Code No: R1631041 **R16** **SET - 1**

III B. Tech I Semester Supplementary Examinations, February-2022

COMPUTER ARCHITECTURE AND ORGANIZATION

(Electronics and Communication Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A (14 Marks)

1. a) Write basic input and output operations. [2M]
   b) Describe the basic instruction format. [2M]
   c) With an example write about register mode addressing. [2M]
   d) What is the use of interrupts in a computer system? [3M]
   e) Write the differences between static and dynamic RAMs. [2M]
   f) Explain basic organization of micro programmed control unit. [3M]

PART –B (56 Marks)

2. a) Define bus structures. Explain about the bus structures of computers. [7M]
   b) Discuss briefly about the performance measurement of computers. [7M]
3. a) Illustrate the concept of assembly directives with an assembly language program. [7M]
   b) Differentiate the instruction execution for adding ‘n’ numbers using straight line sequencing and branching. [7M]
4. a) What is addressing Mode? Discuss different addressing modes. [7M]
   b) What is the purpose of logical instructions? List out logical instructions, and write any example program using these instructions. [7M]
5. a) Explain in detail about various I/O modes of transfer. [7M]
   b) With neat sketches explain the mechanism of DMA. [7M]
6. a) Write short note on the following: [7M]
      i. EPROM
      ii. EEPROM
   b) Discuss any two secondary storage memories. [7M]
7. a) Explain briefly different types of control units. [7M]
   b) Formulate a mapping procedure that provides eight consecutive microinstructions for each routing. The operation code has six bits and the control memory has 2048 words. [7M]

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