



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.
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DEPARTMENT OF INFORMATION TECHNOLOGY III B.TECH I SEMESTER R15 SUPPLEMENTARY PREVIOUS QUESTION PAPERS



LIST OF SUBJECTS

CODE	NAME OF THE SUBJECT
R15A0512	Compiler Design
R15A0524	Distributed Systems
R15A0527	Linux Programming
R15A0065	Management Science
R15A0513	Operating Systems
R15A0520	Web Technologies

Code No: R15A0512

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

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

Roll No										
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Time: 2 hours**Max. Marks: 75**

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

- 1 Explain the various phases of a compiler with an illustrative example.
- 2 Differentiate the pass and phase in compiler construction?
- 3 Construct predictive parsing table for the following grammar
 $S \rightarrow (L) | a$
 $L \rightarrow L, S | S$
- 4 Construct an LALR Parsing table for the following grammar:
 $E \rightarrow E+T | T$
 $T \rightarrow T*F | F$
 $F \rightarrow id$
- 5 Describe the method of generating syntax directed definition for control statements?
- 6 What is symbol table? Discuss various ways to organizing symbol table.
- 7 List the different storage allocation strategies? Explain.
- 8 What are the object code forms? Explain the issues in code generation.

Code No: **R15A0524****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, October 2020**Distributed Systems****(IT)**

Roll No									
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Time: 2 hours**Max. Marks: 75**

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

- 1 What is transparency? Explain the different levels of transparency.
- 2 Explain about the failure model in distributed system.
- 3 How the events are mapped using Logical time and logical clocks in distributed system? Explain in detail.
- 4
 - a) How to achieve Consensus in distributed system.
 - b) Explain the Central Server Algorithm
- 5 How the communication established between distributed objects. Explain?
- 6 List out the various communication failures in handling remote objects. Why do these failures happen and give your suggestion to overcome such failures.
- 7 Why thrashing is an important issue in DSM systems and what methods are available for dealing with it?
- 8 What is distributed transaction? Write and explain the two-phase commit

protocol

Code No: **R15A0527****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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

Roll No									
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Time: 2 hours**Max. Marks: 75**Answer Any **Four** Questions

All Questions carries equal marks.

- 1 a) Explain different types of text handling utilities?
b) Write a shell script to count the number ovals in “linux programming system”.
- 2 a) Define grep. Write a grep command to display the lines which does not matches all the given pattern.
b) How does the debugging will do in shell script? Explain with example.
- 3 a) Write the syntax of the following system calls and explain with an example code. i) telldir ii) mkdir
b) Explain about all standard I/O functions with syntax?
- 4 a) Discuss about file and directory structure in LINUX?
b) Explain about any 3 directory maintenance and handling commands with syntax?
- 5 a) If I give a fork() system call in infinite loop what happen? How many processes will create? Justify your answer.
b) What is a signal? How can it be generated? Also explain kernel’s action on signal
- 6 a) What is the need of exec() system call? Write a C program to illustrate exec() function
b) Describe SIGKILL and SIGINT with examples.
- 7 a) Explain about pipes and named pipes in IPC?
b) Compare the IPC functionality provided by message queues and FIFO’s. What are the advantages and drawbacks of each? Explain briefly.
- 8 a) Explain about socket system calls for connectionless protocol?
b) Explain briefly about the following socket APIs with clear syntax:
i) accept() ii) connect()

Code No: **R15A0065****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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

Roll No											
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Time: 2 hours**Max. Marks: 75**

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

- 1 Discuss Henry Fayol's principles of management.
- 2 Discuss the relevance of Maslow's need hierarchy theory to the modern management.
- 3 Explain the functions of management and marketing mix in detail.
- 4 Discuss EOQ and ABC analysis.
- 5 Discuss the functions of HR manager.
- 6 Explain the process of selection.
- 7 Construct a network for the project whose activities and their predecessor relationship are given in the following table. Also identify the critical path.

Activity	A	B	C	D	E	F	G	H	I	J	K
Predecessor	-	-	-	A	B	B	C	D	E	H,I	F,G
Time (Days)	5	3	2	6	4	2	5	7	3	4	6

- 8 Discuss the process of strategy formulation.

Code No: **R15A0513****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: 75**

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

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- 1 a. Explain features of Distributed Operating System
- b. Explain different operations performed by the operating system
- 2 Explain how operating systems are used in a variety of computing environments.
- 3 a. Explain about the Process Control Block
- b. Discuss the Peterson's solution for the race condition with algorithm.
- 4 What is the average waiting time and average turn around times of all processes for FCFS, SJF algorithm?

Processes	Burst Time	Priority
P1	10	3
P2	1	1
P3	2	3
P4	1	4
P5	5	2

- 5 a. What is virtual memory? Discuss the benefits of virtual memory techniques.
- b. Discuss the procedure for page fault in demand paging.
- 6 a. Consider the following page reference string
1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6
Determine how many page faults would occur for Optimal page replacement algorithm. Assume three frames are initially empty.
- b. What are the disadvantages of contiguous memory allocation? Explain.
- 7 a. Suppose that a disk drive has 5000 cylinders numbered 0 to 4999. The drive is currently serving a request at cylinder 143. The queue of pending requests in FIFO order 86,1470,913,1774,948,1509, 1022, 1750, 130 starting from current head position. What is the total distance that disk arm moves to satisfy all the pending request for FCFS and SSTF disk scheduling algorithm.
- b. What are the objectives of file management system? Explain file system architecture
- 8 a. Explain about deadlock conditions and Banker's algorithm in detail.
- b. Write the principles of protection? And explain the access matrix in detail.

Code No: **R15A0520****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Supplementary Examinations, October 2020**Web Technologies****(IT)**

Roll No									
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Time: 2 hours**Max. Marks: 75**

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

- 1 What is URL? Describe functions and variables affecting URL retrieval for specific schemes.
- 2 Write a HTML code for the following Nesting Table?

Row 1, Column 1	In side another Table	
	one	One-one
	two	Two-two
Row 1 , column 2		
Row 2 , column 1	Row 2 , column 2	

3

Title	Author	Year	Price
Programming with C	Y Kanitkar	2012	300
Java: The Complete Reference	Herbert Schilds	2017	550
Learning with Python	Allen Downey	2015	350

Create a book.xml file for the above table, add three categories as C, Java, and Python.

- 4 What is XML element? Explain with suitable examples?
- 5 Explain life cycle of Servlet with neat diagram and coding syntaxes?
- 6 Explain the javax.servlet package?
- 7 Explain JDBC drivers?
- 8 Explain life cycle of a JSP page?
