[Time: Three Hours]　　　　　　　　　　[Marks:80]

Please check whether you have got the right question paper.

N.B: 　1. Question.No.1 is compulsory.
　　　2. Answer any three questions out of remaining five.
　　　3. Assume suitable data wherever necessary.

Q.1		Attempt any four:	20
	a.	Explain function of T0 and T1 pins of 8051.	
	b.	Explain PSW of 8051 in detail.	
	c.	Explain Memory organization in 8051 microcontroller.	
	d.	Explain the concept of pipeline of ARM 7.	
	e.	Compare AJMP, SJMP and LJMP instruction of 8051.	
Q.2	a.	Explain interrupts in 8051 microcontroller.	10
	b.	Explain PORT 3 structure of 8051.	10
Q.3	a.	Explain interfacing of ADC 0808 with 8051.	10
	b.	List and explain the different core extension used with ARM processor.	10
Q.4	a.	Design 8051 based system with following specifications	10
		i) 8051 working at 10MHz.	
		ii) 4 KB External Program memory using 2 KB chips	
		iii) 8 KB External Data memory using 4 KB chips	
	b.	Explain addressing modes of ARM with examples.	10
Q.5	a.	Explain stack operation in 8051 with examples.	10
	b.	Explain IR based wireless communication system.	10
Q.6			20
	a.	Explain current program status registers of ARM7	
	b.	Explain serial communication in 8051	
	c.	Explain "Digital camera as an embedded system"	
	d.	What are the challenges in optimizing embedded system design matrices?	