

Roll No: -----



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B. Tech CSE (Healthcare Informatics)

Semester – V

Subject (Course): IT Adoption for Healthcare Operations and Processes

Max. Marks : 100

Course Code : CSEG355

Duration : 3 Hrs

No. of page/s: 1

Notes and Instructions

1. Section A - 20 marks (Attempt All 4 Questions in this Section). (5 marks each)
2. Section B - 40 marks (Attempt All 4 questions). (10 marks each)
3. Section C - 40 marks (Attempt All 2 questions). (20 marks each)

Section A (Attempt All 4 Questions in this Section). (5 marks each)

- Q.1) Why has the digital revolution not contributed to reductions in healthcare costs?
Q.2) What is the need for EHR and also mention some of the issues addressed by EHRs.
Q.3) How can you ensure security and privacy of healthcare data.
Q.4) Explain Data/Information Decision System and mention some of the basic functions of HMIS.

Section B (Attempt All 4 questions). (10 marks each)

- Q.5) Write a short note on:
- PACS (Picture Archiving And Communication System)
 - PRISM Framework
- Q.6) Describe the following:
- Standards, Interoperability and Integration
 - LIS Modules
- Q.7) Describe the layered technology for big data analytics: Feature extraction, context and situational awareness and predictive modeling.
Q.8) Write about the Role of Health Information Technology in Disaster Medical Response.

Section C (Attempt All 2 questions). (20 marks each)

- Q.9) a) What is an ANDA (Generic Drug) application, the requirements of an ANDA application and also describe how it is different from IND application.
b) Explain the different types of INDs and also explain different phases involved in clinical trials.
- Q.10) a) Explain Big Data Analytics maturity model and also describe 5 Vs of big data mapped to IBM Big Data and Analytics platform.
b) What are the different types of healthcare environments and highlight some of the challenges of Information Systems in Healthcare.

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Section A (Attempt All 4 Questions in this Section). (5 marks each)

- Q.1) Illustrate the role of government in adoption of technology in healthcare.
- Q.2) Describe how changes in medical technology have affected healthcare costs.
- Q.3) What are the different components of Health Information Technology (HIT).
- Q.4) Mention seven-step process for security management implementation process provided by The HIPAA security guide.

Section B (Attempt All 4 questions). (10 marks each)

- Q.5) Write a short note on:
 - Health Metrics Network
 - PACS (Picture Archiving And Communication System)
- Q.6) Describe the following:
 - Security and privacy standards
 - HMIS Components
- Q.7) What are the key functional capabilities required for big data processing. Explain.
- Q.8) Write about the Role of Health Information Technology in Disaster Medical Response.

Section C (Attempt All 2 questions). (20 marks each)

- Q.9) a) What are the different phases and types of Clinical trials?
b) What are the fundamentals of NDA submissions, NDA classification, review priority and actions to be taken on NDA.
- Q.10) a) Compare a standard relational database compared with IBM InfoSphere Streams Software and also describe some of the external and internal sources for healthcare data collection.
b) Describe the following emerging technologies in healthcare: Environmental computing, wearable sensors and machine to machine communication.

