



RollNo.

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

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2024

**BIOMEDICAL ENGINEERING**  
**VII SEMESTER**  
**BM5791 PRINCIPLES OF TELEMEDICINE**  
 (Regulation 2019)

Time: 3hrs

Max. Marks: 100

CO1	Understand the important concepts of Telemedicine concepts and their evolution. Understand the important concepts of Telemedicine concepts and their evolution.
CO2	Perform the design of architecture of telemedicine system and their sub-system.
CO3	Evaluate the application of computer and networking technologies for telemedicine.
CO4	Assimilate the information of health record standards and data management for healthcare services.
CO5	Analyze & monitoring with respect to clinical and technical aspects of telemedicine in current scenario.

**BL – Bloom's Taxonomy Levels**

(L1-Remembering, L2-Understanding, L3-Appling, L4-Analysing, L5-Evaluating, L6-Creating)

**PART- A (10x2=20Marks)**  
 (Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	Define principles of telemedicine.	2	1	1
2	Enumerate the merits and demerits of telemedicine.	2	1	2
3	Difference between Wireless communication and satellite communication.	2	2	2
4	Write short notes on PTOS.	2	2	2
5	Distinguish between WAN and PAN.	2	3	2
6	Enlist the various significance of Body sensor.	2	3	2
7	What is LOINC?	2	4	1
8	Mention any two features of SNOMED.	2	4	2
9	State the Nomenclature of diffusion of IT innovations in health care.	2	5	2
10	Compare TeleGastroentrology and TeleRheumatology.	2	5	1

**PART- B (5x 13=65Marks)**  
 (Restrict to a maximum of 2 subdivisions)

Q.No.	Questions	Marks	CO	BL
11 (a)(i).	Enumerate the major milestones in the history of telemedicine at international level.	7	1	2
(ii).	What are the organs and forms of telemedicine? Explain	6	1	2
<b>OR</b>				
11 (b)	Discuss about the Evolution and impact of telemedicine in health care delivery.	13	1	3
12 (a)(i).	Describe about Telemedicine as a system (a.) Critical sub-systems (b). Optical sub-systems of telemedicine.	7	2	3
(ii).	Write short notes on telecommunications approach and mobile applications of telemedicine in M-health platform.	6	2	4

OR				
12 (b)(i).	Explain about VSAT based dedicated videoconferencing system.	7	2	2
(ii).	List out various modalities of telecommunications systems at e-health system.	6	2	4
13 (a)	Illustrate with neat diagram and suitable examples of 3 tier architecture model and explain different types of network topologies LAN, WAN, MAN and PAN.	13	3	3
OR				
13 (b)(i)	Write short notes on PC based audio and video conferencing system.	7	3	2
(ii).	Compare internet based telemedicine practice and applied healthcare practice using WWW approach.	6	3	1
14 (a) (i)	What is HL7? Describe about the Role of HL7 standards and PACS with query.	7	4	1
(ii).	Discuss about DICOM standards in telemedicine with query.	6	4	2
OR				
14 (b)(i).	Enlist all Nomenclature of Ethical and legal aspects of telemedicine.	7	4	1
(ii).	Write briefly about Health care Management information systems [HMIS] with neat block diagram.	6	4	1
15 (a)(i)	State the applications of telemonitoring vital human physiological parameters of critical care patients.	7	5	2
(ii).	Explain about Teleradiology and Telesurgery from telemedicine diagnostic imaging system with suitable examples.	6	5	1
OR				
15 (b)	List out various benefits of clinician's perspective during training program in hospitals.	13	5	2

**PART- C (1x 15=15Marks)**  
(Q.No.16 is compulsory)

Q.No.	Questions	Marks	CO	BL
16.(i).	According to current scenario in India the challenges behind setting up of telemedicine in rural areas and to develop for next level generation determine on your way with recent trends in telemedicine.	7	5	6
(ii).	Future challenges and future trends based on current scenario in health care delivery systems and issues facing in developing countries like India, including opportunities for rural and emergency disaster management healthcare project construct an virtual hospital using telemedicine app for primary health centre at remote areas Kanhchenjunga hill station.	8	5	6

