

II B. Tech II Semester Regular Examinations, August/September - 2021
COMPUTER ARCHITECTURE AND ORGANIZATION
 (Electronics Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit
 All Questions carry **Equal** Marks
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- 1 a) Describe the functions of the main hardware components of a general purpose computer. [8M]  
 b) Write about mnemonics in assembly language with example. [7M]
- Or
- 2 a) Explain about the different types of buses in computer architecture. [8M]  
 b) Discuss the types of basic instructions in computer system. [7M]
- 3 a) What is an addressing mode? List and explain various addressing modes of a computer with example. [8M]  
 b) Write about Arithmetic and Logic instructions. [7M]
- Or
- 4 a) Describe the role of Stack data structure in computer architecture. [8M]  
 b) Explain about various components of basic instructions in computer organization. [7M]
- 5 Explain in detail about various mechanisms for implementing Input/output operations. [15M]
- Or
- 6 a) Explain the sequence of steps involved in DMA transfer. [8M]  
 b) What is PCI bus? How it works? Explain. [7M]
- 7 a) Explain the following [8M]  
 i) Cache memory ii) Flash memory  
 b) Write about any two secondary storage devices. [7M]
- Or
- 8 a) What is ROM? What is its purpose in computer system? How it works? Explain. [8M]  
 b) Explain how Cache memory helps in improving the performance of the processor. [7M]
- 9 a) Write the control sequence for an uncontrolled branch instruction. [8M]  
 b) Explain the formats of micro instruction types. [7M]
- Or
- 10 a) Show a possible control sequence for implementing the instruction MUL R1,R2. [5M]  
 b) Differentiate between Micro programmed control unit and Hardwired control unit. [10M]

