UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2020

Course: **Health Workflow Process Analysis**   **Semester: VIII**
Program: **B.Tech(CSE+HI)**   **Time 03 hrs.**
Course Code: **CSEG495**   **Max. Marks: 100**

Instructions:

	SECTION A		
S. No.		Marks	CO
Q1.	Explicit Knowledge, Tactic knowledge, descriptive knowledge, procedural knowledge are called as Characteristics of Information a. True b. False	2	CO1
Q2.	Once you have a good performing model and you have tested it sufficiently on your training data, it is time to implement it in the real world. Which tasks are essential for successful model deployment? a. Ensure the model is activated at the right time in the workflow, appropriately alerts the clinician and allows specific action b. It is not necessary to get buy-in from the clinicians, since the model embedded in the EHR will tell them what to do c. Such models should only be created for research purposes and should not be used to support direct patient care d. The model should only be implemented in the latest version of the EHR software	2	CO1
Q3.	The most valuable asset of a Clinical Informatician in a Quality Improvement project centered on Clinical Decision Support is their knowledge of: a. Data Standards b. Clinical & IS workflows c. EHR functionality d. Database structure	2	CO1
Q4.	Interaction Diagram in health workflow is a combined term for a. Activity Diagram + State Chart Diagram b. Deployment Diagram + Collaboration Diagram c. Sequence Diagram + Collaboration Diagram d. None of the mentioned	2	CO2

Q5.	Process mapping diagramming tools and features are obtained from which of the methodologies? a. DeMarco and Yourdon methodology b. Constantine and Yourdon methodology c. Gane and Sarson methodology d. All of the mentioned	2	CO2
Q6.	Which of the following is not a maturity level in CMM? a. Design b. Repeatable c. Managed d. Optimizing	2	CO3
Q7.	Which of the following activities is least likely within the scope of a clinical knowledge management framework? a. Build a sustainable knowledge asset framework with reusable components b. Integrate knowledge assets into clinical workflow c. Maintain the representation of knowledge assets d. Provide knowledge lifecycle support	2	CO1
Q8.	EMR: doesn't travel easy outside of the practice; contains medical and treatment history; information only available to the practice EHR: focus on total health; built to share information with other healthcare providers; patients have the opportunity to look at the record a. Contrast of EHRs and EMRs b. Functions of HER c. Characteristics of Data d. Clinical decision support	2	CO5
Q9.	How can electronic medical records (EMRs) boost patients' engagement in their health? a. It helps patients become more aware of their own health status. b. Patients will be more willing to work with their providers if they have to pay for access to a patient portal. c. All of the answer choices are correct. d. Patients will not have to rely on doctors if they can seek medical advice through EMRs.	2	CO4
Q10.	Which of the following is a benefit of evidence-based medicine? a. Little to no time commitment on the part of the provider is required. b. There are never lapses in information. c. Educates patients' families regarding medical procedures d. Less staff is required to keep information current.	2	CO4

Q11.	The IT department of General Hospital is seeing if they can break into their file servers and web applications the way a hacker would. What is this referred to as? a. SQL injection attack b. Buffer overflow analysis c. Malware testing d. Penetration testing	2	CO4
Q12.	What is the test of Functional Health Literacy in Adults used for? a. To determine eligibility for Medicaid or Medicare. b. To measure word recognition. c. To locate health care providers. d. To measure body fat percentages.	2	CO4
Q13.	A healthcare system wants to reduce the time it takes to clinical decision support system malfunctions. Because the organization participates in several quality programs, the organization's leadership is particularly concerned about "false negative" situations, where CDS is supposed to fire, but doesn't. Which of these strategies is most likely to quickly detect "false negatives"? a. User reporting through the help desk b. Ongoing monitoring with anomaly detection c. Routine clinical use of the system by informatics leaders d. Sentiment analysis of override reasons	2	CO4
Q14.	Using a fully automated curation approach for large clinical datasets would be ideal, as it is scalable and requires minimal clinician input. However, in most settings this is at the moment not achievable. Which of the following strategies is most successful in reducing the time imposed on clinical expert curators? a. Using non-expert curators b. Focus on subset of data c. Technology support d. More training for curators	2	CO3
Q15.	Health care providers are diverse in their workflows. How can this diversity be a part of your onboarding process? a. Too much work flow diversity cannot be overcome b. Customize a trainer depending on who attends class c. Ensure representation of both in/outpatient settings for instruction d. Any provider can teach class as long as they have EHR experience	2	CO1
Q16.	A good practice for exploratory data analysis is to use a number of techniques to visualize your dataset. Which of the following is NOT a good reason to visualize your data? a. Data visualization allows you to better understand and "get to know" your data	2	CO1

	b. Humans can spot visual patterns much better than looking at descriptive statistics c. Visualization allows you to see large amounts of data summarized and simplified d. Visualization looks nicer than just having tables of numbers		
Q17.	Data science is fast becoming very useful in healthcare, but success requires close collaboration between people with clinical knowledge and people with data and computer expertise. Which of the following is true about data science in healthcare? Data science... a. Can be understood sufficiently by everyone in the healthcare organization b. Is easy since we give raw EHR data to machine learning algorithms to produce highly accurate results. c. Is somewhat of a fad and it won't have a significant impact in improving healthcare d. Only needs to be understood by a few people in the healthcare organization	2	CO3
Q18.	Successfully passing the ABPM board exam in applied clinical informatics requires knowledge in a diverse set of disciplines. These include: a. Workflow analysis, health information technology, and clinical care b. Clinical care, workflow analysis, and information system lifecycles c. Evidence basis for clinical care, change management, and decision science d. Health systematics, clinical decision support, and computer programming	2	CO1
Q19.	……….deals with the collection, storage, retrieval, communication, and optimal use of health related data, information, and knowledge a. health care providers (clinicians) b. health informatics c. public informatics d. medical informatics	2	CO3
Q20.	Which of the following is the Process Improvement Model? a. Agile b. Prototyping c. CMMI d. V model	2	CO3
Q21.	What is a logical first step in starting a clinical knowledge management program within the iterative knowledge management framework? a. Build standards-based interoperable knowledge assets b. Centralize the process of creating knowledge assets c. Create a catalog of existing knowledge assets including relationships with metadata d. Establish a knowledge asset lifecycle	2	CO3
Q22.	Which topic is least likely associated with clinical knowledge management? a. Institutional data governance b. Lifecycle management of knowledge assets	2	CO3

	c. Management of knowledge meta-data d. Single-login management for clinical workstations		
Q23.	Which process is not directly supported by a clinical knowledge management system? a. Centralized prioritization of knowledge management implementation tasks b. Centralized request management for changes in the knowledge base c. Monitoring clinicians' usage of clinical decision support systems d. Versioning of knowledge assets	**2**	**CO3**
Q24.	Which characteristic is NOT considered best practice for creating knowledge assets? a. Interoperable b. Modular c. Recursive d. Reusable	**2**	**CO3**
Q25.	Shorthand and macros can make any process faster. Given EHRs have more than one way to do the same thing, what approach should be taken when onboarding? a. Show all methods of shortened processes b. Discuss approaches to macros and let the providers decide what is best c. Only show what works for the majority d. Discourage using quick methods for processes	**2**	**CO5**
Q26.	How do data quality issues impact data science results? a. Data quality issues can be ignored because machine learning and AI will take care of it b. Because EHR data is used to document healthcare, there are no data quality issues c. Data quality can significantly impact results, making them biased or even invalid d. Poor data quality doesn't impact results, because the data quality issues disappear with enough data	**2**	**CO1**
Q27.	In which of the following is a single-entity instance of one type of related to a single-entity instance of another type? a. One-to-One Relationship b. One-to-Many Relationship c. Many-to-Many Relationship d. Composite Relationship	**2**	**CO2**
Q28.	The _____ symbol is used to represent decision in flowchart in healthcare. a. Circle b. Rectangle c. Diamond d. None of these	**2**	**CO2**

Q29.	HIT is the application of technology in the healthcare industry for the purpose of storing, retrieving, and sharing healthcare information. a. True b. Privacy practices c. Health Information Technology d. False	**2**	**CO5**
Q30.	Which of the following is a benefit of HIT? a. It results causes client records to be hard to find b. It increases important paperwork c. It helps avoid unnecessary tests and procedures d. It support a more well-trained hospital staff	**2**	**CO5**
	SECTION B		
Q31	Define ISO 5807. Comprehend the different diagramming symbols and conventions available for healthcare. Or Explain Yourdon DFD, Gane-Sarson DFD, ER Diagrams and UML diagrams for healthcare system.	**10**	**CO2**
Q32	Describe some common clinic system functionality to solve process problems in healthcare. Or Identify Electronic health record (EHR) functionality for process analysis in healthcare. Also, describe how clinical workflow can be improved by (EHR).	**10**	**CO4**
	SECTION-C		
Q33	Explain the skills which are required for process redesign, also discuss some common process problems and how solutions can be provided to these process problems related to healthcare.	**10**	**CO4**
Q34	Discuss Health Information Technology (HIT) design and some of their complexities.	**10**	**CO5**