COURSE CODE	COURSE TITLE	L	T	P	C
1152BM102	TELEHEALTH TECHNOLOGY	3	0	0	3

Preamble:
This course helps the students to learn about the E Healthcare with their standards. Also this course gives the detail information about the security, transmission, and storage.

OBJECTIVES:
The students should be made to
- Learn the key principles for telemedicine and e- health care
- Understand telemedicine technology.
- Know telemedicine standards, mobile telemedicine and it applications.

COURSE OUTCOMES
Upon successful completion of the course the students will be able to

S.No	Course outcome	Skill Level
CO1	Explain the basic principles of healthcare in telemedicine.	K2
CO2	Discuss the role of telecommunication in Healthcare	K2
CO3	Discuss the ethical & legal issues involved in telemedicine.	K2
CO4	Explain the different types of data storage and communication standards used in telehealth system.	K2
CO5	Discuss the various applications of telemedicine.	K2

Course Content

UNIT I History and Fundamentals of Telemedicine 9

History and Evolution of telemedicine, definition of telemedicine, Functional diagram of telemedicine system, Telemedicine, Tele health, Tele care, benefits & limitations of telemedicine, Introduction of Ethical and legal aspects of Telemedicine - Confidentiality, Social and legal issues, Safety and regulatory issues, Advances in Telemedicine.

UNIT II Communication & Network 9

Principles of Multimedia - Text, Audio, Video, data, Data communications and networks, PSTN, POTS, ANT, ISDN, Internet, Air/ wireless communications: GSM satellite, and Micro wave, Amplitude Modulation (Qualitative Analysis), Communication infrastructure for telemedicine – LAN and WAN technology.

UNIT III Ethical and legal aspects of Telemedicine 9

Ethical and legal aspects of Telemedicine (Case study) - Confidentiality, Social and legal issues (Case Study), Safety and regulatory issues (Case Study), the patient-doctor relationship, access to medical records, consent treatment - data protection & security.

UNIT IV Picture Archiving and Communication System **9**

Types of image formats, DICOM standard, PACS system: Block diagram, Storing & retrieving images, Algorithm for retrieving images, Compressions and its significance, Lossless data Storage and in-house communication.

UNIT V Applications of Telemedicine **9**

Teleradiology, telepathology, telecardiology, teleoncology, teledermatology, telesurgery, e Health care.

Total Period: 45

TEXTBOOKS

1. Olga Ferrer-Roca, M.Sosa Ludicissa, "Handbook of Telemedicine", IOS press 2002.
2. Norris A.C, "Essentials of Telemedicine and Telecare", John Wiley & Sons, 2002.
3. Wootton R, Craig J, Patterson, "Introduction to Telemedicine" Royal Society of Medicine Press Ltd., (2nd ed.), 2006.

REFERENCES

1. Maheu M.M, Whitten P, Allen A, "E-Health, Telehealth, and Telemedicine" Jossy-Bass, 2001.
2. Keith J, Dreyer, David S, Hirschron, James Thrall H, Amit Mehta, PACS: "AGuide to the Digital Revolution", 2nd Edition, Springer
3. Huang H K, "PACS and imaging informatics – Basic Principles & application", Wiley-Blackwell
4. Latifi R, "Current Principles and Practices of Telemedicine and e-Health". Washington DC: IOHS , 2008.
5. Bashshur R L, Shannon G W, "History of Telemedicine". New Rochelle. NY, Mary Ann Liebert Publishers, 2009.