

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*

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

