

Code No: 07A71103

R07**Set No. 2**

IV B.Tech I Semester Examinations, May 2011

MEDICAL INFORMATICS

Bio-Medical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the procedure behind data bounding.
(b) Define Patient Record. Mention the advantages and disadvantages of paper-based medical record. [8+8]
2. (a) Explain the need of computers in hospitals in india.
(b) Explain the online and offline activities of outpatient registration module of hospital information system. [6+10]
3. Explain the security aspects to maintain the medical records. [16]
4. Describe the following in detail:
(a) Quantitative decision support model
(b) Qualitative decision support model
(c) Decision support model. [6+6+4]
5. (a) Discuss the role of computers in chromosome analysis.
(b) Automated scanning on cervical cancer. [8+8]
6. (a) Explain how a DBMS isolates the user programs from the file system.
(b) What are the Main Tasks of a DBMS?
(c) Define Physical data model. [8+4+4]
7. Write short notes on the following terms related to the Pharmacy module
(a) Management Information
(b) Basic Functionality
(c) Prescription Support
(d) Inventory control. [4+4+4+4]
8. (a) Explain briefly about relational database.
(b) State advantages of computerized medical record. [8+8]

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Set No. 4

IV B.Tech I Semester Examinations, May 2011
MEDICAL INFORMATICS
Bio-Medical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Define multivariate approach. Explain with necessary diagrams. [16]
2. Represent schematically the elements involved in heuristic reasoning in institutional information systems. [16]
3. Draw the block diagram of a hospital information system and explain in detail. [16]
4. Explain the protocol knowledge and consultation system present in institutional Information systems. [16]
5. Write a short note on following:
 - (a) Surgery scheduling module
 - (b) Security of computer records. [8+8]
6. Describe the role of computers in nuclear magnet resonance imaging with neat block diagram. [16]
7. What is filter back projection? Explain with necessary mathematical equations. [16]
8. (a) Explain the methods which can significantly reduce the error rate during data entry.
(b) What are the advantages of multiuser multiprocessing system? [8+8]

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R07**Set No. 1**

IV B.Tech I Semester Examinations, May 2011
MEDICAL INFORMATICS
Bio-Medical Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the digital technique used for detecting the pairs of chromosomes. [16]
2. Explain Modular ECG Processing in cardiac Clinical Support module. [16]
3. (a) What are the online activities and offline reports provided by the outpatient registration module.
(b) Explain the functional capabilities of a simple Hospital Information System. [8+8]
4. (a) Write the advantages of data warehousing in healthcare.
(b) List the advantages of health information networks. [8+8]
5. (a) List the Applications of Digital Subtraction Radiography.
(b) Explain the principle behind Doppler Echo-cardiograph.
(c) What are the Applications of Ultra Sonography? [6+6+4]
6. Explain the role of A-D conversion in digital systems and convert the analog ECG signal into discrete signal(mention the resolution and sampling rate). [16]
7. (a) How does nursing informatics derive the information and knowledge?
(b) How does shared care help the patient? [10+6]
8. (a) Explain the modes of decision output to physician.
(b) List the different sources of data for decision making. [8+8]

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R07**Set No. 3**

IV B.Tech I Semester Examinations, May 2011
MEDICAL INFORMATICS
Bio-Medical Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Draw and explain the process generates data from a patient or a biological system that can be observed by the clinician. [16]
2. Describe the four situation present in all the decision models. Explain the relation between the four parameters. [16]
3. (a) Explain the data base approach in health care information systems.
 (b) Explain the utility programmes used in institutional information systems. [8+8]
4. Draw the block diagram of computer assisted medical decision making and explain in detail. [16]
5. (a) Draw the block diagram of Operating system independence interface and explain how this interface makes data management much easier.
 (b) Define Data model independence.
 (c) Write short notes on DBMS Functions. [8+4+4]
6. Write short notes on:
 - (a) Histogram segmentation
 - (b) Region growing
 - (c) Region splitting
 - (d) Segmentation. [4+4+4+4]
7. Explain the role of nursing informatics in knowledge based decisions and interferences for multi disciplinary patient care. [16]
8. Write short notes on:
 - (a) Contrast enhancement and texture analysis
 - (b) Image subtraction
 - (c) Edge enhancement
 - (d) Contour extraction. [4+4+4+4]
