



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

Sponsored by CMR Educational Society

(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 |
| R17A0513 | Operating Systems |
| R17A1201 | Automata & Compiler Design |
| R17A1251 | Introduction to Scripting Languages |
| R17A0525 | Linux Programming |
| R17A0519 | Web Technologies |

Code No: **R17A0514****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, July/August 2021**Computer Networks****(CSE & IT)**

| | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|

Time: 3 hours**Max. Marks: 70**Answer Any **Five** Questions

All Questions carries equal marks.

- 1 a) Explain briefly about TCP/IP Model. [8M]
b) What are the Types of Wireless Transmission Media? Explain it. [6M]

- 2 a) What are the differences between TCP/IP Model and OSI Model? [7M]
b) What is Network Topology? Explain different types of topologies in Network. [7M]

- 3 a) What are the Elementary Data Link Layer Protocols? Discuss it. [8M]
b) Discuss about Ethernet MAC Sub Layer. [6M]

- 4 a) What is Sliding Window Protocol? Discuss with Neat Example [8M]
b) What are the Network Connecting Devices? Explain it. [6M]

- 5 a) Draw a neat Network diagram to explain the routing functionality of Link State Routing Algorithm. [10M]
b) What is Optimality Principle in Network Routing? [4M]

- 6 a) What is CIDR? Why CIDR needed Explain with Example? [8M]
b) What are the Differences between IPv4 and IPv6 Addressing ? [6M]

- 7 a) What are the Transport Layer Services? Discuss it [6M]
b) Draw and explain each field in the TCP Segment header [8M]

- 8 Write a Brief Notes on Following
a) World Wide Web [5M]
b) E-Mail [5M]
c) Telnet [4M]

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, July/August 2021**Operating Systems****(CSE & IT)**

| | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|

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

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 State and Explain Various types of Computer Systems. [14M]
- 2 What is OS? Describe the different types of Operating Systems with the examples. [14M]
- 3 Define Scheduling? Explain any Two CPU Scheduling Algorithms with Examples. [14M]
- 4 Explain in detail about Inter Process Communication with examples. [14M]
- 5 Consider the following reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1. [14M]
Assume there are three frames. Apply LRU replacement algorithm to the reference string above and find out how many page faults are produced. Illustrate the LRU page replacement algorithm in detail and also two feasible implementation of the LRU algorithm.
- 6 Explain Optimal Page Replacement Algorithm with Example. [14M]
- 7 Explain any four File access methods for information in a file with neat diagrams. [14M]
- 8 Define Deadlock? State and explain four conditions that are necessary for deadlocks to occur with neat example. [14M]

Code No: **R17A1201****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****III B.Tech I Semester Supplementary Examinations, July/August 2021****Automata & Compiler Design****(IT)**

| | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|

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

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 a) Draw the transition diagram for NFA which accepts all strings with two consecutive 0's. [7M]
b) Construct DFA accepting the set of all strings containing 101 as a substring. [7M]
- 2 Explain the input buffer scheme for scanning the source program. How the use of sentinels can improve its performance? Describe in detail. [14M]
- 3 Consider the following grammar [14M]

$$S \rightarrow (L) | a$$

$$L \rightarrow L, S | S$$

Construct leftmost derivations and parse trees for the following sentences:
 $(a, (a, a))$
 $(a, ((a, a), (a, a)))$.
- 4 Construct Predictive Parsing table for the following Grammar [14M]

$$G:$$

$$S \rightarrow iCtSS^1 / a$$

$$S^1 \rightarrow eS / \epsilon$$

$$C \rightarrow b$$

Check the above grammar is LL(1) or not.
- 5 What are the limitations of Static Storage Allocation? Explain the problem of dangling references. [14M]
- 6 Give SDT Scheme to construct *Syntax Tree*. [14M]
- 7 a) Write and explain about organization for an optimizing compiler. [7M]
b) What are the applications of DAG? Explain how the following expression can be converted in a DAG. [7M]

$$a+b*(a+b)+c+d$$
- 8 a) Explain how copy propagation can be done using data flow equation. [7M]
b) Explain in detail about machine dependent code optimization. [7M]

Code No: R17A1251

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, July/August 2021**Introduction to Scripting Languages****(IT)**

| | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|

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

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 a) Explain the characteristics of Scripting Languages [7M]
b) Compare traditional scripting with modern scripting. [7M]
- 2 a) What are the security Issues in PERL. [7M]
b) List out the data types that Perl can handle? [7M]
- 3 With examples, explain the tags SUB, SUP, EM, A, FONT, HEAD, BODY, IMG of HTML. [14M]
- 4 a) Describe the primitive data types that Javascript uses. [7M]
b) Write a JavaScript which accepts the text in lower case and displays the text in uppercase. [7M]
- 5 a) Explain about objects, methods and events in java scripts. [10M]
b) Write a java script to change text colour of HTML elements. [4M]
- 6 a) Explain the history of Python [7M]
b) Give the major applications of Python [7M]
- 7 Explain about 'if', 'if-else', 'break' conditions and 'for', 'while' loops in Python [14M]
with suitable example
- 8 a) Does function call creates namespace in Python? [7M]
b) What is exception? is it different from error? how Python handles exceptions? [7M]

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, July/August 2021**Linux Programming****(IT)**

| | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|

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

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 A) Illustrate different disk utilities in Linux Programming [4M]
B) Write a shell script which checks whether a given file contains a given word. If it does, the script should output the message "The file contains the word"; if not, it should output the message "The file doesn't contain the word". [10M]
- 2 A) Why is Architecture so important in UNIX Justify your answer [7M]
B) Explain File Handling Utilities concepts with an example. [7M]
- 3 A) Why do we need file and record locking functions in Linux? [7M]
B) How Opendir, readdir scanning directories are useful in linux programming,Justify the Statement [7M]
- 4 A) Differentiate between read, write and lseek functions? [7M]
B) Discuss various system calls for performing file I/O operations [7M]
- 5 A) What is a process hierarchy? Write a program to illustrate process creation. [7M]
B)How Unix kernel provides support for 'signals' and write about kill, raise, and abort functions used in Unix signals [7M]
- 6 A) Define Signals. What do you mean by Unreliable Signals? Explain [7M]
B) Illustrate Unix process states and elucidate the procedures for Zombie process. [7M]
- 7 Compare the IPC functionality provided by message queues and FIFO's. What are the advantages and drawbacks of each? Explain briefly. [14M]
- 8 Examine the features of Berkeley Sockets in Linux programming [14M]

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, July/August 2021**Web Technologies****(IT)**

| | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|

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

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 Write short notes on [3M]
 - a) List [4M]
 - b) Tables [3M]
 - c) images [4M]
 - d) forms

- 2 a) What is Cascading Style Sheets (CSS)? And Give its Types. [7M]
b) Explain about the Introduction to Java Script. [7M]

- 3 Write short notes on [14M]
 - a) Declaring Variables
 - b) Data types

- 4 a) Discuss about the Control structures. [7M]
b) Describe the Functions. [7M]

- 5 a) List out the Reading Initialization parameters . [7M]
b) Explain about the javax.servlet HTTP package. [7M]

- 6 a) Differentiate between Handling Http Request & Responses . [7M]
b) Explain about the Cookies and Session Tracking. [7M]

- 7 a) Explain about the Connecting to database in PHP . [7M]
b) Illustrate the Execute Simple Queries . [7M]

- 8 a) Discuss about the Introduction to Beans . [7M]
b) Describe the Deploying java Beans in a JSP page. [7M]
