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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, January 2024
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	Define Compiler. State various phases of a compiler and explain them in detail.	**[7M]**
	B	How does a lexical analyzer function, and what specifications does it have?	**[7M]**

OR

2	A	What are the classifications of parsers explain in detail?	**[7M]**
	B	Distinguish between the pass and phase while building a compiler.	**[7M]**

SECTION-II

3	A	Create a predictive parser table for the ensuing grammar.	**[7M]**

E->TE'
E'->+TE'|ε
T->FT'
T'->*FT'| ε
F->(E)|id

	B	How do predictive parsers handle errors? What are their limitations?	**[7M]**

OR

4	A	Construct SLR parsing table for the following grammar.	**[7M]**

E->E+T|T
T->T*F|F
F-> (E)|id

	B	Define YACC. Write the general structure of the YACC program. Explain how the YACC parser resolves ambiguity with a suitable example.	**[7M]**

SECTION-III

5	A	Give an example to Illustrate SDT schemes.	**[7M]**
	B	Describe the various representations of the 3-address code using an example.	**[7M]**

OR

6	A	What is a symbol table? Explain the different approaches used to implement the symbol table.	**[7M]**
	B	Define DAG. Construct the DAG and write the instructions for the expression a+a*(b-c)+(b-c)*d.	**[7M]**

SECTION-IV

7	A	What is an activation record? list out the fields of the activation record with an example.	**[7M]**
	B	What are the different techniques for optimizing code?	**[7M]**

8   *A*   What are the various runtime environment storage allocation strategies? **[7M]**

     B   Describe using a variety of loop optimization techniques with an example. **[7M]**

SECTION-V

9   *A*   What is a Flow graph and data flow analysis explain with a suitable example. **[7M]**

     B   Give a detailed discussion of global optimization methods. **[7M]**

OR

10   *A*   Construct the algorithm for a simple code generator. And explain various issues in the code generator. **[7M]**

     B   Tell about register allocation and assignment in target code generation **[7M]**

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, January 2024
Embedded Systems
(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**	Draw the architecture of 8086 microprocessor and explain its advantages over 8085	**[7M]**
	B	Explain about the register organization in 8086 microprocessors.	**[7M]**

OR

2	**A**	Draw the architecture of 8051 micro controller and discuss its operation	**[7M]**
	B	List the different I/O ports in 8051 and describe the significance of each.	**[7M]**

SECTION-II

3	**A**	Explain the classification of embedded systems based on the complexity and generation.	**[7M]**
	B	Describe the characteristics of Embedded Systems.	**[7M]**

OR

4	**A**	Discuss in detail about operation attributes of embedded systems.	**[7M]**
	B	Explain the purpose of the embedded systems.	**[7M]**

SECTION-III

5	**A**	Explain about parallel interface.	**[7M]**
	B	Discuss about I2C in detail.	**[7M]**

OR

6	**A**	Explain the SPI bus interfacing with neat schematic.	**[7M]**
	B	Discuss about blue tooth and USB.	**[7M]**

SECTION-IV

7	**A**	Explain the different embedded firmware design approaches in detail.	**[7M]**
	B	Explain various steps involved in assembling of an assembly language program.	**[7M]**

OR

8	**A**	Describe the process of high level language to machine language conversion	**[7M]**
	B	Explain the various scenarios of mixing of assembly language with high level language.	**[7M]**

SECTION-V

9	**A**	Explain the differences between compiler and cross complier	**[7M]**
	B	Discuss about various data types in Embedded C.	**[7M]**

OR

10	**A**	Describe the modifiers in Embedded C with suitable examples.	**[7M]**
	B	Discuss about usage of pointers in Embedded C with syntaxes.	**[7M]**

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, January 2024
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.

SECTION-I

1 A Show an example how precedence of operators effects an expression evaluation? **[7M]**

   B Create and print the different variations or constructions of standard data types **[7M]**

OR

2 A Define comment and list out different types of comments with syntax? **[7M]**

   B Differentiate between list, tuple, set and dictionary with one example each? **[7M]**

SECTION-II

3 A Explain If_elif_else statement in python with syntax, flowchart and example? **[7M]**

   B Write a python program using nested for loop to print the following pattern? **[7M]**
   ```
   *
   * *
   * * *
   * * * *
   * * * * *
   ```

OR

4 A Discuss Functions and its use. **[7M]**

   B Explain default arguments and variable length arguments with suitable example. **[7M]**

SECTION-III

5 A Brief about fruitful functions. **[7M]**

   B Write a Python function that takes two lists and returns True if they have at least one common member **[7M]**

OR

6 A Define Composition and write the syntax with an example? **[7M]**

   B Explain array representation in python and list out the basic operations? **[7M]**

SECTION-IV

7 A Define Exception? List any 6 types of exception? **[7M]**

   B Write a short note on files. **[7M]**

OR

8 A Explain the following **[7M]**
   1. Zero Division Error
   2. Overflow Error
   3. Index Error

	B	Write a python program to open a file and check what are the access permissions acquired by that file using os module?	**[7M]**

SECTION-V

9	*A*	Explain the features of oops?	**[7M]**
	B	List and define different types of constructors?	**[7M]**

OR

10	*A*	Write a python program to show inheritance in python programming?	**[7M]**
	B	Implement a simple web application with Django framework?	**[7M]**

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, January 2024
Artificial Intelligence
(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** Explain Breadth First Search with an example.   **[7M]**
   B Explain the state space representation with an example.   **[7M]**
                                   OR
2 **A** Discuss A* algorithm in detail.   **[7M]**
   B Briefly describe any two types of agents in Artificial intelligence.   **[7M]**

SECTION-II
3 **A** Explain how values are propagated in the game tree using MINIMAX and ALPHA-BETA pruning. Show the nodes that will be pruned.   **[10M]**
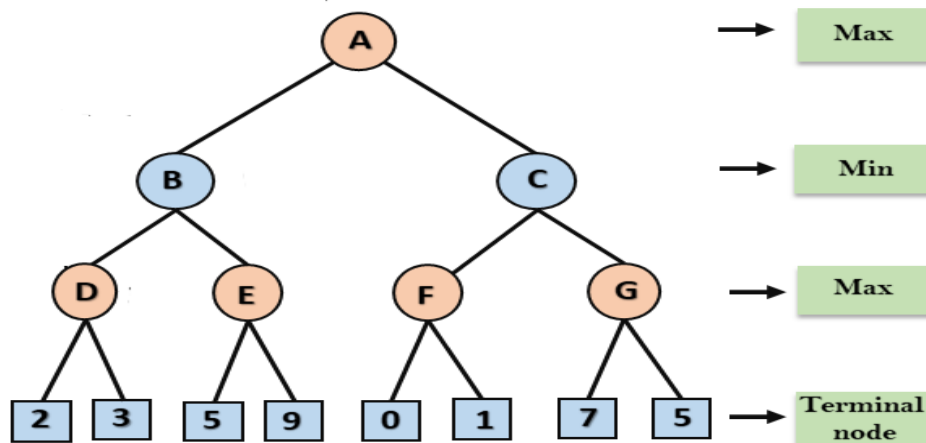
   B Compare A* and AO* algorithms.   **[4M]**
                                     OR
4 **A** Explain forward chaining algorithm with an example.   **[7M]**
   B Illustrate the use of first-order logic to represent knowledge.   **[7M]**

SECTION-III
5 **A** Discuss the following knowledge representation schemes: a) Logic representation b) Semantic network c) Frame representation d) Production rules   **[8M]**
   B Discuss Non-Monotonic reasoning with an example.   **[6M]**
                                     OR
6 **A** Discuss Bayesian Belief Networks with an example.   **[7M]**
   B Apply the baye's rule for the following. A bag I contain 4 white and 6 black balls while another Bag II contains 4 white and 3 black balls. One ball is drawn   **[7M]**

at random from one of the bags, and it is found to be black. Find the probability that it was drawn from Bag I.

SECTION-IV

| 7 | A | Define learning. Summarize the learning by taking advice technique. | [8M] |
| | B | Briefly describe learning in Problem Solving. | [6M] |

OR

| 8 | | What is learning from examples? Explain its types in detail. | [14M] |

SECTION-V

| 9 | A | Explain the Expert System Architecture with the help of a neat diagram | [10M] |
| | B | Write the applications of expert system. | [4M] |

OR

| 10 | A | Explain Expert system shells with a neat diagram. | [6M] |
| | B | Describe the process of knowledge acquisition in expert systems. | [8M] |

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, January 2024
Enterprise Resource Planning
(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* Discuss the advantages of Data Mining. **[7M]**
  B Explain Direct and Indirect benefits of ERP **[7M]**

OR

2 *A* Write brief account on Online Analytical Processing (OLAP). **[7M]**
  B What is the need for business process reengineering? **[7M]**

SECTION-II

3 *A* Explain different phases of ERP implementation Life Cycle with suitable example from service sector. **[7M]**
  B Explain advantages and disadvantages of Big Bang Strategy and Hybrid Strategy. **[7M]**

OR

4 *A* What is the composition of ERP project team? **[7M]**
  B Explain in detail about ERP implementation methodology. **[7M]**

SECTION-III

5 *A* Write shot note on ERP in manufacturing industry with neat diagram. **[7M]**
  B Describe about the ERP functional modules in Human capital Management **[7M]**

OR

6 *A* Do you think that Integration of ERP and SCM system is a critical, as each? member of the supply chain may be having a different hardware and software. Why? **[7M]**
  B What major aspects are to be considered in technical evaluation of ERP package? **[7M]**

SECTION-IV

7 *A* What are the future technological challenges in ERP? **[7M]**
  B Write down the impact on implementing ERP systems in Organization. **[7M]**

OR

8 *A* What are the factors affecting the post implementation process of ERP? **[7M]**
  B Explain the issues of ERP Implementation? **[7M]**

SECTION-V

9 *A* How ERP used in CRM -discuss in detail **[7M]**
  B What are the emerging trends in ERP? **[7M]**

OR

10 *A* Define business analytics. And what are the advantages of business analytics? **[7M]**
  B What are the components of extended ERP? **[7M]**

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, January 2024
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.
***

SECTION-I
1	**A**	Elaborate on the changing nature of software in detail.	**[7M]**
	B	What are the merits of incremental model?	**[7M]**
		OR	
2	**A**	What are software myths?	**[7M]**
	B	Explain Agile process model with a neat diagram?	**[7M]**

SECTION-II
3	**A**	Discuss the components of a Software Requirement Specification Document.	**[7M]**
	B	What are the advantages of context model?Give an example.	**[7M]**
		OR	
4	**A**	What are the differences between functional requirements and non-functional requirements?	**[7M]**
	B	Write short note on role of behavioral models.	**[7M]**

SECTION-III
5	**A**	Explain Design process and Design quality	**[7M]**
	B	Define Software architecture. Explain why it may be necessary to design the system architecture before the specifications.	**[7M]**
		OR	
6	**A**	Explain the Golden Rules which are used to perform User Interface Design.	**[7M]**
	B	Describe interface design evaluation in software engineering?	**[7M]**

SECTION-IV
7	**A**	Demonstrate Validation testing.	**[7M]**
	B	What are metrics for analysis model?	**[7M]**
		OR	
8	**A**	What are the test strategies for conventional software?	**[7M]**
	B	Explain in detail function point metric. List all the value adjustment factors.	**[7M]**

SECTION-V
9	**A**	What do you mean by risk management? Explain how to select the best risk reduction technique when there are many ways of reducing a risk?	**[7M]**
	B	Distinguish between Reactive vs. Proactive Risk strategies.	**[7M]**
		OR	
10	**A**	What are Formal Technical Reviews? How they are conducted?	**[7M]**
	B	Write about the ISO 9000 quality standards.	**[7M]**

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