BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT
YELAHANKA – BANGALORE - 64

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

III INTERNAL ASSESSMENT TEST, MAY – 2017

Subject: Microprocessors & Microcontrollers	*Subject Code: 15CS44*	*Branch & Semester : CSE - 4 A & B*
Max. Marks : 30 Marks	*Date: 23/05/2017* *Time: 2 PM - 3:30 PM*	*Faculty: Mr. Shankar R*

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
	PART-A		
1.	Describe the different features of ARM instruction set that make it suitable for embedded applications?	*CO3 (PO1) K2*	06
2.	Explain ARM core dataflow model with a neat diagram.	*CO3 (PO1) K2*	06
	PART-B		
3.	Explain program status register byte fields and explain – MRS & MSR.	*CO3 (PO1) K2*	06
4.	With example, illustrate how following instructions work? LDRSH STRB LDMDA STMIA	*CO4 (PO1) K3*	06
	PART-C		
5.	What are banked registers? Show how the banked registers are utilized when the user mode changes to IRQ mode?	*CO3 (PO2) K3*	06
6.	Explain in detail Arithmetic instructions. How Barrel shifter is used with Arithmetic instructions?	*CO3 (PO2) K2*	06
	PART-D		
7.	Analyze the ARM processor that we use in BMSIT&M in terms of interrupts or exceptions. How are those exceptions handled?	*CO3 (PO1,PO2) K4*	06
	PART - E		
8.	Assess the result of this instruction (post computation). **PRE** r1 = 0b1111 r2 = 0b0101 BIC r0,r1,r2 What can be the alternate instruction/logic of the above case?	*CO4,CO5 (PO2,PO3) K5*	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***