

Hall Ticket Number :

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R-15

Code: 5G262

III B.Tech. II Semester Supplementary Examinations April 2023

Microprocessors and Microcontrollers

(Electrical and Electronics 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. With a neat block diagram explain the architecture of 8086 in minimum mode operation and also explain the timing diagram for input and output transfer on a minimum mode 14M CO1 L2

OR

2. a) Draw the pin diagram of 8086 microprocessor and explain the functions of the following pins. (i) ALE (ii) NMI (iii) INTR (iv) HOLD (v) HLDA (vi) BHE (vii) LOCK 7M CO1 L2
b) What is a procedure? What are different types of procedures in 8086? Discuss each type of procedure with examples. 7M CO1 L1

UNIT-II

3. a) Explain how an ADC can be interfaced with 8086 microprocessor 7M CO2 L2
b) Explain how the stepper motor can be interfaced with 8086 microprocessor. 7M CO2 L2

OR

4. a) Explain the function of Programmable Peripheral Interface PPI in detail with the help of block diagram. 7M CO2 L2
b) Draw and discuss the architecture of 8257 DMA controller? 7M CO2 L3

UNIT-III

5. Explain 8251 UART Architecture and its functionality. 14M CO3 L2

OR

6. a) Draw the circuit of TTL to RS-232 and explain the necessity of this interface. 7M CO3 L2
b) Discuss the overrun error and framing error with reference to 8251 7M CO3 L2

UNIT-IV

7. Describe the functions of various pins of 8051 microcontroller with pin diagram. 14M CO4 L2

OR

8. a) What is the difference between the Microprocessors and Microcontrollers? 7M CO4 L2
b) Explain the I/O pin ports and circuit details of 8051 microcontroller 7M CO4 L2

UNIT-V

9. a) Explain in detail about ARM micro controller features and applications 7M CO5 L2
b) Discuss about ARM 7 and ARM 9 microcontrollers 7M CO5 L2

OR

10. a) Explain the operation of BL instruction. Also mention the state of ARM registers 7M CO5 L2
b) List the special features of ARM controller design 7M CO5 L1

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. 42+8=50, will be treated as malpractice.

Hall Ticket Number :

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R-15

Code: 5G466

III B.Tech. II Semester Supplementary Examinations April 2023

Object Oriented Programming Concepts

(Common to EEE & ECE)

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) Define constructor and write a C++ program to implement types of constructors. | 7M | 1 | 1,6 |
| b) What is a reference variable? Explain the usage of reference variable. | 7M | 1 | 1,2 |

OR

- | | | | |
|---|----|---|-----|
| 2. a) What are constructors? Explain constructor overloading with an example program. | 7M | 1 | 1,2 |
| b) Describe the benefits offered by OOP. | 7M | 1 | 2 |

UNIT-II

- | | | | |
|---|----|---|-----|
| 3. a) Define Inheritance. Write a C++ program to demonstrate multiple inheritances. | 7M | 2 | 1,6 |
| b) What is mean by Overloading? Explain about function overloading with suitable program. | 7M | 2 | 1,2 |

OR

- | | | | |
|--|----|---|-----|
| 4. a) What is polymorphism? Explain with an example. | 7M | 2 | 1,2 |
| b) Explain about various manipulators of C++ language. | 7M | 2 | 2 |

UNIT-III

- | | | | |
|---|----|---|-----|
| 5. a) Distinguish between Java & C++. | 7M | 3 | 4 |
| b) List and Explain Data types in Java. | 7M | 3 | 1,2 |

OR

- | | | | |
|--|----|---|---|
| 6. a) Explain about decision making statements in Java. | 7M | 3 | 2 |
| b) Write a program to find the number of and sum of all integers greater than 150 and less than 250 that are divisible by 6. | 7M | 3 | 6 |

UNIT-IV

- | | | | |
|--|----|---|-----|
| 7. a) Write an example program to create threads using Thread class. | 7M | 4 | 6 |
| b) Describe interface. How can you implement interface in java? Explain with suitable program. | 7M | 4 | 1,2 |

OR

- | | | | |
|--|----|---|---|
| 8. a) Give a detail note on interfaces and packages in java with examples. | 7M | 4 | 1 |
| b) Write a java program to implement the built-in exception. | 7M | 4 | 6 |

UNIT-V

- | | | | |
|--|----|---|---|
| 9. a) Demonstrate the passing parameters to the applet with example. | 7M | 5 | 3 |
| b) Explain thread class extending in JAVA with suitable example. | 7M | 5 | 2 |

OR

- | | | | |
|---|----|---|-----|
| 10. a) How can you create a thread in java? Write a Java Program to create a thread using Thread Class. | 7M | 5 | 1,6 |
| b) Explain role of applet in designing a web page. | 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.