

B.E.-VII Sem Biomed
Biomed
Networking & Information Systems in Medicine

VI & II Exam, Dec-12, 112
Con: 10861-12.

(REVISED COURSE)

(21)

KR-1611

(3 Hours)

[Total Marks : 100]

- N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any four questions out of remaining six questions.
(3) Draw neat diagrams..

1. (a) With the help of flowchart compare film based radiology with filmless using PACS. 10
(b) Explain with the help of diagrams the OSI model in detail. 10
2. (a) Discuss the image attributes, principles, advantages and disadvantages of the following modalities :- 8
(i) X-ray Radiography
(ii) MRI.
(b) Explain the following network security services in detail :- 12
(i) Message Authentication
(ii) Message integrity
(iii) Message non-repudiation.
3. (a) Draw and explain the integration of information transfer between HIS/RIS/PACS. 1
(b) What is HIPAA and explain its impact on PACS security. 1
4. (a) Explain the concept of RAID storage system.
(b) With the help of neat diagrams explain multicomputer single processor (MCSP) and single computer multiple processor (SCMP) PACS design.
5. (a) What are the ACR standards for teleradiology ?
(b) Explain the PACS architecture with reference to the following points :-
(i) Operational fit
(ii) Versatility
(iii) Scalability
(iv) Robustness.
6. (a) Explain different elements of PACS.
(b) Explain the addressing systems used in TCP/IP protocols.
7. Write short notes on (any four) :-
(a) ISDN
(b) Reporting paradigms of PACS
(c) Applications of teleradiology
(d) Bridge and Hub
(e) Keys used in cryptography.
