

Hall Ticket Number :																			
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R-19

Code: 19A461T

III B.Tech. II Semester Supplementary Examinations April 2023

Microprocessor & Interfacing
(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)

UNIT-I

- | | Marks | CO | BL |
|--|-------|-----|----|
| 1. a) Discuss the features of 8086. | 7M | CO1 | 2 |
| b) Describe the flag register of 8086. | 7M | CO1 | 2 |

OR

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|--|----|-----|---|
| 2. a) Define addressing mode? Explain the addressing modes of 8086 with suitable examples. | 7M | CO1 | 1 |
| b) Explain at least 7 assembler directives of 8086 with suitable example. | 7M | CO1 | 2 |

UNIT-II

- | | | | |
|---|----|-----|---|
| 3. a) Differentiate SRAM and DRAM | 7M | CO2 | 2 |
| b) Compare I/O mapped I/O with Memory mapped I/O. | 7M | CO2 | 5 |

OR

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|---|-----|-----|---|
| 4. a) Draw and explain the basic structure of SRAM and DRAM cells | 10M | CO2 | 2 |
| b) Justify latches and buffers used for interfacing | 4M | CO2 | 5 |

UNIT-III

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|---|-----|-----|---|
| 5. With neat sketch explain the architecture of 8259A PIC | 14M | CO3 | 2 |
|---|-----|-----|---|

OR

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|---|----|-----|---|
| 6. a) How the DMA is faster than others. | 5M | CO3 | 1 |
| b) What are the key differences between NMI and other external hardware interrupts? | 9M | CO3 | 1 |

UNIT-IV

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|--|-----|-----|---|
| 7. With functional block diagram, explain the operation and programming of 8253 in detail. | 14M | CO2 | 2 |
|--|-----|-----|---|

OR

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|---|----|-----|---|
| 8. a) Describe asynchronous data transfer schemes with suitable examples. | 7M | CO2 | 1 |
| b) Give the structure how to connect the devices using RS232 | 7M | CO2 | 3 |

UNIT-V

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|---|----|-----|---|
| 9. a) Explain the salient features of 80386 | 7M | CO4 | 2 |
| b) Discuss Salient features of Pentium processors | 7M | CO4 | 2 |

OR

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|---|-----|-----|---|
| 10. Define paging? Draw the block diagrammatic representation of complete 80386 paging mechanism. | 14M | CO4 | 1 |
|---|-----|-----|---|

Hall Ticket Number :

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R-19

Code: 19A562T

III B.Tech. II Semester Supplementary Examinations April 2023

Object Oriented Analysis and 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)

Marks CO BL

UNIT-I

1. a) Explain briefly the strengths and weaknesses of Object Orientation paradigm. 7M 1 2
 b) How does the object-oriented view of component-level design differ from the conventional view? 7M 1 1

OR

2. a) Define software Architecture. Explain the five interlocking view model of system architecture. 7M 1 1
 b) In UML, state how system architecture is deployed? 7M 1 1

UNIT-II

3. a) Explain the properties of a well-structured diagram. 7M 2 2
 b) Draw and explain the class diagram for ATM bank system. 7M 2 3

OR

4. a) Differentiate classes, packages and interfaces with examples. 7M 2 2
 b) What are the common properties and uses of class diagrams? Explain with an example. 7M 2 1,2

UNIT-III

5. What is activity diagram? Draw and explain the activity diagram for a library management system 14M 3 2,4

OR

6. a) Define Use case? What are the points to be considered to model the context of a system using Use case diagram? 7M 3 1
 b) Briefly explain about Modeling techniques in interaction Modeling. 7M 3 2

UNIT-IV

7. Describe the various concepts involved in modeling a Reactive objects with a neat sketch? 14M 4 1

OR

8. a) Explain with UML notation of Interaction diagrams by considering library system as example. 7M 4 2
 b) Define guard condition. How do you identify concurrent and nested states? Give an example. 7M 4 1

UNIT-V

9. a) Explain about Deployment diagram? How it is useful in modeling of an embedded system? 8M 5 2
 b) Draw the Deployment Diagram for Library System 6M 5 3

OR

10. a) Draw deployment and component diagrams for the library system. 7M 5 2
 b) Discuss the usefulness of deployment diagram. 7M 5 2

Important Note: 1. On completing your answers. Compulsorily draw diagonal cross line on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and/or equations written eg. 32+8=40, will be treated as malpractice.

Hall Ticket Number :

R-19

Code: 19A561T

III B.Tech. II Semester Supplementary Examinations April 2023

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)

Marks CO BL

UNIT-I

1. a) What is the difference between a pass and phase of a compiler? 4M 1 3
b) What do you mean by ambiguity in Context Free Grammars? Give an example for ambiguous grammar. Show that the grammar in your example is ambiguous? 10M 1 1

OR

2. Explain the different phases of the Compiler, showing the output of each phase using an example for the statement $a = b + c * d$? 14M 1 2

UNIT-II

3. a) Draw and explain model of LR parser. 4M 3 2
b) Consider the grammar
 $E \rightarrow E + T \mid E - T \mid T, T \rightarrow T * F \mid T / F \mid F, F \rightarrow (E) \mid id$
Show the sequence of moves made by shift reduce parser for the input string $id1+id2*id3$ is accepted or not. 10M 3 4

OR

4. a) Differentiate between LR(1), Canonical-LR and LALR parsing methods 6M 3 5
b) Show that the following grammar:
 $S \rightarrow Aa \mid bAc \mid Bc, A \rightarrow d, B \rightarrow d$ is LR(1) but not LALR(l). 8M 3 5

UNIT-III

5. a) Discuss in detail about the Syntax Directed Definitions? 7M 3 2
b) Write the algorithm to test structural equivalence of two type expressions s and t? 7M 3 5

OR

6. a) Compare Inherited attributes and synthesized attributes with an example? 7M 3 5
b) Write a short note on L-attributed definitions? 7M 3 5

UNIT-IV

7. a) List out various forms of Intermediated code? 5M 4 1
b) Generate the three-address code for the following 'C' Program fragment?
 $for (i=1; i \leq 20; i++) \quad if(a < b) \quad x=y+z;$ 9M 4 6

OR

8. a) What is activation record? Explain the various fields of the activation record? 5M 4 2
b) Discuss about the stack allocation strategy with an example? 9M 4 2

UNIT-V

9. a) Distinguish local and global optimization? 5M 5 5
b) Explain the Code generation algorithm to generate code for the following expression? $x=(a-b) + (a+c)$ 9M 5 2

OR

10. a) With suitable examples, write about Live-variable analysis? 7M 5 5
b) Illustrate Copy propagation and Dead code elimination? 7M 5 4
