

Code No: MC1612/R16

MCA I Semester Regular/Supplementary Examinations, January-2018**COMPUTER ORGANIZATION****Time: 3 Hours****Max. Marks: 60**

*Answer Any FIVE Questions
All Questions Carry Equal Marks*

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| 1. a | Explain the impact of following on the performance of a computer | 6M |
| | i) Instruction set | |
| | ii) Multiprocessors and multicomputer | |
| b | Discuss various generations in development of technologies to fabricate processors, memories and I/O units. | 6M |
| 2. a | Consider $C=A+B$, Explain different ways of writing this instruction with respect to number of addresses used. | 6M |
| b | Write about relative, absolute and auto increment/decrement addressing modes. | 6M |
| 3. a | How to execute a program in assembly language? Explain step by step process. | 6M |
| b | What is subroutine? Explain about subroutine stack frame with an example. | 6M |
| 4. a | Differentiate ARM post-indexed and pre-indexed memory addressing modes involving write back. | 6M |
| b | Perform various logical operations on the contents of two registers and store the result in another register. | 6M |
| 5. a | Write about arbitration, selection operations on SCSI bus. | 6M |
| b | How to perform an input transfer using multiple clock cycles in synchronous bus. | 6M |
| 6. a | Draw and explain a general 8-bit parallel interface circuit. | 6M |
| b | How to use DMA controller in a computer system. Explain in detail. | 6M |
| 7. a | What is the importance of virtual memory? How it is different from other memories? Explain | 6M |
| b | Write about Manchester encoding, organization of disk and disk controller in detail. | 6M |
| 8. a | Explain micro instruction sequencing organization with micro instruction address register. | 6M |
| b | Separate the functionalities of decoding and encoding in hard wired control. | 6M |
