

Class : BE IT	Division: -- D20 A & B
Semester: II	Subject: User Interface Design
Date: Feb 2024	Time: 1 hr

Note the following instructions.

1. All questions are compulsory.
2. Draw neat diagrams wherever necessary.
3. Write everything in ink (no pencil) only.
4. Assume data, if missing, with justification.

Q.1)		(Attempt any five of the following)	Marks
	a)	Name two key elements of the design thinking process.	2M
	b)	What is the role of empathy in design thinking?	2M
	c)	What is the purpose of prototyping in design thinking?	2M
	d)	What do you mean by convergent and divergent thinking?	2M
	e)	Any 2 examples of low and high fidelity prototype.	2M
	f)	Any four goals of user experience. - visual intellectual memory motor	2M
Q.2)	a)	What is interaction Design and why is it important?	5M
		OR	
	b)	Explain the usage of metaphors and analogies w.r.t Conceptual design with any suitable example.	5M
Q.3)	a)	What are some common methods for data gathering in interaction design? Give their pros and cons.	5M
		OR	
	b)	Explain in detail design thinking process with tools and techniques in each phase.	5M

Vivekanand Education Society's Institute of Technology, Chembur, Mumbai,  
Department Of Information Technology,

Year: (Even/Odd Sem)

Mid Term Test No.- 01

Class : D20A/B	Division: A/B
Semester: VIII	Subject: Blockchain and DLT
Date: 26th Feb 2024	Time: 01 hr ( 10-30am- 11.30 am)

Note the following instructions.

1. All questions are compulsory.
2. Draw neat diagrams wherever necessary.
3. Write everything in ink (no pencil) only.
4. Assume data, if missing, with justification.

Q.1)	(Attempt any five of the following)	Marks (20)
a)	Justify how immutability and transparency are achieved in Blockchain?	2M
b)	What are the key components of Blockchain Technology? → ledger, wallet, system, node, events	2M
c)	How do miners pick transactions?	2M
d)	Draw and explain the Layered Structure of Blockchain Architecture.	2M
e)	What is the Bitcoin mining process and why is it necessary?	2M
f)	What is UTXO model? Explain how it is different from the standard account model?	2M
Q.2)	a) What is a smart contract and Explain How can smart contracts be used in any use case? → Business	5M
	OR	
b)	Explain the potential risks and challenges associated with blockchain implementation?	5M
Q.3)	a) What is a Bitcoin Simplified Payment Verification (SPV) node? How does an SPV node differ from a full node in the Bitcoin network?	5M
	OR	
b)	How does the Byzantine fault tolerance consensus algorithm work? Compare proof of stake and proof of work consensus algorithm?	5M



**Vivekanand Education Society's Institute of Technology, Chembur, Mumbai,**  
**Department Of Information Technology,**  
**Year:2023-24 (Even Sem)**  
**MID TERM TEST**

**Class : ALL Branches**

**Division: ALL**

**Semester: VIII**

**Subject: ILOC Project Management**

**Date: 29th February, 2024**

**Time: 10:30 am to 11:30 am**

Q.1)		(Attempt any five of the following )	Marks (20)	CO's Mapped																		
	a) ✓	What is Project Management? State its importance?	2M	CO1																		
	b)	Differentiate between the Functional, Pure Project and Matrix organization? ....	2M	CO1																		
	c) ✓	Give a short description for various Project Management Phases.	2M	CO1																		
	d) ,	How do you evaluate the project using the Weighted Scoring model? Give a suitable example.	2M	CO2																		
	e) ✓	What are Project management Knowledge areas? <i>cost scope time</i>	2M	CO1																		
	f) ✓	What are the four stages of team development and growth? What are the advantages of an effective team? What are barriers to team effectiveness? <i>forming storming adjourning</i>	2M	CO2																		
Q.2)	a)	<p>Explain what is NPV ? Consider the product that will have cost of 300000 and will be completed in current Year, the expected cash flow for next 5 years is specified below consider discount rate of 8% and calculate the NPV</p> <table><tr><td></td><td>Year 0</td><td>Year 1</td><td>Year 2</td><td>Year 3</td><td>Year 4</td></tr><tr><td>Total Cash Inflow</td><td>0</td><td>200000</td><td>300000</td><td>350000</td><td>450000</td></tr><tr><td>Net Cash Flow</td><td>300000</td><td>75000</td><td>85000</td><td>200000</td><td>200000</td></tr></table>		Year 0	Year 1	Year 2	Year 3	Year 4	Total Cash Inflow	0	200000	300000	350000	450000	Net Cash Flow	300000	75000	85000	200000	200000	5M	CO2
	Year 0	Year 1	Year 2	Year 3	Year 4																	
Total Cash Inflow	0	200000	300000	350000	450000																	
Net Cash Flow	300000	75000	85000	200000	200000																	
	b)	What are the contents of the Project charter? Who prepares and authorizes the project charter? <i>→ intro</i>	5M	CO2																		
Q.3)	a)	Describe the any four Project selection models (Numeric and Non Numeric types) with example?	5M	CO2																		
	b)	What is the work breakdown structure (WBS)? If you are co-ordinator to organize a one week student training workshop in your college write down a WBS for this project	5M	CO3																		

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**Year:2023-24 (Even Sem)**  
**MID TERM TEST**

Class : D20

Division: A & B

Semester: VI

Subject: BDA

Date: 27/2/2024

Time:10.30 AM to 11.30 AM

Q.1)	(Attempt any five of the following.)	Marks (20)	CO's Mapped
a)	Comment on {key, value } pair produced by Map Function while evaluating following query using Map Reduce.Query: Select avg(salary) from Employee group by dno.	2M	CO3
b)	Differentiate structured,semistructured and unstructured data.	2M	CO1
c)	Explain the concept of Blocks,default Block Size and replication factor and Heartbeat Message in HDFS Architecture.	2M	CO2
d)	Explain characteristics of the big data. <i>V'S</i>	2M	CO1
e)	Explain functions of Data Node and Name Node in HDFS. <i>→ number of replication</i>	2M	CO2
f)	What are different challenges of Big Data?Explain how Hadoop Framework handles BigData? <i>→ security and privacy → storing &amp; access → analytical → Technical → scala</i>	2M	CO2
Q.2)	a) Explain different types of architecture pattern of NoSQL database. <i>→ document key</i>	5M	CO2
	OR		
b)	Explain Hadoop Ecosystem with neat diagram. State Limitations of Hadoop.	5M	CO2
Q.3)	a) Write MaP-Reduce algorithm to count occurrences of distinct words from a given text and apply same on following text: <b>Hadoop is a big data framework.</b> <b>Hadoop manages distributed data using Hadoop Distributed File System.</b>	5M	CO3
	OR		
b)	List Map-Reduce steps involved in Matrix multiplication and Find Matrix-Matrix Multiplication using 1-step MapReduce $A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix} * B = \begin{bmatrix} 2 & 4 & 3 \\ 3 & 6 & 2 \end{bmatrix}$	5M	CO3