

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code:UB705

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Professional Elective

21BMV705- ADVANCEMENTS IN HEALTHCARE TECHNOLOGY

Biomedical Engineering

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. State two requirements for digital health systems. CO1 -U
2. Differentiate digital health from traditional healthcare. CO1 -U
3. List two advantages of digital image archiving. CO1 -U
4. What is medical image storage? CO1 -U
5. Define tele-consultation. CO1 -U
6. Write two examples of functional diagnosis using digital methods. CO1 -U
7. Define m-Health. CO1 -U
8. State two standards used in wearable device design. CO1 -U
9. State two challenges in system integration. CO1 -U
10. What is interoperability in healthcare? CO1 -U

PART – B (5 x 16= 80 Marks)

11. (a) Explain the requirements of digital health with examples. CO1-U (16)
Or
(b) Explain the role of laws and regulations in digital health implementation. CO1-U (16)
12. (a) Explain the working and benefits of PACS. CO1- U (16)
Or
(b) Compare digital radiology with traditional radiology. CO1 - U (16)

13. (a) Apply e-Health tools for diagnosis in cardiology. CO2-App (16)
Or
(b) Illustrate the process of tele-consultation in radiology. CO2-App (16)
14. (a) Analyze the economic impact of mobile healthcare devices on traditional healthcare providers. What are the potential benefits and drawbacks? CO4- Ana (16)
Or
(b) Examine the impact of e-health and m-health technologies on healthcare delivery and patient outcomes in different settings. CO4- Ana (16)
15. (a) Explain how multimodality registration enhances diagnostic accuracy and treatment planning. CO1 - U (16)
Or
(b) Discuss common risks to digital healthcare security, such as phishing attacks, ransomware, and unauthorized access, and how these risks impact patient safety and trust. CO1 - U (16)