



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

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

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, October 2020**Automata & Compiler Design****(IT)**

Roll No										
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Time: 2 hours**Max. Marks: 70**

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

- 1 What is a Compiler? Explain Phases of Compiler in detail? Write the Phases of Compiler for the given statement $a: = b + c * 10$.
- 2 Define Context Free Grammar. What are Problems in Top Down Parsing, explain them in detail with an example?
- 3 Construct the LL(1) Parsing for the following Grammar.
 $E \rightarrow TE^1$
 $E^1 \rightarrow +TE^1 / \epsilon$
 $T \rightarrow FT^1$
 $T^1 \rightarrow * FT^1 / \epsilon$
 $F \rightarrow (E) / id$
- 4
 - a). Define Syntax directed translation.
 - b). Explain Synthesized attribute, Inherited attribute, Dependency graph, Evaluation order with an example.
- 5 Explain Chomsky hierarchy of Languages.
- 6 What are type expressions and explain them.
- 7 What are the functions of Local Optimization? Explain each function with an example.
- 8 Explain the characteristics of Machine Code Generator with an example.

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, October 2020**Computer Networks****(CSE & IT)**

Roll No									
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Time: 2 hours**Max. Marks: 70**Answer Any **Four** Questions

All Questions carries equal marks.

- 1 a) List the responsibilities of the data link layer in the Internet model?
 b) Define topology and explain the topologies of the network?
- 2 a) Discuss about the common layers in OSI and TCP reference models.
 b) Explain wireless transmission media with neat diagrams.
- 3 a) Discuss the design issues of the data link layer in detail
 b) Explain IEEE 802.3 standard for Ethernet with the help of frame format.
- 4 a) Describe the significance of error detection and error correction mechanisms in data link layer
 b) Explain Go-Back-N Protocol
- 5 a) Describe the problems and solutions associated with link state routing. Protocol
 b) Explain packet fragmentation mechanism in detail
- 6 a) Explain Packet switching technique in detail?
 b) Explain Internet Protocol with the neat block diagram of IP header format?
- 7 a) How to deal with crash recovery in transport layer. Explain in detail.
 b) Explain the TCP Connection establishment and termination using Timeline diagram?
- 8 a) Define HTML? Discuss in brief about Common HTML Tags.
 b) What is cryptography and explain RSA algorithm with an example

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, October 2020**Introduction to Scripting Languages****(IT)**

Roll No										
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Time: 2 hours**Max. Marks: 70**

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

- 1 a. Illustrate the Characteristics of Scripting Languages. List the applications of scripting languages?
b. How do you sort a numeric array? How do you sort a hash by value?
- 2 a. Explain the various operators available in Perl and compare the relational operators and logical operators.
b. Differentiate splice and slice, chop and chomp?
- 3 Explicate variables, operators and control structures in java script?
- 4 a. Discuss with the help of an example the use of style sheets.
b. How tables are created in HTML? What are the various tags used during table?
- 5 a. Explain different string methods.
b. Explain different input and output statements in Python Programming
- 6 a. Explain Features of Python?
b. List the limitations and applications of python and explain them?
- 7 a. List different operators in Python, in the order of their precedence.
b) Write a Python program to compute distance between two points in a 2-dimensional coordinate system.
- 8 a. What are the different function prototypes? Explain with suitable examples.
b. Explain the concept of namespaces with an example.

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

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, October 2020**Linux Programming****(IT)**

Roll No										
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Time: 2 hours**Max. Marks: 70**Answer Any **Four** Questions
All Questions carries equal marks.

- 1** a) Explain about i) Process utilities ii) Disk utilities.
b) Differentiate between shell variables and environment variables and user defined variables.
- 2** a) Discuss about Associative arrays in bash.
b) Write about shell variables in Unix shell syntax.
- 3** a) Define a system call? Explain system calls for file I/O operations.
b) Explain the kernel support for file system.
- 4** What does directory file in UNIX contain? Explore the following commands with examples. i)mkdir ii)rmdir iii)chdir iv) getcwd.
- 5** How Unix kernel provides support for 'signals' and write about kill, raise, alarm, pause, abort and sleep functions used in Unix signals.
- 6** a) Explain about process states. Describe and illustrate any one process system call.
b)Describe SIGKILL and SIGINT with examples.
- 7** Explain about IPC using named pipes and unnamed pipes
- 8** a) Write a C Socket Program for Linux with a Server and Client Example Code.
b)Explain the following socket APIs with syntax:i)bind() ii) listen()

Code No: R17A0513

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

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III B.Tech I Semester Supplementary Examinations, October 2020**Operating Systems**

(CSE & IT)

Roll No									
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Time: 2 hours**Max. Marks: 70**

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

- 1 a. Discuss about time shared operating systems.
b. Explain Computer system architecture & OS structure with neat diagrams.
- 2 a. Explain various components in the Operating System structure.
b. Discuss about virtual machines in detail.
- 3 a. Consider the following data of set of processes and compute Turn Around Time for Round Robin scheduling with time quantum=3.

Process	Burst Time	Arrival Time
P1	10	0
P2	5	0
P3	15	4
P4	10	9
P5	21	14

- b. Discuss about semaphores in process synchronization.
- 4 a. Discuss various states of the process with neat diagram
b. Explain peterson's solution for critical section problem in detail.
- 5 a. Explain about paging and page table structure in detail.
b. Write about LRU page replacement technique with example.
- 6 a. Write short notes on swapping and contiguous allocation.
b. Discuss about Optimal Page Replacement technique with example.
- 7 Explain the following with appropriate diagrams
a. Two level directory structure.
b. Acyclic-graph directory structure.
- 8 Explain how banker's algorithm works for deadlock avoidance.

Code No: **R17A0519****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****III B.Tech I Semester Supplementary Examinations, October 2020****Web Technologies****(IT)**

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Time: 2 hours**Max. Marks: 70**

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

- Q. No. 1 a) Write notes on WWW, URL and FTP?
b) Write a program in javascript to find the greatest of three given numbers
c) What are the different types of Style sheet ? Explain with an example
- Q. No. 2 a) Which types of lists can be created in HTML? Explain with the examples
b) write a javascript to print all prime numbers from 1 to 100
c) write about Form validation
- Q. No. 3 a) what is PHP? Give the features of PHP
b) Explain the creation of XML schema How it is different from HTML
c) Write notes on data types in PHP
- Q. No. 4 a) Explain in brief about DOM.
b) Write a PHP script to open, close, read and write into a file.
- Q. No. 5 a) Explain the Lifecycle of a Servlet
b) What is Jsdk?
c) What is API in Servlet
- Q. No. 6 a) Write about the Javax.Servlet Package
b) Explain the handling of cookies and sessions in Java, using Servlets.
- Q. No. 7 a) Explain Database Programming using JDBC
b) Explain the steps for connecting to database in PHP? .
- Q. No. 8 a) Explain the Anatomy of a JSP page
b) Explain the JSP declarations and directives.
c) Explain deploying the java Beans in a JSP page.
