TE - Sem V - CBSGS - EXTC

136

MCA

24/11/15

QP Code : 5621

(3 Hours) **[Total Marks : 80**

Notes: 1. Q.1 is compulsory.
2. Answer any **three** from Q.2 to Q.6

Q.1	a) List and explain design metrics of an Embedded system.	05
	b) Explain pipeline stages used in ARM7 processor.	05
	c) Draw format of IE SFR and write purpose of each bit in this SFR.	05
	d) Explain Program status register of 8051 microcontroller.	05
Q.2 a)	Interface stepper motor with 8051 microcontroller and write assembly language program to rotate it in clockwise direction.	10
b)	Which are different core extensions used with ARM processor? Explain.	10
Q.3 a)	Explain different addressing modes of ARM7 processor.	10
b)	Discuss Digital camera as an embedded system.	10
Q.4 a)	Design 8051 based system with following specifications i) 8051 is working at 10 MHz. ii) 8KB external Program memory using 4 KB chips. iii) 16 KB external Data memory using 8 KB chips.	10
b)	Write assembly language program to generate square wave with 50% duty cycle on pin P1.0 of 8051.	10
Q.5 a)	Explain register organisation of ARM7.	10
b)	Interface ADC 0808 with 8051 microcontroller and write assembly language program to convert analog signal which is available on channel no. 3 to digital and store digital value at memory location 30H.	10
Q.6	Write note on a) Internal and external Program memory 8051 b) Current program status register of ARM7 c) Operating modes of ARM7 processor d) Serial port modes of 8051	20
