



# BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT

## YELAHANKA – BANGALORE - 64

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### II INTERNAL ASSESSMENT TEST, APRIL – 2017

<b>Subject: Microprocessors &amp; Microcontrollers</b>	<b>Subject Code: 15CS44</b>	<b>Branch &amp; Semester : CSE - 4 A &amp; B</b>
<b>Max. Marks : 30 Marks</b>	<b>Date: 18/04/2017 Time: 2 PM - 3:30 PM</b>	<b>Faculty: Mr. Shankar R</b>

*Answer FIVE full questions, selecting ONE full question from each Part.  
(Part D & Part E are compulsory)*

Q. No	Question	CO, PO, K level	Marks
<b>PART-A</b>			
1.	Explain the following instruction with suitable examples: AAA XOR CMP DAA CBW LABEL	CO2 (PO1) K2	06
2.	Explain the following instruction with suitable examples: CLD REPE LODSB SCASB XLAT SAL	CO2 (PO1) K2	06
<b>PART-B</b>			
3a.	Show the differences between INT and CALL instructions.	CO2 (PO1) K1	03
3b.	Develop a program that ♦ Clears the screen ♦ Sets the cursor at the center of the screen	CO4 (PO1,PO2) K3	03
4a.	Explain the steps taken by a processor to execute an interrupt instruction.	CO2 (PO1) K1	03
4b.	Explain Interrupt Vector table and Interrupt Service Routine	CO2 (PO1) K1	03
<b>PART-C</b>			
5.	With a neat block diagram explain 82C55 PPI.	CO2 (PO1) K1	06
6.	Explain the control word format of 8255 PPI. Build the control words for ♦ PORT A as input, PORT B as output, PORT C as output ♦ PORT A as output, PORT B as input, PORT C as input in simple I/O mode.	CO2,CO4 (PO1,PO3) K3	06
<b>PART-D</b>			
7.	Examine the various cases of MUL & DIV instructions with examples.	CO2 (PO1,PO2) K4	06
<b>PART - E</b>			
8.	Design a program using INT 10h to: ♦ Change the video mode ♦ Display the letter "D" in 200H locations with attributes black on white blinking (blinking letters "D" are black and the screen background is white)	CO2,CO5 (PO2,PO3) K6	06

#### Course Outcomes: Students will be able to

CO1	Describe the architecture of X86 Microprocessors and have an introduction to Assembly Language Programming.				
CO2	Discuss the Instruction Set of X86 Microprocessors and extend it to interface various devices to X86 families				
CO3	Understand ARM philosophy and its Instruction Set.				
CO4	Demonstrate the skills to code in Assembly Language, ARM.				
CO5	Construct software and hardware programs using Assembly Language Programming, ARM.				
K1: Remember	K2: Understand	K3: Apply	K4: Analyze	K5: Evaluate	K6: Creation