CBCS SCHEME

rinivas Institute of Technolog

15EC555

USN

Fifth Semester B.E. Degree Examination, June/July 2019 MSP430 Microcontroller

Time: 3 hrs.

Max. Marks: 80

	A.T	-to- to-serve and EU/E full averations aboaring ONE full averation from each wa	dula
Note: Answer any FIVE full questions, choosing ONE full question from each module.			
		Module-1	
1	a.	With a neat block diagram, explain the architecture of MSP430 microcontroller.	(10 Marks)
	b.	Mention the features of MSP430.	(06 Marks)
		OR OR	
2	a.	With a neat diagram explain the MSP430 memory map structure.	(10 Marks)
	b.	Explain the clock generator of MSP430 and also mention the clock ranges of each	
		Module-2	(40.75 1)
3	a.	Explain the different addressing Modes of MSP430 and give example.	(10 Marks)
	b.	Describe the MSP430 stack operation.	(06 Marks)
		OR	
4	a.	Explain the following instructions:	
		i) ADC.W dst ii) SUBC.W Src, dst iii) TST.W dst	
		iv) DADD.W Src, dst v) BIS.W Src, dst vi) SWPb Src	(12 Marks)
	b.	What is the difference between unconditional and conditional jump and mention to	
		range?	(04 Marks)
Module-3			
5	a.	With a neat diagram, explain the MSP430 clock system.	(10 Marks)
	b.	Explain the digitally controlled oscillator of MSP430.	(06 Marks)
		OR	
6	a.	Explain the step involved in the interrupt service Routine of MSP430.	(10 Marks)
U	а. b.	Explain the different low power modes of MSP430.	(06 Marks)
	U.	Explain the different few permanents of the	
Module-4			
7	a.	With a neat diagram explain the Comparator_A+ inbuilt module of MSP430.	(08 Marks)
	b.	Explain the MSP430 ADC10 Successive approximation ADC.	(08 Marks)
		2 4, 3	
0		OR Finals in the MSD420 digital to Analog conversion	(06 Marks)
8	a.	Explain the MSP430 digital to Analog conversion. With a neat diagram explain the architecture of Sigma Delta ADC.	(10 Marks)
	b.	with a neat diagram explain the architecture of Signia Delta ADC.	(10 Marks)
		Module-5	
9	a.	Explain the MSP430 Digital input and output parallel ports.	(08 Marks)
	b.	Explain the MSP430 serial peripheral interface.	(08 Marks)
		OP.	

OK

a. Explain the MSP430 asynchronous serial communication.b. Write short note on: i) Universal serial interface ii) Universal serial communication

Write short note on: i) Universal serial interface interface interface. (08 Marks)

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8=50, will be treated as malpractice. Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.