

II B. Tech II Semester Supplementary Examinations, February - 2022
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**

- ~~~~~
- 1 a) What is a System Bus? What are its types? Explain. [8M]
 b) What do you mean by mnemonics and machine codes, and what are its purposes? [7M]
 Or
 - 2 a) How does computer memory affect the performance of the computer? Explain. [8M]
 b) Describe the data transmission between CPU registers during the execution of instructions through Register transfer notation. [7M]
 - 3 a) What is the purpose of an Addressing mode? List out and explain various Addressing mode techniques. [8M]
 b) Explain the role of Queue data structure in computer programming equation. [7M]
 Or
 - 4 a) Explain about various basic computer instruction formats. [8M]
 b) Write about Shift and Rotate instructions. [7M]
 - 5 a) What are the different types of I/O communication techniques? Which is the most efficient one? [8M]
 b) What is asynchronous bus transfer? Explain with a timing diagram. [7M]
 Or
 - 6 a) Explain the term Direct Memory Access and discuss the functions of the DMA controller in the computer system. [8M]
 b) Discuss various problems with disabling interrupts. [7M]
 - 7 a) Describe the basic memory circuits in computer system. [8M]
 b) Explain in detail about the types of Read Only Memory. [7M]
 Or
 - 8 a) What is interleaved memory? What are the benefits of interleaved memory? Explain. [7M]
 b) How do magnetic storage devices store data? And also explain the types of magnetic storage devices. [8M]
 - 9 a) What is the sequence of operations to add the contents of register R1 to those of R2 and store the result in R3? [8M]
 b) With a neat diagram explain the basic organization of a micro programmed control unit which allows unconditional branching in the micro program. [7M]
 Or
 - 10 a) Show a possible control sequence for performing the operation MOV R1 R2. [8M]
 b) What do you mean by micro-program sequencing? Explain Microinstruction with next address field? [7M]