R15

Code No: R15A0520

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, January 2024

Web Technologies

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	Define URL & URN	**[2M]**
b	Mention some Text Formatting Tags	**[3M]**
c	What is the use of $ symbol in PHP, explain with an example.	**[2M]**
d	List various String Functions in PHP.	**[3M]**
e	How is Servlet different from an Applet.	**[2M]**
f	Discuss about Http Request	**[3M]**
g	What are the difference between JSP and HTML.	**[2M]**
h	What is the syntax of jsp?	**[3M]**
i	What are the types of JDBC Statements	**[2M]**
j	What are the JDBC Statements?	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Explain Architecture of WWW in detail.	**[10M]**
	OR	
3	What is Cascading Style Sheet? Explain various types of Style Sheets with example.	**[10M]**

SECTION-II

4	Write a PHP program to find factorial of a given number using functions	**[10M]**
	OR	
5	What is XML DOM? How DOM parses the XML file?	**[10M]**

SECTION-III

6	With the help of neat diagram, explain the servlet architecture	**[10M]**
	OR	
7	How to use Cookies and session for session tracking? Explain with an example program.	**[10M]**

SECTION-IV

8	Explain about the JSP directive Elements. Explain each of them in detail	**[10M]**
	OR	
9	. Explain about the different methods used for Session tracking	**[10M]**

SECTION-V

10	What is JDBC.What are the various drivers of JDBC.	**[10M]**
	OR	
11	Discuss the process of Deploying java Beans in a JSP page.	**[10M]**

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Code No: **R15A0519**

R15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, January 2024

Information Security

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

1). a	What is an Attack?		**[2M]**
b	Use Caesar cipher with key =15 to encrypt the message "college"?		**[3M]**
c	Define stream cipher?		**[2M]**
d	How to manage password?		**[3M]**
e	What are the advantages of Key Distribution center?		**[2M]**
f	Write the Advantages and disadvantages of MD5 Algorithm.		**[3M]**
g	List out the services provided PGP?		**[2M]**
h	What is encapsulating security payload?		**[3M]**
i	Differentiate spyware and virus?		**[2M]**
j	What is the firewall?		**[3M]**

PART-B (50 MARKS)

SECTION-I

2	What is IP Security (IPSec) and how does it provide secure communication over IP networks? What are the key components of the IPSec architecture, including Authentication Header (AH) and Encapsulating Security Payload (ESP), and how do they work together to ensure data confidentiality, integrity, and authentication?	**[10M]**

OR

3	What are some common attacks that can be launched against Authentication Header (AH) and Encapsulating Security Payload (ESP) in IPSec, such as replay attacks and man-in-the-middle attacks? What are some mitigation techniques that can be used to prevent or detect these attacks, such as the use of nonces and sequence numbers?	**[10M]**

SECTION-II

4	In order to maintain the integrity and privacy of sensitive data, Cryptography and security measures are crucial. However, web applications and online processes are still susceptible to attacks despite the implementation of these measures. This essay will analyze two specific examples of such vulnerabilities, namely Cross-site Scripting Vulnerability and Virtual Elections, and their impact on data security. • Describe how Cryptography can be used to secure Virtual Elections. Explain the impact of Virtual Elections on data security. Discuss the limitations of Virtual Elections and the measures that can be taken to address them. • Describe the measures that can be taken to prevent Cross-site Scripting Vulnerability. Discuss the limitations of the measures that can be taken to prevent Cross-site Scripting Vulnerability.	**[10M]**

OR

5	Cybersecurity threats such as Intruders, Intrusion detection, password management, Virus and related threats can compromise the confidentiality, integrity, and availability of computer systems and sensitive data. Discuss each of these threats, their impact on cybersecurity, and the measures that can be implemented to address them.	**[10M]**

SECTION-III

6	How can Authentication requirements be determined and implemented in various systems, and what role do Functions, Message authentication codes, and Hash Functions play in ensuring secure authentication of data and access control? Provide a detailed analysis of the various types of Authentication requirements, their functions, and the advantages and limitations of Message authentication codes and Hash Functions.	**[10M]**

OR

7	How do various cryptographic techniques, including Secure Hash Algorithms, Whirlpool, HMAC, CMAC, Digital Signatures, and the Knapsack Algorithm, ensure secure and reliable communication in digital systems? What are the unique features of each of these methods and how do they contribute to the overall security of data and transactions? Additionally, what are some common vulnerabilities and attacks that can compromise the effectiveness of these techniques, and how can they be prevented or mitigated?	**[10M]**

SECTION-IV

8	What are the differences between Block Cipher modes of operation and Stream Ciphers, and how do they contribute to the overall security and efficiency of cryptographic systems? What are the strengths and limitations of each of these methods for encrypting and decrypting data, and how do they vary in terms of their suitability for different applications?	**[10M]**

OR

9	What are the key features and vulnerabilities of RC4, and how do they impact the overall security and reliability of cryptographic systems? How the location and placement of encryption does functions within a system affect its vulnerability to attacks, and what measures can be taken to minimize this risk? Additionally, what are the key distribution methods used in RC4, and how do they facilitate secure and efficient communication between users and systems?	**[10M]**

SECTION-V

10	What are the key security services and mechanisms used in network security, and how do they contribute to the overall protection and reliability of digital systems and data? How does the model for network security help to organize and prioritize these services and mechanisms, and what are the key components of this model?	**[10M]**

OR

11	In today's interconnected world, where technology has become an integral part of our daily lives, there is an increasing need for security. As we rely more on technology to store and transmit sensitive information, there is a growing risk of cyber-attacks and data breaches. To mitigate these risks, organizations and individuals use various security approaches such as encryption, access control, and intrusion detection systems. However, security is not just about using technology to protect information. It also involves adherence to key principles of security, such as confidentiality, integrity, and availability. How can these principles be applied to ensure that sensitive information is protected against unauthorized access, modification, or destruction? And what are some of the challenges that organizations and individuals face in achieving comprehensive security in today's digital landscape?	**[10M]**

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R15

Code No: R15A0521

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, January 2024

Software Testing Methodologies

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	What are feature bugs?	**[2M]**
b	What is software testing and write its purpose.	**[3M]**
c	Explain various loops with an example.	**[2M]**
d	Compare data flow Vs Transaction flow.	**[3M]**
e	What is domain span?	**[2M]**
f	Discuss about domain dimensionality.	**[3M]**
g	Define cross and parallel term in path testing.	**[2M]**
h	Write the limitations of path testing.	**[3M]**
i	Define good state and bad state graphs	**[2M]**
j	List the different types of tools required for test planning	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	State and explain various dichotomies in software testing?	**[10M]**
	OR	
3	Discuss about requirements, features and functionality bugs.	**[10M]**

SECTION-II

4	Discuss various flow graph elements with their notations.	**[10M]**
	OR	
5	State and explain various path selection rules.	**[10M]**

SECTION-III

6	Discuss in detail data - flow testing strategies.	**[10M]**
	OR	
7	Explain various properties related to Nice and Ugly-domains.	**[10M]**

SECTION-IV

8	Define path product, path expression and path sum. Explain with Examples.	**[10M]**
	OR	
9	What is KV-Chart? Draw KV-chart for 4 variables.	**[10M]**

SECTION-V

10	Explain State graphs with implementation	**[10M]**
	OR	
11	What are graph matrices and their applications? Explain in detail.	**[10M]**

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Code No: R15A0524

R15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, January 2024

Distributed Systems

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	Describe the role of the web in distributed systems.	**[2M]**
b	Discuss the key challenges associated with designing and maintaining distributed systems.	**[3M]**
c	List out the some common consensus algorithms used in network partitions.	**[2M]**
d	Explain the importance of clock synchronization in distributed system.	**[3M]**
e	Describe an object mobility.	**[2M]**
f	Explain the marshalling and un-marshalling technique.	**[3M]**
g	How coherence is maintained in distributed shared memory (DSM) systems.	**[2M]**
h	What is coherence?	**[3M]**
i	What is a lock	**[2M]**
j	How lock is used in concurrency control.	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	What are some of the emerging trends and technologies in distributed computing, and how is AWS adapting to these trends.	**[10M]**
	OR	
3	Discuss the role of middleware in distributed systems and how it improves the performance.	**[10M]**

SECTION-II

4	Explain the different clock synchronization algorithms used in distributed systems, with pros and cons of each algorithm.	**[10M]**
	OR	
5	Multicast communication is a technique used in distributed systems to enable efficient communication among a group of processes. How Multicast communication achieves it.	**[10M]**

SECTION-III

6	Enlist various challenges associated in an implementation of inter process communication (IPC) and how to address them.	**[10M]**

OR

7 Explain the role of object serialization in remote invocation, and discuss the challenges and trade-offs associated with object serialization. **[10M]**

SECTION-IV

8 Identify the various challenges faced by global name service (GNS) team while design and implementing the GNS. **[10M]**

OR

9 Describe the components that involved in the design and implementation of Distributed Shared Memory. **[10M]**

SECTION-V

10 Compare and contrast different concurrency control methods based on the performance and techniques. **[10M]**

OR

11 Explain the different methods used for transaction recovery in a distributed transactions with their pros and cons. **[10M]**

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R15

Code No: R15A0424

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, January 2024

Embedded Systems Design

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1).	a	What are the various status flags used in 8086 microprocessors?	**[2M]**
	b	Name any 2 instructions used in different addressing modes?	**[3M]**
	c	What are the Operational quality attributes:	**[2M]**
	d	What are the Non operational quality attributes:	**[3M]**
	e	List the merits and limitations of parallel port over serial RS-232 interface.	**[2M]**
	f	What is Wi-Fi in embedded system?	**[3M]**
	g	What are the components of high-level language?	**[2M]**
	h	What is super loop approach in embedded system?	**[3M]**
	i	Draw the structure of a Process?	**[2M]**
	j	List the advantages of multithreading?	**[3M]**

PART-B (50 MARKS)

SECTION-I

2		List all the addressing modes of 8086 microprocessor and explain three modes with different instructions?	**[10M]**
		OR	
3		With the help of a block diagram, Explain the architecture of 8051?	**[10M]**

SECTION-II

4		Discuss in detail about different characteristics of embedded systems with related examples.	**[10M]**
		OR	
5		Explain the real life example on the bonding of embedded technology with human life?	**[10M]**

SECTION-III

6		What is a Actuator? Explain the role of an actuator in embedded system design .	**[10M]**
		OR	
7		Explain the sequence of operation for communicating with an I2C slave device?	**[10M]**

SECTION-IV

8		Explain about library file creation and usage in the assembly language based development?	**[10M]**
		OR	
9		Discuss about source file to object file translation in the assembly language based development?	**[10M]**

SECTION-V

10		Explain the importance of device drivers in embedded systems?	**[10M]**

OR

11 Name the various types of Non-pre-emptive scheduling and explain any two? **[10M]**

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Code No: **R15A0518**

R15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, January 2024

Object Oriented Analysis and Design

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	What is Object-Oriented Analysis and Design?	**[2M]**
b	Write three principles of Modeling.	**[3M]**
c	Define design Class Diagram.	**[2M]**
d	Explain various types of Relationships.	**[3M]**
e	Write differentiation between Structural modeling and Behavioral modeling.	**[2M]**
f	Briefly write about Time and Space	**[3M]**
g	What Tests Can Help Find Useful Use Cases?	**[2M]**
h	List out the components of Object-Oriented Analysis and Design.	**[3M]**
i	Formulate the purpose of Interaction Diagram.	**[2M]**
j	Discover the major Difference between Component and Deployment Diagram.	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Briefly explain the Architecture of UML.	**[10M]**
	OR	
3	Draw the use case diagram for the process sale and specify actor, use case and scenario.	**[10M]**

SECTION-II

4	Explain in detail about Advanced Classes in UML	**[10M]**
	OR	
5	Discuss about Advanced Relationships in UML.	**[10M]**

SECTION-III

6	What is Interaction Diagrams? Explain sequence diagram with neat sketch.	**[10M]**
	OR	
7	Explain collaboration diagram with neat sketch.	**[10M]**

SECTION-IV

8	Explain in detail about State Machines	**[10M]**
	OR	
9	Explain in detail about Events and Signals.	**[10M]**

SECTION-V

10	What is case study? Explain in detail about marketing case study	**[10M]**
	OR	
11	Explain in detail about Sales case study.	**[10M]**

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