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**Date: 29-01-2021.**

**II.B.TECH- I-SEM (R22)-I MID Examinations-November-2023 Date: 22/11/2023**

**Subject: COA Time:10:00 TO 12:00**

**Branch: CSE, IT, CSC, CSM&CSD Marks: 30 M**

***Answer all Questions in Part -A & Answer any FOUR Questions in Part –B***

**PART-A 5x2=10 M**

**BTL CO**

1. Explain functional units of a computer **1 1**
2. Define register and list different types **2 2**
3. Define control memory. **1 1**
4. Discuss various data types **3 3**
5. Explain instruction format **2 1**

**PART-B 4 x 5 M = 20 M**

**BTL CO**

1. Design and Explain with suitable example, 4-bit adder/Subtractor. **3 1**
2. Sketch and explain the design of control unit **4 1**
3. Explain Instruction formats and Instruction Types with an example **4 1**
4. Explain Number System conversions and Solve Convert (168)10 to **( )2 ,( )8 ,( )16 3 3**
5. Explain the different types of Addressing modes with suitable example each? 3 2
6. Define Register Transfer language? Explain The implementation of common **3 2**

Bus system using Decoders?

SCHEME OF EVALUATION

PART-A

|  |  |  |  |
| --- | --- | --- | --- |
| S NO | THEORY | MARKS | TOTAL |
| 1 | Explain functional units of a computer | 2 | 2 |
| 2 | Define register and list different types | 2 | 2 |
| 3 | Define control memory. | 2 | 2 |
| 4 | Discuss various data types. | 2 | 2 |
| 5 | Explain instruction format. | 2 | 2 |

PART-B

|  |  |  |  |
| --- | --- | --- | --- |
| S NO | THEORY | MARKS | TOTAL |
| 6 | a) Design and Explain with suitable example, 4-bit adder  b) Design and Explain with suitable example, 4-bit Subtractor.  (or) | 2.5  2.5 | 5 |
| 7 | a) define the control unit.  b) Sketch and explain the design of control unit | 1  4 | 5 |
| 8 | a) what is instruction and types?  b) Explain Instruction formats and Instruction Types with an example    (or) | 2  3 | 5 |
| 9 | a) Explain Number System ?  b) conversions and Solve Convert (168)10 to **( )2 ,( )8 ,( )** | 2  3 | 5 |
| 10 | a) Define the Addressing modes  b) Explain the different types of Addressing modes with suitable example each? | 1  4 | 5 |
| 11 | 1. Define Register Transfer language? Explain The implementation of common Bus system using Decoders | 5 | 5 |