MALLA REDDY COLLEGE OF ENGINEERING &TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

Sponsored by CMR Educational Society

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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

R17

Code No: R17A1201

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, February 2021

Automata & Compiler Design

(IT)

Roll No										

Time: 2 hours 30 min **Max. Marks: 70**

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

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1	Explain the different phases of compiler, showing the output of each phase, using the given statement **position:= initial+rate*60**	**[14M]**
2	Write the formal definition of an NFA. List the closure properties of regular expression. Convert the given regular expression to ε-NFA a*b*+ab*+a*b.	**[14M]**
3	Considering the following grammar, remove left recursion and left factor and design LL(1) parsing table. E → E + T / T T → T * F / F F → (E) / id	**[14M]**
4	Construct SLR parsing table for the grammar S → CC , C → a | d.	**[14M]**
5	What is Type Expression? Write Type Expressions for the following Types. a) An array of pointers to real, where the array index ranges from 1 to 100 b) Function whose domains are functions from integers to pointers to integers and whose ranges are records consisting of an integer and a character.	**[7M]** **[7M]**
6	What is Static Checking? List out some examples of Static Checks.	**[14M]**
7	a) What do you mean by ***loop optimization***?Illutrate with an example. b) What is the use of ***Frequency Reduction***? Give an example.	**[7M]** **[7M]**
8	Write and explain about Peephole Optimization.	**[14M]**

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R17

Code No: R17A0514

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, February 2021

Computer Networks

(CSE & IT)

Roll No										

Time: 2 hours 30 min **Max. Marks: 70**

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

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1	a)	Explain Briefly about OSI Refence Model.	**[10M]**
	b)	Explain about LAN,WAN.	**[4M]**
2	a)	What is Transmission Media? Expain all types of Transmission Media.	**[8M]**
	b)	What is switching? What are different switching techniques used in computer networks? Discuss.	**[6M]**
3	a)	What are the Data Link Layer Design Issue? Explain it	**[6M]**
	b)	What are the Error detection Codes? Explain with Examples	**[8M]**
4	Explain the Following		
	a)	ALOHA	**[4M]**
	b)	CSMA	**[5M]**
	c)	Collision Free Protocols	**[5M]**
5	a)	What are the Congestion Control Algorithms in network layer? Explain briefly.	**[8M]**
	b)	What is Subnetting? How to Mask Subnetting addressing in IPv4 Address?	**[6M]**
6	a)	Draw a neat Network diagram to explain the routing functionality of Distance Vector Routing Algorithm.	**[10M]**
	b)	What is Flooding in Networking? Explain it	**[4M]**
7	a)	What are the Differences between UDP and TCP?	**[6M]**
	b)	Draw and explain each field in the TCP Segment header	**[8M]**
8	a)	What is RSA? Discuss RSA Algorithm Procedure with example	**[10M]**
	b)	What are the Application Layer Services?	**[4M]**

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R17

Code No: R17A1251

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, February 2021

Introduction to Scripting Languages

(IT)

Roll No										

Time: 2 hours 30 min **Max. Marks: 70**

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

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1	a) Write the differences between Programming Languages and Scripting Languages.	**[7M]**
	b)What are the uses of Scripting Languages? Explain.	**[7M]**
2	a) Discuss the features of Perl programming.	**[7M]**
	b) How to call and identify a subroutine in Perl? Explain with example	**[7M]**
3	Define CSS. Explain inline, internal, external and embedded style sheets with examples.	**[14M]**
4	a) Write about the various Objects used in Java script.	**[7M]**
	b) Explain the classification of HTML tags with examples	**[7M]**
5	What are data types in Python? Explain each with an example.	**[14M]**
6	What is an event? How can we handle events in JavaScript?	**[14M]**
7	Explain about List, Tuple, Set, Dictionary and Sequence operations with suitable examples using Python.	**[14M]**
8	What are the different Loops available in Python? Explain with example	**[14M]**

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R17

Code No: R17A0525

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, February 2021

Linux Programming

(IT)

Roll No										

Time: 2 hours 30 min **Max. Marks: 70**

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

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1	A) Illustrate awk-records and operations of sed in Linux Programming with an example.	**[4M]**
	B) Discuss various Backup utilities in the Linux programming	**[10M]**
2	A) Give any 3 examples for control structures in shell programming.	**[7M]**
	B) Differentiate between shell variables and environment variables and user defined variables.	**[7M]**
3	A)Explain the following commands with syntax, options and examples: i) head ii) tail	**[7M]**
	B)Explore the following commands with examples. i) symlink, ii) link iii) unlink.	**[7M]**
4	A) Describe usage of dup(), dup2() system calls with example.	**[7M]**
	B) Describe Unix file system advantages and also state different commands used in System calls for I/O operations	**[7M]**
5	A) Distinguish between fork( ) and vfork( ) system call interface.	**[7M]**
	B) Explain clearly the concept of Signal with a suitable example.	**[7M]**
6	A) What is an orphan process? Write a program to illustrate orphan process.	**[7M]**
	B) In what way Unix kernel afford support for 'signals' and write about alarm, pause and sleep functions used in Unix signals	**[7M]**
7	What are Message Queues ? Explain their limitations. Explain how Queues are created with an example	**[14M]**
8	Explain briefly about the following socket APIs with clear syntax: i) bind( ) ii) listen( )	**[14M]**

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R17

Code No: R17A0513

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, February 2021

Operating Systems

(CSE & IT)

Roll No										

Time: 2 hours 30 min **Max. Marks: 70**

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

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1	Explain Different Operations Performed by the Operating Systems?	**[14M]**
2	Define System Call? And Explain Briefly System calls with Examples.	**[14M]**
3	Define Process? Explain about Process State Diagram with Example.	**[14M]**
4	Define Semaphore? And Explain the Readers Writers Problem and its solution using the Concept of Semaphore.	**[14M]**
5	Define Paging? And Consider the following reference string for a memory with three frames 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 Illustrate the FIFO page replacement algorithm for the above string.	**[14M]**
6	Explain LRU page replacement algorithm with a neat example	**[14M]**
7	Describe Various File Allocation methods Briefly	**[14M]**
8	Briefly explain about deadlock prevention methods with examples of each	**[14M]**

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R17

Code No: R17A0519

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

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III B.Tech I Semester Supplementary Examinations, February 2021

Web Technologies

(IT)

Roll No										

Time: 2 hours 30 min **Max. Marks: 70**

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

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1	a)What is Internet? Explain about World Wide Web in detail	**[7M]**
	b) Define Web Browser. Differentiate between URL and MIME	**[7M]**
2	Write short notes on	**[5M]**
	a)HTTP	**[9M]**
	b)Web Programmers Tool box	
3	a) Illustrate the Document type definition	**[7M]**
	b) Describe the XML Schemas	**[7M]**
4	a) Explain about the XML	**[7M]**
	b) Discuss about the XHTML	**[7M]**
5	**a)** Define Servlet. Explain about the Lifecycle of a Servlet	**[7M]**
	b) Discuss about the Deploying Servlet and the Servlet API	**[7M]**
6	a) Describe the Servlet Package	**[6M]**
	b) List out the Reading Servlet parameters	**[8M]**
7	**a)** Discuss about the Database Programming using JDBC	**[7M]**
	b) Differentiate between JDBC and ODBC	**[7M]**
8	a)Explain about the Anatomy of a JSP Page	**[7M]**
	b) Discuss about the JSP Processing	**[7M]**

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