| 4th Semester | RBM4D002 | Medical Informatics | L-T-P 3-0-0 | 3 CREDITS |
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**Module I (09 Hours)**

Introduction: History, what is medical informatics, bioinformatics, contents of medical informatics, applications of medical informatics, progress & future of medical informatics, need for medical informatics education/training, medical informatics education courses/modules.

**Module II (09 Hours)**

Hospital Management & Information System (HMIS):

Introduction, what is HMIS, Need for HMIS, Benefits of HMIS, Capabilities of HMIS, Development of HMIS, Steps in the development of HMIS, Functional area, Modules forming HMIS, Pre-requisites for HMIS, Why HMIS Fails, Factors affecting maintenance & development of HMIS, Advantages of HMIS.

**Module III (09 Hours)**

Telecommunication Based Systems: Tele-Medicine, Need, Advantages, Technology- Materials and Methods, Internet Tele-Medicine, Applications. Tele-Surgery: Tele-surgery, Robotic surgery, Need for Tele-Surgery, Advantages, Applications.

**Module IV (09 Hours)**

Knowledge Based Expert Systems (ES):

Introduction, Artificial Intelligence (AI), what is an Expert System (ES), Need for Expert System (ES), Knowledge Representation, Data Base Comparisons, Statistical Pattern Classification, Decision Analysis, Cognitive Models, Developmental Tools , Knowledge Engineering System (KES), Neural Networks and Advantages of Expert System (ES).

**Module V (09 Hours)**

Computer based Patient Records (CPR):

Introduction, What is CPR, Need for CPR, Strength & Weakness of Hand Written Records, CPR & Clinical decisions, Ideal features of CPR, Components and

Functionality of CPR, Development Tools, CPR in Radiology

**Book:**

- Medical Informatics- A Primer – Mohan Bansal – Tata McGraw Hill -2003