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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

January 2016 Semester End Make Up Examinations

Course: Computer Organization & Architecture **Duration: 3 Hours**
Course Code: 15CS3DCCOA **Max Marks: 100**
Date: 22.01.2016

Instruction: Answer any five full questions choosing one from each unit.

UNIT-I

1. a) What is an addressing mode? Explain the different Type addressing modes with example. **10**
   b) Explain the different Type Assembler Directives with Example. **05**
   c) Explain the different factors on which the performance of a system can be Evaluated? **05**

UNIT-II

2. a) Discuss the problem of simultaneous arrival of Interrupt requests from two or more devices. With a neat schematic diagram, explain any two mechanism to resolve the above problem. **10**
   b) With neat diagram, explain the characteristics of a SCSI bus, discuss its arbitration and selection phase. **10**

OR

3. a) What is DMA? With a neat block diagram, explain the use of DMA controllers in a computer system and discuss the two modes of data transfer in DMA. **10**
   b) With a neat block diagram, explain the hardware components needed for connecting a keyboard to a processor. **10**

UNIT-III

4. a) Explain Virtual Memory Address Translation using Paging . **10**
   b) Explain **10**
      (i) Locality of Reference
      (ii) Hit Rate & Miss Penalty
      (iii) Bit Representation by phase encoding in Magnetic Disk.

OR

5. a) Explain the organization of 1K x 1 memory. **10**
   b) Explain the Cache Memory Mapping Functions. **10**

UNIT-IV

6. a) Explain the Booth's multiplication algorithm. Multiply 01111(+15) and 11011(-5) using Booth's multiplication. **10**

   b) Explain the IEEE floating point standards and represent (0.0625)10 using Single and double precision representations. **10**

UNIT-V

7. a) With a neat diagram explain design of hardwired control unit. **10**

   b) Explain Flynn's classification of computers. **10**

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