniques CO4- An (16)

13. (a) Explain the importance of accurate record-keeping when using home medical devices. CO1 U (16)
- Or
- (b) Interpret a patient's medical history to determine which home medical devices might be necessary. CO1 U (16)
14. (a) Analyze the potential risks and challenges associated with the integration of digital support systems in medical technology CO1 U (16)
- Or
- (b) Examine the potential security and privacy risks associated with transmitting sensitive bio-signals wirelessly in a home care setting. CO1 U (16)
15. (a) Explain the concept of data privacy and security in the context of personalized ambient monitoring systems CO1 U (16)
- Or
- (b) Explain the concept of telemedicine and its role in VR applications for remote healthcare consultations CO1 U (16)