Hall Ticket Number :										

R-20

Code: 20A552T

III B.Tech. I Semester Supplementary Examinations June 2023

Computer Networks

(Common to CSE and AI&DS)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two mark.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

1. Answer ***all*** the following short answer questions (5 X 2 = 10M)

		CO	BL
a)	What is WAN? How is it different from MAN.?	CO1	L2
b)	What is a Window? What should be the maximum size of sender's window? Justify your statement.	CO2	L2
c)	What is optimality principle?	CO3	L1
d)	What is error detection? Does UDP support it? Justify?	CO4	L2
e)	What are the protocols used in Electronic mail. What are the functionalities of them?	CO5	L1

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

			Marks	CO	BL
		UNIT–I			
2.	a)	Can you explain components and categories of data communication in detail?	6M	1	2
	b)	Write short notes on Guided transmission media co-axial cable and Fiber-optic cable?	6M	1	2
		OR			
3.	a)	Explain the network topologies in detail.	6M	1	2
	b)	What is the essential difference between message switching and packet switching?	6M	1	2
		UNIT–II			
4.	a)	Differentiate pure ALOHA and slotted ALOHA protocols.	6M	2	2
	b)	How would you interpret in your own words about Ethernet protocol in Wired LANs?	6M	2	2
		OR			
5.	a)	The following character encoding is used in a data link protocol: A: 01000111; B: 11100011; FLAG: 01111110; ESC: 11100000 Show the bit sequence transmitted (in binary) for the four-character frame: A B ESC FLAG when each of the following framing methods are used: (i) Character count. (ii) Flag bytes with byte stuffing. (iii) Starting and ending flag bytes, with bit stuffing.	6M	2	3
	b)	Imagine a sliding window protocol using so many bits for sequence numbers that wraparound never occurs. What relations must hold among the four window edges and the window size, which is constant and the same for both the sender and the receiver.	6M	2	3

UNIT–III

6.	a)	Give three examples of protocol parameters that might be negotiated when a connection is set up.	6M	3	3
	b)	A large number of consecutive IP address are available starting at 198.16.0.0. Suppose that four organizations, A, B, C, and D, request 4000, 2000, 4000, and 8000 addresses, respectively, and in that order. For each of these, give the first IP address assigned, the last IP address assigned, and the mask in the w.x.y.z/s notation.	6M	3	3

OR

7.	a)	Describe a way to reassemble IP fragments at the destination.	6M	3	2
	b)	ARP and RARP both map addresses from one space to another. In this respect, they are similar. However, their implementations are fundamentally different. In what major way do they differ?	6M	3	3

UNIT–IV

8.	a)	In a TCP connection, the initial sequence number at the client site is 2171. The client opens the connection, sends three segments, the second of which carries 1000 bytes of data, and closes the connection. What is the value of the sequence number in each of the following segments sent by the client? i) The SYN segment ii) The data segment iii) The FIN segment	6M	4	3
	b)	Identify fields in TCP Header that are not present in UDP Header along with details and give reasons for the missing fields.	6M	4	3

OR

9.	a)	Explain various services of Transport Layer.	6M	4	
	b)	The following is part of a TCP header dump (contents) in hexadecimal format. E293 0017 00000001 00000000 5002 07FF... i) What is the source & destination port number? ii) What is the sequence number & acknowledgment number? iii) What is the length of the header? iv) What is the type of the segment? v) What is the window size?	6M	4	3

UNIT–V

10.	a)	What role does the DNS resolver play in the DNS system? What are the various resolution mechanisms?	6M	5	2
	b)	Explain SNMP message format.	6M	5	2

OR

11.	a)	Explain about SMTP Protocol & mail transfer phases.	6M	5	2
	b)	Explain about JPEG compression?	6M	5	2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A3051T

III B.Tech. I Semester Supplementary Examinations June 2023

Data Warehousing and Data Mining

(Artificial Intelligence & Data Science)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

		CO	BL
1.	Answer ***all*** the following short answer questions (5 X 2 = 10M)		
a)	Why data cleaning is important?	CO1	L1
b)	What is Smoothing?	CO2	L1
c)	Describe Tree pruning methods.	CO3	L2
d)	State the categories of clustering methods.	CO4	L3
e)	Define text mining.	CO5	L1

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

			Marks	CO	BL
		UNIT–I			
2.	a)	Discuss in detail about evolution of data mining.	6M	1	2
	b)	What is Binnig? Explain with example data sets.	6M	1	1,2
		OR			
3.	a)	What is KDD process? Give a brief note about KDD process.	6M	1	1
	b)	Write short notes on the following: (i) Data Preprocessing (ii) Data Discretization (iii) Concept Hierarchy	6M	1	1
		UNIT–II			
4.	a)	Distinguish OLAP and OLTP.	6M	2	2
	b)	Explain FP Growth based on Transactional data for all electronics branch Illustrate.	6M	2	2
		OR			
5.	a)	Distinguish data warehouse and data mart.	6M	2	2
	b)	Explain support and confidence in Association rule mining.	6M	2	2
		UNIT–III			
6.	a)	Outline the issues that are important to consider when employing a decision tree based classification algorithm	6M	3	4

	b)	Explain the ID3 algorithm for the induction of decision trees.	6M	3	2

OR

7.	a)	Define Decision tree in data mining? Write an algorithm for decision tree in classification.	6M	3	1
	b)	Explain Bayesian classification in Data Mining?	6M	3	2

UNIT–IV

8.	a)	Explain clustering with K-means algorithm.	6M	4	2
	b)	Discuss in detail about partitioning methods in clustering analysis.	6M	4	2

OR

9.	a)	Explain density based algorithm for clustering data. Discuss its merits and demerits.	6M	4	3
	b)	Discuss in detail about various Density Based Methods	6M	4	2

UNIT–V

10.	a)	Explain Architecture for Multimedia Data Mining.	6M	5	2
	b)	List out some of the real time applications of spatial data mining.	6M	5	4

OR

11.	a)	Explain Mining in multimedia databases.	6M	5	2
	b)	Why we need online analytical mining?	6M	5	4

*** End ***

Hall Ticket Number :										

R-20

Code: 20A553T

III B.Tech. I Semester Supplementary Examinations June 2023

Software Engineering

(Common to CSE and AI&DS)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

		CO	BL
1.	Answer *all* the following short answer questions (5 X 2 = 10M)		
a)	Distinguish between software process and project.	CO1	L2
b)	Specify the significance of Software requirements specification.	CO2	L1
c)	Explain abstraction in the context of design concepts.	CO3	L1
d)	What is integration testing?	CO4	L1
e)	List out the Software Quality Assurance activities.	CO5	L2

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

		Marks	CO	BL
	UNIT–I			
2.	Explain the concept of Generic process model, assessment of process and improvement techniques.	12M	CO1	L2
	OR			
3. a)	Describe characteristics of good software.	4M	CO1	L2
b)	Explain perspective and specialized process models.	8M	CO1	L1
	UNIT–II			
4. a)	Explain the process of negotiating and validating the requirements.	8M	CO2	L2
b)	Demonstrate the data modeling concepts.	4M	CO2	L3
	OR			
5.	Specify the purpose of Requirements Engineering? Briefly describe the different tasks involved in Requirement Engineering Process.	12M	CO2	L3

UNIT–III

6.		Illustrate different architecture styles in software design.	8M	CO3	L3
		Differentiate Coupling and Cohesion in a software design process.	4M	CO3	L3
		OR			
7.		Describe the basic Design Principles and guidelines for Component-level Design.	12M	CO3	L2
		UNIT–IV			
8.	a)	Specify the differences between Testing & Debugging.	4M	CO4	L3
	b)	Illustrate the steps in Integration testing & System testing.	8M	CO4	L3
		OR		CO4	
9.		Illustrate the Golden Rules of Use Interface and explain how these rules will affect the User Interface design.	12M	CO4	L2
		UNIT–V			
10.	a)	What is risk management? Explain how to select the best risk reduction technique when there are many ways of reducing a risk?	6M	CO5	L3
	b)	Illustrate briefly different types of project estimation techniques.	6M	CO5	L3
		OR			
11.	a)	Explain different levels of Capability Maturity Model.	6M	CO5	L3
	b)	What are the metrics used for software maintenance? Specify the types of software maintenance.	6M	CO5	L3

*** End ***