R18

Code No: R18A0512

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, April 2023

Compiler Design

(CSE)

Roll No										

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

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	Explain various building blocks used to design a language translator	**[7M]**
	B	Explain the recognition of keywords and identifiers with a suitable transition diagram.	**[7M]**
		OR	
2	***A***	Describe the functionality of compilers in a typical language processing system	**[7M]**
	B	List the Major Functions of a parser? Classify Various types of parsers?	**[7M]**
		SECTION-II	
3		Construct the SLR parsing table for the grammar given below. S→A# A→Bb/Cd B→aB/ε C→cC/ε Give a trace of the parser for each of the following input strings. 1. aab# 2. ccd#.	**[14M]**
		OR	
4	***A***	What is the role of a parser? What are the differences between Top-Down and Bottom-Up parsers? What are the difficulties in Top-Down Parsing?.	**[7M]**
	B	State and explain the rules used to construct the LR(0) items	**[7M]**
		SECTION-III	
5	***A***	Define Type Checker. Write down the specification of a simple Type Checker	**[7M]**
	B	Write the quadruple, triple, indirect triple for the expression -(a*b) + (c+d)-(a+b+c+d)	**[7M]**
		OR	
6	***A***	Construct the syntax tree and postfix notation for the expression (a+ (b*c)) ↑d-e / (f+g).	**[7M]**
	B	What is an intermediate code? Explain different types of intermediate codes forms and represent the following statement in different forms: W = (A + B) – (C + D) + (A + B + C).	**[7M]**
		SECTION-IV	
7	***A***	What is code optimization? Explain about various levels and types of optimizations	**[7M]**

	B	What are the principles associated with designing calling sequences and the layout of activation records?	**[7M]**
		OR	
8	***A***	Classify Various Optimization Techniques?	**[7M]**
	B	Write short notes on Various Runtime storage organizations?	**[7M]**
		SECTION-V	
9	***A***	Distinguish between machine dependent and machine independent optimization	**[7M]**
	B	Write the assignment generic code generation algorithm?	**[7M]**
		OR	
10	***A***	Write a note on application of directed acyclic graph(DAG) in code generation.	**[7M]**
	B	What are basic blocks and flow graphs? Explain with example.	**[7M]**

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R18

Code No: R18A1205

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, April 2023

Artificial Intelligence

(EEE, CSE & IT)

Roll No										

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

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1		Explain the Heuristic Search Techniques. List and explain the applications of Artificial Intelligence	**[14M]**
		OR	
2	***A***	What is a depth first search of the search tree? Write an algorithm to conduct depth first search explain with example and also mention advantages and disadvantages.	**[7M]**
	B	Write A* algorithm?	**[7M]**

SECTION-II

3		Explain in detail AO* Search and Mini-max Search	**[14M]**
		OR	
4		How Probabilistic Reasoning is useful in Basic Knowledge Representation. Compare Propositional Logic & First-Order Logic with their features	**[14M]**

SECTION-III

5		Explain knowledge representation schemes in detail.	**[14M]**
		OR	
6		Prove the following assertion: for every game tree, the utility obtain by MAX using mini max decision against a suboptimal MIN will be never be lower than the utility obtained playing against an optimal MIN. Can you come up with a game tree in which MAX can do still better using a suboptimal strategy against a suboptimal MIN?	**[14M]**

SECTION-IV

7		Illustrate Learning by Taking Advice & Learning in Problem Solving by considering two real time examples	**[14M]**
		OR	
8		Discuss about Acting Under Uncertainty? Analyze the Bayesian Belief networks with clear examples.	**[14M]**

SECTION-V

9		Explain the process of knowledge acquisition and validation for expert systems. List the Characteristics of Expert Systems.	**[14M]**
		OR	
10		Discuss in detail about Various Knowledge Acquisition Techniques?	**[14M]**

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R18

Code No: R18A0513

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, April 2023

Python Programming

(CSE & IT)

Roll No										

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

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	What are different applications of Python? Give examples**.**	**[7M]**
	B	Define identifier? Discuss the rules to name an identifier	**[7M]**
		OR	
2	***A***	Differentiate between lists and tuples in Python?	**[7M]**
	B	Write a python script to perform swapping of two numbers without using third variable.	**[7M]**

SECTION-II

3	***A***	Write a python script to count number of lines, words and characters present in given file.	**[7M]**
	B	Define recursion, write a recursive function to calculate factorial of a given number.	**[7M]**
		OR	
4	***A***	Write a Python script that reads a line of integers, and then displays each integer, and the sum of all the integers.	**[7M]**
	B	Explain functionality of the following functions. a) ones() b) arrange() c) logspace() d) zeros()	**[7M]**

SECTION-III

5	***A***	Write a python program to find the nearest prime number m which is also a palindrome from a given number n (m>=n).	**[7M]**
	B	State Fruitful function statements and give an example for each one.	**[7M]**
		OR	
6	***A***	Analyze Various Advanced Functions in Python with Clear examples?	**[7M]**
	B	Explain different types of arguments in functions	**[7M]**

SECTION-IV

7	***A***	How to create, raise and handle user defined exceptions in Python.	**[7M]**
	B	Define error and exception. Distinguish between these two features	**[7M]**
		OR	
8	***A***	What happens if except clause is written without any Exception type? Explain with an example	**[7M]**
	B	Briefly discuss about Python packages.	**[7M]**

SECTION-V

9	***A***	Explain creating inheritance classes in Python with examples.	**[7M]**
	B	Write a Python program that overloads + operator, to add two objects of a class.	**[7M]**

OR

10	***A***	Illustrate how to implement Polymorphism in Python.	**[7M]**
	B	Discuss in detail about data Abstraction and Encapsulation in Python with clear examples?	**[7M]**

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R18

Code No: R18A0511

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, April 2023

Software Engineering

(CSE)

Roll No										

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

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	"Software Engineering is a Layered Technology" Justify your answer	**[7M]**
	B	What are Different Types of Software ?Explain?	**[7M]**
		OR	
2	***A***	With a neat Sketch, Discuss in detail about Extreme Programming(XP) in Software Process	**[9M]**
	B	Differentiate the characteristics of hardware and software in detail.	**[5M]**
		SECTION-II	
3	***A***	Identify the functional and non-functional requirements in the following systems a) Online Ticket Reservation for Railways b) Online Auction Sales	**[10M]**
	B	What are Various mathematical notations can be used to express a functional requirement in it and explain with examples.	**[4M]**
		OR	
4	***A***	What are the five things checked and validated under requirement validation sub-process of Requirement Engineering?	**[7M]**
	B	Discuss about Requirements Elicitation and Analysis	**[7M]**
		SECTION-III	
5	***A***	Analyze Various Architectural Styles and patterns in Design Engineering	**[7M]**
	B	Explain the quality guidelines required during design process.	**[7M]**
		OR	
6	***A***	Develop a sequence diagram showing the interactions involved when a student registers for a course in a university. Courses may have limited enrollment, so the registration process must include checks that places are available. Assume that the student accesses an electronic course catalog to find out about available courses.	**[10M]**
	B	Differentiate verification and validation.	**[4M]**
		SECTION-IV	
7	***A***	Illustrate White box testing with clear examples.	**[7M]**
	B	Recall the procedure to Perform control structure testing.	**[7M]**
		OR	
8	***A***	Describe the metrics used to measure the quality of software based on the requirements specified by the user for any real time project	**[7M]**
	B	Discuss about Different types of Metrics used for Source code &	**[7M]**

Maintenance?

SECTION-V

9	***A***	What are Reactive and Proactive risk strategies. Discuss about them	**[7M]**
	B	Mention Various Software Quality Assurance Activities?	**[7M]**
		OR	
10	***A***	Is it possible to assess the quality of software if the customer keeps changing the requirements what it is supposed to do? Justify.	**[7M]**
	B	Demonstrate the process of performing of software reviews for effective building of a software Project	**[7M]**

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R18

Code No: R18A0464

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, April 2023

Embedded Systems

(CSE & IT)

Roll No										

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

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	***A***	Define the following i) Microcontroller ii) Single Purpose processor	**[4M]** **[4M]**
	B	Which signals are used to select memory segments of 8086	**[6M]**
		OR	
2	***A***	Defining memories of the 8051-microcontroller include a program memory and data memory.	**[7M]**
	B	What are the different addressing modes in 8086 explain with an example?	**[7M]**
		SECTION-II	
3	***A***	Mention the requirements and purpose of designing Embedded systems	**[7M]**
	B	State the importance of embedded system over the general computing system.	**[7M]**
		OR	
4	***A***	Evaluate in detail the characteristics of embedded systems. Mention the design merits used to compare them	**[7M]**
	B	List out the applications of embedded systems.	**[7M]**
		SECTION-III	
5	***A***	Which are the components used as the core of an embedded system?	**[7M]**
	B	List the difference between I2C and SPI communication interface.	**[7M]**
		OR	
6	***A***	Explain the merits and limitations of parallel port over serial RS-232 interface	**[7M]**
	B	With neat diagram explain about Bluetooth with applications.	**[7M]**
		SECTION-IV	
7	***A***	How to design and implement firmware development languages	**[7M]**
	B	list of the importance of the high-level and assembly level languages	**[7M]**
		OR	
8	***A***	Why is IDE important in the development of design process of embedded system firmware?	**[7M]**
	B	Justify operating system-based firmware designing approach is more advantageous	**[7M]**

SECTION-V

9	***A***	Give the Considerations to choose an RTOS	**[7M]**
	B	What is Void Pointer in Embedded C and why is it used?	**[7M]**
		OR	
10	***A***	Derived user defined data types in C++ and Java with examples.	**[7M]**
	B	Specify advantages and disadvantages in C++ and Java.	**[7M]**

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R18

Code No: R18A0353

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, April 2023

Enterprise Resource Planning

(CSE & IT)

Roll No										

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

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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SECTION-I

1	Discuss the overview of ERP, the common myths about ERP and find practical solutions for dispelling them in the organizations	**[14M]**
	OR	
2	Examine the importance of data mining and data warehousing in detail. How can they be integrated with ERP system?	**[14M]**

SECTION-II

3	Why do we need to model a business process? Explain the process and uses of each element of BPR.	**[14M]**
	OR	
4	Mention the challenges faced by organization while implementing ERP system.	**[14M]**

SECTION-III

5	Explain the processes and activities of material management module of an ERP system.	**[14M]**
	OR	
6	What are the steps to be followed for selecting an ERP package for a business?	**[14M]**

SECTION-IV

7	Do you think post- implementation review of newly implemented ERP system is important? Why? When should such a review be conducted?	**[14M]**
	OR	
8	Discuss the critical success factors in the implementation of ERP systems.	**[14M]**

SECTION-V

9	How do the wireless technologies support ERP to enhance its usage in business world?	**[14M]**
	OR	
10	Explain about customer satisfaction and its impact on organization.	**[14M]**

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