



MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India)

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(Affiliated to JNTU, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC - „A“ Grade - ISO 9001:2015 Certified) Maisammaguda, Dhulapally (Post Via Hakimpet), Secunderabad – 500100, Telangana State, India.
Contact Number: 040-23792146/64634237, E-Mail ID: mrcet2004@gmail.com, website: www.mrcet.ac.in

DEPARTMENT OF INFORMATION TECHNOLOGY III B.TECH I SEMESTER R17 SUPPLEMENTARY PREVIOUS QUESTION PAPERS



LIST OF SUBJECTS

CODE	NAME OF THE SUBJECT
R17A0514	Computer Networks
R17A0525	Linux Programming
R17A0513	Operating Systems
R17A1201	Automata & Compiler Design
R17A1251	Introduction to Scripting Languages
R17A0519	Web Technologies

R17

Code No: R17A0514

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22

Computer Networks

(CSE & IT)

Roll No									
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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.

SECTION-I

1 Describe in detail about guided transmission media. [14M]

OR

2 Explain OSI reference model. [14M]

SECTION-II

3 Discuss in detail about Elementary Data Link Layer Protocols. [14M]

OR

4 Give a detail note on the ALOHA protocols. [14M]

SECTION-III

5 Illustrate Distance Vector Routing Algorithm with example. [14M]

OR

6 Explain the leaky bucket and token bucket algorithm. [14M]

SECTION-IV

7 Elucidate the elements of a Transport protocol? [14M]

OR

8 Discuss about crash recovery in Transport Layer [14M]

SECTION-V

9 What is HTTP? Discuss about various HTTP request methods. [14M]

OR

10 Write short notes on the following: [14M]

(a) MIME (b) FTP (c) DNS

Code No: **R17A0525****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22**Linux Programming****(IT)**

Roll No									
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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.

SECTION-I

1 Explain various networking utilities in LINUX with clear syntax, few options and Examples. Write an awk script to find the largest of 10 integers [14M]

OR

2 List and explain the various meta characters available in shell programming. With an example script explain the differences between 'while' and 'until' statements. [14M]

SECTION-II

3 Differentiate soft link and hard link with examples. Describe usage of dup(), dup2() system calls with example. [14M]

OR

4 Analyze the following commands with syntax and Examples: [14M]
(a)open (b)lseek (c)fcntl (d)unlink

SECTION-III

5 Classify various exec()? What is the need of exec() system call? Write a C program to illustrate exec() Function? [14M]

OR

6 Define Signals. What do you mean by Unreliable Signals? Write a program to illustrate orphan process [14M]

SECTION-IV

7 What is a pipe? Using pipe, how IPC can be implemented. Write a Program to illustrate Creation and implementation of Pipes? [14M]

OR

8 Compare the IPC functionality provided by message queues and FIFO's. What are the advantages and drawbacks of each? Explain briefly [14M]

SECTION-V

9 List the API's used for shared memory.Explain with a program how to copy file data from server to client using shared memory [14M]

OR

10 Differentiate all IPC mechanisms with examples. Write a C Socket Program for Linux with a Server and Client Example Code. [14M]

Code No: **R17A0513****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22**Operating Systems****(CSE & IT)**

Roll No									
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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.

SECTION-I

- 1 a. Explain about various process states with a neat diagram [7M]
b. Discuss about system calls [7M]

OR

- 2 With a neat sketch, describe the services that an operating system provides to users, processes and other systems. [14M]

SECTION-II

- 3 Illustrate Critical Section problem. Give the conditions that a solution to the critical section problem must satisfy. [14M]

OR

- 4 List and describe different types of schedulers. [14M]

SECTION-III

- 5 Consider the following page reference string: [14M]
1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6. How many page faults would occur for the optimal page replacement algorithm, assuming three frames and all frames are initially empty.

OR

- 6 What is paging? How it is different from segmentation? Also explain hardware support for paging. [14M]

SECTION-IV

- 7 What do you mean by a file system? Summarize the various file access methods in detail. [14M]

OR

- 8 Explain in detail about disk scheduling algorithms with examples. [14M]

SECTION-V

- 9 Write the various deadlock conditions? Explain in detail. Also write banker algorithm. [14M]

OR

- 10 What are the goals of protection and explain Language-Based Protection. [14M]

Code No: **R17A1201****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22**Automata & Compiler Design****(IT)**

Roll No									
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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.

SECTION-I

- 1 Design a NFA which accepts the strings containing either 01 or 10 over $\Sigma = \{0,1\}$. Show the acceptance of a string with an example. [14M]

OR

- 2 Construct left most parse tree and right most parse tree for the following grammar and the given string, if the grammar is ambiguous with equivalent unambiguous grammar: [14M]
 $R \rightarrow R + R \mid RR \mid (R) \mid R^* \mid a \mid b$
 String: $(a+b)^*$.

SECTION-II

- 3 Construct LALR parsing table for the following grammar [14M]
 $S \rightarrow CC$
 $C \rightarrow cC/d$

OR

- 4 Design a Syntax Directed Definition for a Desk calculator that prints the result. [14M]

SECTION-III

- 5 Explain the specification of a simple type checker. [14M]

OR

- 6 Write a note on overloading of functions and operations. [14M]

SECTION-IV

- 7 Explain storage organization and storage allocation strategies. [14M]

OR

- 8 Write the importance of global code optimization. Explain redundant sub Expression elimination technique across different blocks with example. [14M]

SECTION-V

- 9 Construct a DAG for the expression: $a+a*(b-c)+(b-c)*d$. [14M]

OR

- 10 Explain simple code generation algorithm. [14M]

Code No: **R17A1251****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22**Introduction to Scripting Languages****(IT)**

Roll No									
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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.

SECTION-I

1 What is the need of the Scripting Languages .Write the characteristics and major uses of Scripting Languages [14M]

OR

2 Write the Major security Issues in PERL. How pattern and regular expressions are recognized in PERL. [14M]

SECTION-II

3 Outline the structure of a JavaScript program. Also explain how a JavaScript can be included in HTML documents. [14M]

OR

4 List Some Basic and Advanced Tags in HTML. What are the different ways to add styles to a web page [14M]

SECTION-III

5 Discuss in detail about Various tags and the applications of Advanced JavaScript and HTML [14M]

OR

6 What is the Need of Python Programming. [14M]
Give a note on each of the below Python language constructs:
(i) quotes (single, double and triple) (ii) multiline statements (iii) indentation

SECTION-IV

7 List and explain different arithmetic operators supported by Python. Discuss about their precedence and associativity. Write a Python program to print all prime numbers less than 256. [14M]

OR

8 Give a comparison between lists, tuples, dictionaries and sets with clear examples. [14M]

SECTION-V

9 What type of parameter passing is used in Python? Justify your answer with sample programs. [14M]

OR

10 With Suitable Examples, Write Various Control Flow structures in Python Programming. [14M]

Code No: **R17A0519****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, Dec-21/Jan-22**Web Technologies****(IT)**

Roll No										
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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.

SECTION-I

1 Explain the HTML document head in detail with the help of example [14M]

OR

2 Define form. Explain form elements for registration page of any exam portal. [14M]

SECTION-II

3 Explain about various file operations on text files in PHP. [14M]

OR

4 Differentiate DOM and SAX Parsers. [14M]

SECTION-III

5 Illustrate Reading Initialization parameters in servlets with an example program. [14M]

OR

6 Discuss about cookies. Explain in detail about cookie creation. Give an example to retrieve cookie information. [14M]

SECTION-IV

7 Write the procedure to Execute Simple Queries in databases. [14M]

OR

8 Write a program for Connecting to database in PHP for Database Access. [14M]

SECTION-V

9 Write a program for deploying java Beans in a JSP page. [14M]

OR

10 What are JSP Code snippets? Develop a JSP program to display current date and time. [14M]
