BE - IT - | sem VIII | C- Scheme | 15|05|23.

Duration: 3hrs [Max Marks:80]

N.B. : (1) Question No 1 is Compulsory.
      (2) Attempt any three questions out of the remaining five.
      (3) All questions carry equal marks.
      (4) Assume suitable data, if required and state it clearly.

1		Attempt any FOUR	[20]
	a	What is good and bad design? explain with one example.	
	b	What is the role of feedback in user interaction design?	
	c	What do you mean by expressive interfaces explain with example	
	d	Explain Cognition with one example of Memory aspect.	
	e	What is user interaction design, and why is it important?	
2	a	What is the role of user research in user interaction design?	[10]
	b	What is the role of prototyping in user interaction design? Explain wireframe with example	[10]
3	a	Explain principles that support usability	[10]
	b	What is a conceptual model in user interface design, and why is it important?	[10]
4	a	What are key benefits of conducting task analysis during the design process?	[10]
	b	What are Different techniques for gathering data during the requirements gathering phase?	[10]
5	a	Write a note on 10 heuristics by Nielsen	[10]
	b	What is DECIDE framework? Explain in detail	[10]
6	a	Compare Controlled Setting, Natural Setting, and Any Setting Evaluation.	[10]
	b	What care will you take while designing an interface for a deaf person? Justify your answer with sample design.	[10]

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BE-IT | 8em VIII | C-scheme | 17/05/23

[Time: 3 Hours] [Marks:80]

N.B:
1. **Questions No. 1 is Compulsory.**
2. **Attempt any three out of remaining Questions.**
3. **Figures to the right Indicate full marks.**

Q.1	Attempt any Four write short notes on	20
a)	Significance of Environment	
b)	Global Warming	
c)	Scope of Environment Management	
d)	EMS certification	
e)	Forest Act	
f)	Eco-system and its types	

Q.2 a)	Discuss on environmental issues related to Indian context.	10
b)	Discuss on Air [P & CP] Act	10

Q.3 a)	Explain limiting factor and food chain as related to ecosystem.	10
b)	Write a note on each. Ozone layer depletion & Acid rain.	10

Q.4 a)	Discuss on corporate environment responsibity.	10
b)	What is sustainable development? What are the parameter effecting it?	10

Q.5 a)	What is ISO-14000? How does adoption of ISO-14000 practices benefits industries as well Environment.	10
b)	Discuss the functions of government as planning and regulatory agency.	10

Q.6 a)	Discuss the Atomic and Biomedical hazards as related to Global environmental concern.	10
b)	Discuss on Total Quality environmental management.	10

[Time: 3 Hours]   [Marks:80]

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BE-IT { Sem VIII | e-scheme | 17/05/23

[Time: 3 Hours]   [Marks:80]

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        2. **Attempt any three out of remaining Questions.**
        3. **Figures to the right Indicate full marks.**

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    a) Significance of Environment
    b) Global Warming
    c) Scope of Environment Management
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BE-IT / Sem VIII | C-Scheme | May June 2023.

[3 hours]   [80 Mks]

NB :   1) Question 1 is compulsory.
       2) Attempt any three questions from the remaining questions.
       3) Assume suitable data wherever applicable.
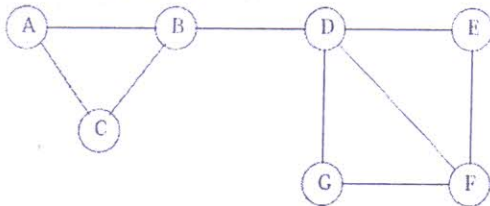
1   Solve any four out of following   20

  (a)   Explain what characteristics of social media makes it suitable for Big Data.

  (b)   Explain the collaborative filtering based recommendation system.

  (c)   What are three Vs of Big Data? Give two examples of big data case studies.
        Indicate which Vs are satisfied by these case studies.

  (d)   Explain CAP theorem and explain how NoSQL systems guarantees BASE
        property.

2 (a) Explain the distributed storage system of Hadoop with the help of a neat diagram..   10

   (b) Discuss Matrix-Matrix Multiplication. Perform Matrix Multiplication with 1-step   10
        Map Reduce method.

        1 2   5 6
        3 4   *   2 3

3 (a) For the graph given below use Clique percolation and find all communities   10
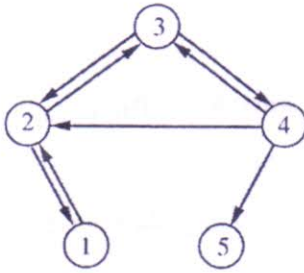

   (b) Give two applications for counting the number of 1's in a long stream of binary   10
        values. Using a stream of binary digits, illustrate how DGIM will find the number
        of 1's.

4 (a) Explain Grouping and Aggregation algorithm using MapReduce. Support your
        answer with a suitable example.   10

   (b) Explain the types of NoSQL data stores and their typical usage.   10

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5 (a) Explain clearly with diagrams the PCY method of finding frequent itemsets (pairs) in a large data set.   10

   (b) Recall HITS algorithm. Generate Hub and Authority score after 2 iterations for the graph given here.   10

6 (a) Suppose a data stream consists of integers 1,3,5,4,6,1,5,9,3,2. Let the hash function used be: 10

   i) $h(x) = x+1 \mod 16$

   ii) $h(x) = 2x+3 \mod 16$

   iii) $h(x) = 3x + 1 \mod 16$

   Show how the Flajolet-Martin algorithm will estimate the number of distinct elements in the stream.

   (b) Explain CURE algorithm, clearly stating its advantages over traditional clustering algorithm.   10

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BE - IT | Sem VIII / C-scheme/ May–June 2023.

Duration: 3hrs   **[Max Marks:80]**

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        (2) Attempt any three questions out of the remaining five.
        (3) All questions carry equal marks.
        (4) Assume suitable data, if required and state it clearly.

			Marks
Q1		Attempt any four	
	a.	What is a block header? How are blocks linked in blockchain?	5
	b	Enumerate the interoperability and scalability issues in Hyperledger fabric.	5
	c.	Explain Simplified Payment Verification Nodes. What is the Privacy solution for SPV nodes?	5
	d	List the different advantages and disadvantages of ICO.	5
	e.	What is nonce in blockchain and how does it work?	5
Q2	a.	What is a Blockchain fork? Differentiate between soft fork and hard fork.	10
	b	Describe the various projects covered under Hyperledger umbrella projects.	10
Q3	a.	Discuss the different challenges addressed by blockchain in the Energy sector.	10
	b	Differentiate between Bitcoin blockchain and Ethereum Blockchain.	10
Q4	a.	Explain bitcoin mining with the help of a neat diagram.	10
	b	Explain different List and explain the parts of EVM memory.	10
Q5	a.	What is an ERC20 token? Explain the steps to create ERC20 tokens.	10
	b	With the help of a suitable diagram explain the life-cycle of a smart contract in Ethereum.	10
Q6		Write short notes on (any 4)	20
	a.	Key features of blockchain	
	b	EOA and contracts address	
	c.	UTXO in Bitcoin	
	d	Stock Trading Offering	
	e.	Channels in Hyperledger Fabric	

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