Hall Ticket Number :										

R-15

Code: 5G151

III B.Tech. I Semester Supplementary Examinations August 2021

Compiler Design

(Computer Science and Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five full* questions by choosing one question from each unit (5x14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Explain about different phases of a compiler.	10M	CO1	L2
	b)	What is interpreter? Write Advantages and Disadvantages of Interpreter.	4M	CO1	L1
		OR			
2.		Write the rules to compute FIRST and FOLLOW. Also find the FIRST and FOLLOW for the non-terminals of the following grammar after eliminating the left recursion. E → E + T | T T → T * F | F F → (E) | id	14M	CO2	L5
		UNIT–II			
3.	a)	Construct the LALR parsing table for the grammar. S^1 → S S → CC C → cC | d	7M	CO3	L5
	b)	Discuss about the parser Generator Yacc.	7M	CO3	L1
		OR			
4.		Construct the LR(0) items and SLR parse table for the below grammar E → E + T | T T → T * F | F F → (E) | id	14M	CO3	L5
		UNIT–III			
5.	a)	Construct an annotate parse tree for 3*5+4n	7M	CO3	L3
	b)	Explain about S-Attribute definitions and L-attributed definitions.	7M	CO3	L2
		OR			
6.	a)	Write ML program for the Length of a list. How length function can be used as a polymorphic function.	7M	CO3	L4
	b)	Explain about widening and narrowing type conversions between primitive conversions in java.	7M	CO4	L2
		UNIT–IV			
7.		Describe in detail about the storage allocation strategies.	14M	CO4	L1
		OR			
8.	a)	List the common three-address instruction forms.	7M	CO4	L1
	b)	Write the Quadruples and indirect triples for the following expression. a = b * - c + b * - c	7M	CO4	L5
		UNIT–V			
9.	a)	Discuss about various principal sources of optimization.	7M	CO5	L1
	b)	What is basic block? How can you transform a basic block into a DAG?	7M	CO5	L3
		OR			
10.	a)	Explain about various steps in code-generation Algorithm.	7M	CO5	L2
	b)	Explain about Register allocation by Graph coloring in register allocation and assignment.	7M	CO5	L2

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Hall Ticket Number :										

R-15

Code: 5G152

III B.Tech. I Semester Supplementary Examinations August 2021

Computer Networks

(Common to CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Make a comparison between the TCP/IP and OSI Models.	7M	CO1	L5
	b)	Explain the spread spectrum and ultra-wideband communications	7M	CO1	L4
		OR			
2.	a)	List and explain the four levels of addressing employed in TCP/IP protocols.	7M	CO1	L3
	b)	Compare and contrast the fiber optics and copper wire.	7M	CO1	L4
		UNIT–II			
3.	a)	What is the need for framing? Explain different farming methods in Datalink Layer.	7M	CO2	L3
	b)	Compare Go-Back-N and Selective Repeat sliding window protocols in terms of Storage and Bandwidth requirements to deal with the transmission errors	7M	CO2	L5
		OR			
4.	a)	Consider the delay of pure ALOHA versus slotted ALOHA at low load. Which one is less? Explain your answer.	7M	CO2	L6
	b)	Define Error Detection and Correction. List and explain the types of errors.	7M	CO2	L3
		UNIT–III			
5.	a)	Compare and contrast the datagram and virtual circuit networks	7M	CO3	L5
	b)	Explain the Link state routing protocol.	7M	CO3	L3
		OR			
6.	a)	How do you find the distance vector routing algorithm? Discuss.	7M	CO3	L1
	b)	Draw the format of IPv4 protocol header and explain each field.	7M	CO3	L1
		UNIT–IV			
7.	a)	The following is a dump of a UDP header in hexadecimal format. CB84000D001C001C, Is the packet directed from a client to a server or vice versa?	4M	CO4	L5
	b)	What are the differences between TCP and UDP? Explain the applications of UDP.	10M	CO4	L2
		OR			
8.	a)	Explain the elements of Transport protocols.	7M	CO4	L4
	b)	DNS uses UDP instead of TCP. If a DNS packet is lost, there is no automatic recovery. Does this cause a problem, and if so, how is it solved.	7M	CO4	L5
		UNIT–V			
9.	a)	Explain the e-mail architecture and services.	7M	CO5	L3
	b)	Discuss the Domain Resource Records in detail.	7M	CO5	L2
		OR			
10.		Explain the following: a) User Agent, b) Message Formats, c) Message Transfer	14M	CO5	L4

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Hall Ticket Number :										

R-15

Code: 5G356

III B.Tech. I Semester Supplementary Examinations August 2021

Microprocessors & Interfacing

(Common to CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Explain the instructions ADD, AND, SHR, MOVS with examples	8M		K2
	b)	Explain MACRO and MACRO within MACRO with example	6M		K3
		OR			
2.	a)	i) Explain the pipe lining concept in 8086	2M		
		ii) Code Segment Physical Address is 78965H. Find out CS and IP value	4M		K3
	b)	Write a procedure to add two numbers using 8086 assembly language	8M		K3
		UNIT–II			
3.	a)	Compare and Contrast Memory Mapped I/O and I/O mapped I/O	7M		K2
	b)	Interface two 4K X 4 EPROMs and two 4K X 4 RAM chips with 8086 microprocessor. Select suitable map	7M		K3
		OR			
4.	a)	Compare and Contrast I/O mapped I/O and Memory mapped I/O	7M		K2
	b)	Explain A/D and D/A Converters	7M		K2
		UNIT–III			
5.	a)	Explain in detail about the Architecture of 8257 with neat diagram.	14M		K2
		OR			
6.	a)	Explain The Cascading of Interrupt Controllers	8M		K2
	b)	Compare and Contrast Programmed I/O and Interrupted I/O	6M		K2
		UNIT–IV			
7.	a)	Explain RS-232C Serial Data Standard and 20ma Current loop	7M		K2
	b)	Compare and Contrast Asynchronous and synchronous data transfer methods	7M		K2
		OR			
8.	a)	Analyze 8251 USART architecture and interfacing with 8086	14M		K2
		UNIT–V			
9.	a)	What are the differences between 8086 and 80286	4M		K2
	b)	Explain segmentation in 80386	10M		K2
		OR			
10.	a)	What are salient features of Pentium pro processor	6M		K2
	b)	Explain real mode of 80386	8M		K2

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Hall Ticket Number :										

R-15

Code: 5G155

III B.Tech. I Semester Supplementary Examinations August 2021

Web Technologies

(Computer Science and Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five* full questions by choosing one question from each unit (5x14 = 70 Marks)

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UNIT–I

1. What are different types of CSS available? Explain with examples. 14M

OR

2. a) Describe the Advantages and Disadvantages of Java Script 6M
   b) Describe ordered list and unordered list tags 8M

UNIT–II

3. a) What is XSLT? Describe with an example 7M
   b) Explain XML Schema Architecture? 7M

OR

4. a) Describe External Document Type Definition with example? 7M
   b) Write a java script program to find factorial of a given number 7M

UNIT–III

5. a) Illustrate the architecture of JDBC with example 8M
   b) Categorize the various types of Drivers? 6M

OR

6. How to establish the communication between the JAVA program and Database like MySQL? Explain with step wise suitable example 14M

UNIT–IV

7. a) Describe the lifecycle of servlet 7M
   b) Explain about handling HTTP request & responses 7M

OR

8. a) Distinguish between doGet () and doPost () methods in Servlets? 7M
   b) Illustrate the connection establishment of Database into servlets with suitable example 7M

UNIT–V

9. List out the important elements used in Constructing JSP Page use at least one element with suitable program 14M

OR

10. a) In JSP, explain how to display values using expressions to set an attribute? 7M
    b) Discuss error handling and debugging in JSP applications. 7M

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