R18

Code No: R18A0522

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, Oct/Nov 2023

Software Testing Methodologies

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	State and explain various dichotomies in software testing	**[7M]**
	B	How do you define a bug? Explain various kinds of bugs in detail.	**[7M]**
		OR	
2	***A***	Discuss the principles of test case design in detail.	**[7M]**
	B	Briefly describe the possible consequences of Bugs.	**[7M]**
		SECTION-II	
3	***A***	What is path testing? Give a note on path selection, predicates and achievable paths.	**[7M]**
	B	Compare data flow and path flow testing strategies.	**[7M]**
		OR	
4	***A***	Explain data flow testing with an example. Explain its generalizations and limitations.	**[7M]**
	B	Write about transaction instrumentation in transaction flow in detail.	**[7M]**
		SECTION-III	
5	***A***	With a neat diagram, explain the schematic representation of domain testing.	**[7M]**
	B	Describe about the span compatibility of domain testing	**[7M]**
		OR	
6	***A***	List and explain various restrictions at domain testing processes.	**[7M]**
	B	Explain various properties related to Ugly-domains.	**[7M]**
		SECTION-IV	
7	***A***	Discuss in detail about path expression with examples.	**[7M]**
	B	Illustrate KV charts in detail with example.	**[7M]**
		OR	
8	***A***	Define Logic based testing. Summarize the applications of decision table testing.	**[7M]**
	B	Discuss Path Sums and Path Product.	**[7M]**
		SECTION-V	
9	***A***	Demonstrate State graphs with implementation	**[7M]**
	B	Elaborate node reduction algorithm with an example.	**[7M]**
		OR	
10	***A***	Discuss about software implementation issues in state testing.	**[7M]**
	B	What are the matrix operations used in tool building? Give their significance.	**[7M]**

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Code No: R18A0524

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, Oct/Nov 2023

Data Warehousing and Data Mining

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	What is a concept hierarchy? Describe the OLAP operations in the Multidimensional data model.	**[7M]**
	B	Explain Star and Fact Constellation Schemas for Multidimensional data model	**[7M]**
		OR	
2	***A***	Explain about Data Warehouse architecture with a neat sketch	**[7M]**
	B	Differentiate between OLAP and OLTP technologies	**[7M]**

SECTION-II

3	***A***	Why pre-processing the data? Explain the various Data pre-processing techniques.	**[7M]**
	B	Explain the major issues of Data Mining?	**[7M]**
		OR	
4	***A***	Explain data mining as a step process of Knowledge Discovery	**[7M]**
	B	What is data cleaning? What are the approaches to fill the missing values?	**[7M]**

SECTION-III

5	***A***	A database has 4 transactions.Let min_sup=60% and min_conf=80%.Find all frequent item set using Apriori Algorithm	**[10M]**

TID	Items Bought
T100	{K,A,D,B}
T200	{D,A,C,E,B}
T300	{C,A,B,E}
T400	{B,A,D}

	B	What are maximal frequent item sets? Give Example	**[4M]**
		OR	
6	***A***	How to find frequent item sets without candidate Item sets? Give an Example.	**[10M]**
	B	Define Closed frequent item set. Give example?	**[4M]**

SECTION-IV

7	***A***	Explain about Decision tree Induction classification technique.	**[9M]**
	B	Explain about Bayes theorem.	**[5M]**
		OR	
8	***A***	Explain about K-nearest Neighbor classification Algorithm.	**[8M]**
	B	What are the measures for selecting Best split attributes with an example?	**[6M]**

SECTION-V

9	***A***	Explain about PAM Algorithm.	**[7M]**
	B	What are outliers? Discuss the methods adopted for outlier detection?	**[7M]**
		OR	
10	***A***	What are Hierarchical methods in clustering? Explain with an example?	**[7M]**
	B	Describe strengths and weakness of K-Means algorithm	**[7M]**

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Code No: R18A0525

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, Oct/Nov 2023

Linux Programming

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	Write in detail about five Text Processing Utilities.	**[7M]**
	B	Write a shell script to count the specified number of lines in a text file without using wc command?	**[7M]**
		OR	
2	***A***	Explain about process utilities?	**[7M]**
	B	Write about the types of shells? Explain the shell commands?	**[7M]**
		SECTION-II	
3	***A***	Explain about file system structure in Linux.	**[6M]**
	B	Explain the following system calls with syntax (a)mkdir() (b)rmdir() (c)chdir() (d) closedir()	**[8M]**
		OR	
4	***A***	Describe about scanning directories functions.	**[6M]**
	B	Explain the following system calls with syntax: (a)lseek() (b) read() (c)open () (d) creat()	**[8M]**
		SECTION-III	
5	***A***	What is a Zombie process? Write a program to illustrate Zombie process.	**[6M]**
	B	Illustrate signal generation and handling with an example?	**[8M]**
		OR	
6	***A***	What is meant by Process? Explain the following with example: (a) Process Creation (b) Process Termination	**[8M]**
	B	Differentiate between reliable and unreliable signals	**[6M]**
		SECTION-IV	
7	***A***	Define named pipe? How do we create named pipe?Write c programs that illustrate communication between two unrelated processes using named pipe?	**[7M]**
	B	Describe various APIs of Message queues that are used for inter process communication.	**[7M]**
		OR	
8	***A***	Create a FIFO to build the communication channel between two processes and give the advantages and disadvantages of Files.	**[7M]**
	B	Explain with example the Kernel Support for semaphore?	**[7M]**

SECTION-V

9	***A***	Explain about a shared memory and kernel data structure with a neat diagram?	**[7M]**
	B	Describe Socket system calls used for connectionless protocol with syntax and usage.	**[7M]**
		OR	
10	***A***	Differentiate between connection oriented and connection less protocols?	**[7M]**
	B	Write a C Socket Program for Linux with a Server and Client Example Code.	**[7M]**

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Code No: R18A0526

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, Oct/Nov 2023

Machine Learning

(CSE & IT)

Roll No										

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	What's the trade-off between bias and variance and specify in detail	**[7M]**
	B	Explain the concept of learning models.	**[7M]**
		OR	
2	***A***	Explain the difference between L1 and L2 regularization.	**[7M]**
	B	Write short notes on perspectives and issues	**[7M]**

SECTION-II

3	***A***	Derive the concept of Multiple Linear Regression and Logistic Regression in detail	**[7M]**
	B	What is the Curse of Dimensionality and how can Unsupervised Learning help with it?	**[7M]**
		OR	
4	***A***	Explain the K-means clustering algorithm for machine learning	**[7M]**
	B	Write about ID3 Algorithm.	**[7M]**

SECTION-III

5	***A***	Would it defeat the purpose of Ensemble Learning to exclude Outliers? Justify the Statement in detail	**[7M]**
	B	Explain the concept of Association Rules with example	**[7M]**
		OR	
6	***A***	What is the difference between a Weak Learner vs a Strong Learner and why they could be useful and give 4 advantages	**[7M]**
	B	Explain the concept of analysis Gaussian mixture models in point	**[7M]**

SECTION-IV

7	***A***	Provide a walk through the application of the Q Learning algorithm in this scenario, including the initialization, action selection, and Q-value updates	**[7M]**
	B	What is Estimation Hypothesis Accuracy, why is it important for assessing the performance of learning algorithms? How does it relate to the concept of generalization?	**[7M]**
		OR	
8	***A***	Describe the key steps and components of the Q Learning algorithm. How are Q values updated through exploration and exploitation, and what role does the learning rate play in this process?	**[7M]**

	B	Explain the procedure to choose the version spaces in Evaluating Hypotheses	**[7M]**

SECTION-V

9	***A***	Can you explain the concept of fitness functions in genetic algorithms and their role in guiding the evolution of solutions?	**[7M]**
	B	Provide examples of real-world applications where the combination of Lamarckian Evolution principles and explain Parallelizing Genetic Algorithms	**[7M]**
		OR	
10	***A***	Examine the concept of Selection function in genetic algorithms	**[7M]**
	B	Explain the Baldwin Effect and its role in the evolution of learning and adaptability. How does the Baldwin Effect relate to the interaction between phenotypic plasticity and genetic evolution?	**[7M]**

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, Oct/Nov-23

Cloud Computing

(CSE & IT)

Roll No										

Time: 3 hours **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	Define Cloud Computing and provide a concise explanation of its core concept.	**[7M]**
	B	Describe the key characteristics and use cases associated with each layer and type of cloud. Provide examples to illustrate your explanations.	**[7M]**
		OR	
2	***A***	Elaborate on the importance of the desired features of a Cloud Computing environment. How do these features impact an organization's operations and cost-efficiency?	**[7M]**
	B	Define High-Performance Computing, Parallel Computing, Distributed Computing, Cluster Computing, and Grid Computing, ensuring clarity and accuracy.	**[7M]**

SECTION-II

3	***A***	Define Cloud Migration and briefly describe its significance in the context of modern IT infrastructure.	**[7M]**
	B	Discuss the concept of 'Integration as a Service' in the context of Cloud Computing. How has this paradigm evolved to meet the requirements of the cloud era, and why is it essential for modern cloud deployments?	**[7M]**
		OR	
4	***A***	Explain the Seven-Step Model of Migration into a Cloud in detail, discussing each step's significance and how they collectively contribute to a successful cloud migration strategy.	**[7M]**
	B	List and briefly explain the primary approaches that organizations can use when migrating their IT systems to the cloud.	**[7M]**

SECTION-III

5	***A***	Define Infrastructure as a Service (IAAS) and Platform as a Service (PAAS), highlighting their core differences and purposes in cloud computing.	**[7M]**
	B	Describe the methods and technologies commonly used for virtual machine migration in cloud computing. How does live migration differ from cold migration, and under what circumstances might each be preferred?	**[7M]**
		OR	
6	***A***	Describe the concept of virtual machine provisioning and migration services in cloud computing. What are the primary objectives of these services?	**[7M]**
	B	Provide a brief overview of the practical aspects of virtual machine provisioning and migration. How do these processes work in action within a	**[7M]**

cloud infrastructure?

SECTION-IV

7	***A***	Describe the concept of data security in the context of cloud computing. What are the primary concerns and challenges related to securing data in the cloud?	**[7M]**
	B	Provide an overview of Google App Engine. What services and capabilities does it offer, and how does it fit into the SAAS model?	**[7M]**
		OR	
8	***A***	Explain the benefits of centralizing email communications within an organization using cloud-based solutions. How does this approach improve efficiency and collaboration?	**[7M]**
	B	Discuss the advantages of using web-based communication tools for collaboration. Provide examples of such tools and explain how they facilitate teamwork and information sharing.	**[7M]**

SECTION-V

9	***A***	Create a comprehensive SLA life cycle plan for a company that is migrating its IT infrastructure to a public cloud. Detail the steps involved from negotiation to monitoring and explain the significance of each step.	**[7M]**
	B	Describe traditional approaches to managing Service Level Objectives (SLOs) and explain how they differ from modern cloud-based SLA management practices.	**[7M]**
		OR	
10	***A***	Define what SLA (Service Level Agreement) means in the context of cloud computing. What is the primary purpose of SLAs in cloud service provisioning?	**[7M]**
	B	Categorize and describe the different types of SLAs commonly used in cloud computing. How do these types vary in terms of the services and metrics they cover?	**[7M]**

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