Hall Ticket Number :										

R-20

Code: 20A17MT

IV B.Tech. I Semester Regular Examinations November 2023

Disaster Management

(Common to CE & CSE)

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) Differentiate disaster and risk.	1	1
	b) Write any four impacts due to man-made disasters.	2	1
	c) Explain about disaster risk reduction.	4	2
	d) Enlist the methods of crisis management.	3	2
	e) Write about the meaning of 'capacity building of society'.	5	1

PART-B

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

		Marks	CO	BL
	UNIT–I			
2. a)	Explain the occurrence of Tsunami and its characteristics.	4M	1	2
b)	Describe any one case study of Tsunami disaster in the world.	8M	1	2
	OR			
3. a)	Explain the cause and occurrence of cyclone.	4M	1	2
b)	Describe any one recent case study of Cyclone disaster in India.	8M	1	2
	UNIT–II			
4. a)	Explain about oil spill and its general impacts on ocean.	4M	2	2
b)	Describe about Ennore oil spill and its disaster impacts.	8M	2	2
	OR			
5. a)	Explain about the causes of accidents in case of road and rail.	6M	2	2
b)	Describe about the recent rail accident in India.	6M	2	2
	UNIT–III			
6. a)	What is emergency management and mention its methods.	6M	3	2
b)	Explain the importance of emergency management.	6M	3	2
	OR			

7.	a)	Discuss about the monitoring of hazardous components in places of public importance.	6M	3	2
	b)	Discuss the importance of Industrial safety drills to educate industry staff.	6M	3	2

UNIT–IV

8.	a)	Explain about concept of Disaster Risk Reduction (DRR).	4M	4	2
	b)	Discuss about activities of national body in India working towards the DRR and risk assessment.	8M	4	3

OR

9.	a)	Explain any three methods of disaster risk assessment.	9M	4	2
	b)	Discuss about international bodies working towards the cooperation of multi-nations during disaster and risk assessment.	3M	4	2

UNIT–V

10.	a)	Enlist the post disaster situations and explain any two.	6M	5	2
	b)	Explain about the capacity building of industries.	6M	5	2

OR

11.	a)	Describe about the methods and strategies for re-development aftermath.	8M	5	2
	b)	Discuss about the disaster resistant design in industries.	4M	5	2

*** End ***

Hall Ticket Number :										

R-20

Code: 20AE7AT

IV B.Tech. I Semester Regular Examinations November 2023

Human Resource Management

(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) Write are the functions of HRM		1	1
	b) What is Human Resource Planning		2	1
	c) Define Recruitment.		3	1
	d) What is Career Development		4	1
	e) What is Compensation		5	1

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 nature and scope of HRM.	12M	1	2
		OR			
3.	a)	Explain Managerial functions and Operative functions of HRM.	6M	1	2
	b)	Explain Ethical aspects of HRM.	6M	1	2
		UNIT–II			
4.		Explain the process of HR Planning.	12M	2	2
		OR			
5.		Explain the concept of Job analysis and steps in Job Analysis process.	12M	2	2
		UNIT–III			
6.		Explain various steps in selection process.	12M	3	2
		OR			
7.	a)	Discuss Factors governing Recruitment	6M	3	2
	b)	Write a short notes on Barriers to effective selection	6M	3	1
		UNIT–IV			
8.	a)	What are the Inputs in Training and development	6M	4	1
	b)	Write about Training Process	6M	4	1
		OR			
9.		Explain Impediments to effective training	12M	4	1
		UNIT–V			
10.		Discuss the Grievance process, Importance and Approaches of Industrial relations	12M	5	2
		OR			
11.		Explain Different Methods of Performance Appraisal.	12M	5	2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A57PT

IV B.Tech. I Semester Regular Examinations November 2023

NoSQL Databases

(Computer Science and Engineering)

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)	What is the need of NoSQL?	CO1	L4
b)	What is the CAP theorem?	CO2	L2
c)	Define Indexing.	CO2	L2
d)	What is a Key-Value Store?	CO2	L1
e)	List out any two limitations of Document Database?	CO4	L1,L2

PART-B

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

			Marks	CO	BL
		UNIT–I			
2.		What are four categories of NoSQL databases? Explain each database category and features.	12M	CO1	L2
		OR			
3.	a)	Explain about Graph Databases and its applications.	6M	CO2	L2
	b)	Explain about Document databases and its features.	6M	CO1	L2
		UNIT–II			
4.	a)	Why data distribution is important. List out and explain the different data distribution models of NOSQL.	6M	CO2	L1
	b)	Compare SQL and NoSQL database system.	6M	CO3	L1
		OR			
5.	a)	How CAP theorem is applicable to NoSQL systems?	6M	CO2	L3
	b)	Explain about replication durability.	6M	CO3	L1
		UNIT–III			
6.	a)	List and explain the features of Key-Value Store.	6M	CO3	L2
	b)	Explain Update Consistency along with Write-Write Conflict.	6M	CO2	L3
		OR			
7.		Explain in detail about Hbase Distributed Storage Architecture in NoSQL.	12M	CO3	L2
		UNIT–IV			
8.	a)	Explain the Similarities between SQL And MongoDB Query features.	6M	CO3	L4
	b)	Explain about Schema Evolution In Column-Oriented Databases.	6M	CO4	L4
		OR			
9.	a)	Discuss in detail about Data Evolution In Key/Value Stores.	6M	CO4	L2
	b)	How to Access the Mongo dB and HBase.	6M	CO3	L2
		UNIT–V			
10.		Explain Indexing and Ordering In MongoDB databases.	12M	CO4	L2
		OR			
11.		Explain Indexing and Ordering In Couchdb	12M	CO5	L5

*** End ***

Hall Ticket Number :										

Code: 20A57NT

R-20

IV B.Tech. I Semester Regular Examinations November 2023

R Programming

(Computer Science and Engineering)

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)

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

a) Describe any two features of R-Programming. CO1 L1

b) What is a list? Write a R program that creates a list? CO2 L2

c) Write how sub data frames by rows or columns are extracted in R programming. CO3 L2

d) Describe the cut() function with example. CO4 L2

e) Write an R code to add lines to an empty graph. 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. a)	Explain scalar and vector with an example.	6M	CO1	L2
b)	Write R programs that Generates Vector Sequences and Vector Constants.	6M	CO1	L4
	OR			
3. a)	Explain Vectorized Operations with suitable programs.	8M	CO1	L2
b)	Write R program for Adding and Deleting Vector Elements.	4M	CO!	L2
	UNIT–II			
4. a)	Write R programs that Perform Linear Algebra Operations on Matrices.	6M	CO2	L3
b)	Explain the General list operations in R with example code.	6M	CO2	L1
	OR			
5. a)	Explain in detail String Manipulation? Write R program that perform String Manipulation.	6M	CO2	L4
b)	Explain about Applying functions to matrix with example.	6M	CO2	L2

UNIT–III

6.	a)	Explain the Usage of the following functions on data frames. rbind(), cbind(),apply(), merge(), lapply() and sapply()	6M	CO3	L3
	b)	Discuss how the functions are used in factors and give with examples.	6M	CO3	L2

OR

7.	a)	Explain Arithmetic and Boolean Operators and Values in R programming language with suitable code.	6M	CO3	L1
	b	List the set of built-in math functions and it's usage in R?	6M	CO3	L1

UNIT–IV

8.	a)	Compare and contract S3 and S4 classes.	6M	CO4	L4
	b)	With example describe various file operations in R.	6M	CO4	L1

OR

9.	a)	"The idea of inheritance is to form new classes as specialized versions of old ones", Justify your answer.	6M	CO4	L2
	b)	Write a R code to test a Filename for a Given Suffix and also test it for HTML files.	6M	CO4	L2

UNIT–V

10.	a)	Explain how Graphs are saved to Files with example R program.	6M	CO5	L1
	b)	Describe how can you load a .csv file in R with code?	6M	CO5	L1

OR

11.	a)	Explain the following functions on graphs in R programming. Cex, xlim, ylim, polygon, lowess and loess().	6M	CO5	L2
	b)	What is the interface between R and Python? Explain in detail how to call R from Python?	6M	CO5	L2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A57ET

IV B.Tech. I Semester Regular Examinations November 2023

Software Testing Methodologies

(Computer Science and Engineering)

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)	What is the purpose of Testing?	1	1
b)	List out different types of path instrumentation.	2	2
c)	Name three different types of junctions in transaction flow testing.	3	2
d)	Define Absorption Law with example.	4	1
e)	Discuss the importance of State Table.	5	3

PART-B

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

			Marks	CO	BL
		UNIT–I			
2.	a)	Write the consequences of bugs	7M	1	2
	b)	Discuss the factors involved in bug severity.	5M	1	1
		OR			
3.	a)	Discuss any three dichotomies of testing.	9M	1	1
	b)	Write about coding bugs with example.	3M	1	2
		UNIT–II			
4.	a)	Discuss about fundamental path selection criteria.	4M	2	2
	b)	Briefly explain single and double link marker instrumentation.	8M	2	3
		OR			
5.	a)	Explain co-incidental correctness with suitable example.	5M	2	2
	b)	Explain different kinds of loops with respect to path testing.	7M	2	2
		UNIT–III			
6.	a)	Discuss various data flow machines with different architectures.	5M	3	3
	b)	Explain Transaction flow mergers and junctions with suitable diagrams.	7M	3	2
		OR			

7.	a)	Define Slicing and Dicing. Describe the Relative Strength of Structural Test Strategies with suitable diagram.	8M	3	4
	b)	What is transaction? Explain various Transaction flows in detail.	4M	3	3
		UNIT–IV			
8.	a)	Explain Reduction procedure with an example.	9M	4	4
	b)	State De Morgan's Law with an example.	3M	4	4
		OR			
9.	a)	Describe the KV-Chart for three variables with suitable diagram.	6M	4	3
	b)	Explain Maximum path count arithmetic with an example.	6M	4	4
		UNIT–V			
10.	a)	Discuss the principles of state testing.	5M	5	3
	b)	Explain node reduction algorithm with an example.	7M	5	4
		OR			
11.	a)	Write short notes on (a) Transition bugs (b) Dead states	6M	5	5
	b)	Describe reflexive, symmetric, asymmetric and transitive relations with examples.	6M	5	5

*** End ***

Hall Ticket Number :										

R-20

Code: 20A57CT

IV B.Tech. I Semester Regular Examinations November 2023

Big Data Analytics

(Computer Science and Engineering)

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)	What is the significance of Big Data in today's data-driven world?	CO1	L2
b)	Define Hadoop Streaming.	CO2	L2
c)	What is Data Compression?	CO3	L1
d)	List MapReduceLibrary classes.	CO4	L1
e)	Describe the responsibilities of administering HDFS in a Hadoop cluster?	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. a)	Define Big Data and explain its three main characteristics.	6M	CO1	L2
b)	List three best practices for maintaining high-quality Big Data analytics.	6M	CO1	L2
	OR			
3. a)	How does Big Data differ from traditional data processing?	6M	CO1	L3
b)	What is Hadoop and how does it facilitate data storage in Big Data applications?	6M	CO1	L2
	UNIT–II			
4. a)	Explain the basic concept of Map Reduce and how it facilitates data analysis in Hadoop.	6M	CO2	L2
b)	List and explain essential HDFS command line interface commands.	6M	CO2	L2
	OR			
5. a)	Describe a real-world scenario where MapReduce can be effectively used for data analysis.	6M	CO2	L2, L4
b)	Explain the purpose and benefits of using Distcp for parallel copying in Hadoop.	6M	CO2	L2

UNIT–III

6.	a)	Explain the importance of data integrity in Hadoop. How does Hadoop ensure data integrity?	6M	CO3	L2
	b)	Compare and contrast Classic MapReduce and YARN in terms of architecture and functionality.	6M	CO3	L2

OR

7.	a)	Describe the role and benefits of data compression and serialization in Hadoop I/O operations.	6M	CO3	L1
	b)	Discuss the concept of file-based data structures in Hadoop I/O. Provide examples of file-based data structures used in Hadoop.	6M	CO3	L1

UNIT–IV

8.	a)	Explain the different types of MapReduce in the Hadoop Framework. How are they utilized in data processing?	6M	CO4	L2
	b)	Explain how custom input formats can be implemented in MapReduce for specific data sources.	6M	CO4	L2

OR

9.	a)	Discuss different output formats in MapReduce. How do they determine the structure of output data?	6M	CO4	L2
	b)	Explain the importance of sorting in MapReduce. How does sorting contribute to efficient data processing?	6M	CO4	L1

UNIT–V

10.		Describe the essential components of a Hadoop cluster and their roles in the overall setup.	12M	CO5	L2

OR

11.	a)	Explain the significance of SSH configuration in the context of Hadoop cluster setup.	6M	CO5	L2
	b)	Explain the importance of benchmarking in a Hadoop cluster setup. What are the commonly used benchmarks?	6M	CO5	L2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A57GT

IV B.Tech. I Semester Regular Examinations November 2023

Cloud Computing

(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)

1. Answer ***all*** the following short answer questions (5 X 2 = 10M)		CO	BL
a)	Name a few companies that offer cloud services.	CO1	L1
b)	Distinguish Map reduce and Hadoop.	CO2	L2
c)	What is virtualization density?	CO3	L1
d)	List the companies who differ cloud service development.	CO4	L1
e)	List the security issues in Cloud Computing.	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)	What are the advantages and disadvantages of using a Cloud?	6M	CO1	L1
	b)	Give the varous cloud infrastructure models.	6M	CO1	L1
		OR			
3.	a)	Give the various service levels for the cloud Applications.	6M	CO1	L1
	b)	Explain in brief Web application Design.	6M	CO1	L2
		UNIT–II			
4.		Illustrate the architectural service models of cloud.	12M	CO2	L2
		OR			
5.		Explain in detail about Map Reduce programming model.	12M	CO2	L3
		UNIT–III			
6.	a)	Define virtualization? What can be virtualized? Explain.	6M	CO3	L1
	b)	Discuss how Xen is implemented for the establishment of a cloud.	6M	CO3	L1
		OR			

7.	a)	Describe the benefits of Virtualization.	6M	CO3	L2
	b)	Explain how I/O Devices can be virtualized.	6M	CO3	L2

UNIT–IV

8.	a)	Explain the high-level use of cloud resource management.	6M	CO4	L1
	b)	What is BigTable? What are the building blocks of BigTable?	6M	CO4	L1

OR

9.	a)	Briefly describe the working of Online databases.	6M	CO4	L1
	b)	Write notes on Google File System.	6M	CO4	L1

UNIT–V

10.	a)	What are the Cloud information Security Objectives?	6M	CO5	L1
	b)	Discuss in detail Security-as-a-Service.	6M	CO5	L2

OR

11.	a)	Explain about EC_2 instances.	6M	CO5	L2
	b)	Discuss about connecting clouds with secure firewalls.	6M	CO5	L2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A57AT

IV B.Tech. I Semester Regular Examinations November 2023

Cyber Security and Ethical Hacking

(Computer Science and Engineering)

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)

1. Answer ***all*** the following short answer questions (5 X 2 = 10M)	CO	BL
a) Who are cyber criminals? How can you classify them?	CO1	L2
b) What is internet jurisdiction?	CO2	L2
c) What are the two types of cognitive hacking?	CO3	L2
d) What is Syllable Attack?	CO4	L1
e) Define "Pirates"?	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)	Write the advantages and disadvantages of cyber security?	6M	CO1	L2
b)	When is redundancy needed in security? Explain with an example.	6M	CO1	L2
OR				
3. a)	How diversity is used as a tool in cyber security?	6M	CO1	L2
b)	List few problems of security in internet.	6M	CO1	L2
UNIT–II				
4. a)	Illustrate the private ordering and the rise of terms of services as cyber regulation.	6M	CO2	L3
b)	Summarize about the term CIA Traid and its fundamentals function.	6M	CO2	L3
OR				
5. a)	What are the premium features applied in data protection policy?	6M	CO2	L3
b)	Classify the different legal approaches to cyber libel	6M	CO2	L3

UNIT–III

6.	a)	What are the different phases of malicious hacking?	6M	CO3	L3
	b)	Write a short note on competitive intelligence gathering.	6M	CO3	L3

OR

7.	a)	Why is security against hacking necessary? What are the elements of security?	6M	CO3	L3
	b)	Explain briefly how "WHOIS" is used for information gathering.	6M	CO3	L4

UNIT–IV

8.	a)	List various tools in executing applications.	6M	CO4	L3
	b)	Describe various mechanisms of password guessing?	6M	CO4	L3

OR

9.	a)	What are the various mechanisms used for escalating privileges.	6M	CO4	L3
	b)	List few tools for password cracking?	6M	CO4	L3

UNIT–V

10.	a)	Explain the BLT of Perl.	6M	CO5	L2
	b)	Explain about various Built in windows tools for identifying vulnerabilities.	6M	CO5	L3

OR

11.	a)	List various programming for security professionals.	6M	CO5	L2
	b)	What are the various countermeasures against Linux attacks?	6M	CO5	L3

*** End ***

Hall Ticket Number :										

Code: 20A57KT

R-20

IV B.Tech. I Semester Regular Examinations November 2023

Data Science

(Computer Science and Engineering)

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)	What is Data Science and What is the importance of Data Science	CO1	L1
b)	Define the terms Regression in Data Science.	CO2	L2
c)	Differentiate Between the terms Filters and wrappers	CO3	L2
d)	Discuss about singular value decomposition?	CO4	L3
e)	What are the Different applications of Data Science	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)	Write short notes on Drew Conway's Venn diagram of data science	6M	CO1	L1
	b)	What is Data Science and Big Data? Why Data Science is Hype now a days? Why not in the earlier.	6M	CO1	L2
		OR			
3.	a)	Write short on Statistical Thinking in the Age of Big Data	6M	CO1	L1
	b)	Define the term Statistical Modelling with the help of Example	6M	CO1	L2
		UNIT–II			
4.		What is Machine Learning? How Does Machine Learning Work? Explain the types of machine learning algorithms?	12M	CO2	L2
		OR			
5.	a)	Explain the various classes of Algorithms in Data Science	6M	CO2	L3
	b)	Define and Explain Linear Regression Algorithm	6M	CO2	L2
		UNIT–III			
6.	a)	Write a Short on Feature Selection process in identifying USB Set of Data	6M	CO3	L2
	b)	Define Wrappers and Explain the method for Selection of an algorithm	6M	CO3	L1
		OR			
7.	A)	What is Data Extraction? Explain feature generation and extraction in data science?	6M	CO3	L2
	b)	Define the term the Decision Tree Algorithm with Example	6M	CO3	L2
		UNIT–IV			
8.	A)	Define and Explain Singular Value Decomposition (SVD) and important features of SVD	6M	CO4	L1
	b)	Define the term Bipartite graph with the help of Diagram for an example.	6M	CO4	L2
		OR			
9.	a)	Write various steps to Build Your Own Recommendation System in Data Science	6M	CO4	L1
	b)	Write a Short note on principle component analysis in detail?	6M	CO4	L2
		UNIT–V			
10.		Define Data Visualization and different types of data visualization with an example?	12M	CO5	L!
		OR			
11.	a)	Define Data Engineering and explain the terms MapReduce, Pregel	6M	CO5	L1
	b)	Explain Various Recent trends and development in Data Science	6M	CO5	L2

*** End ***