

Time:-3 Hours

Marks:-80

Note:-1. Q.1 is compulsory

2. Out of remaining 5 solve any 3

3. Figures to the right indicate full marks

Q.1 Solve any 4

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| a. Write an assembly language program to find square of a number | 5 |
| b. Explain Thumb mode of operation of ARM 7 TDMI | 5 |
| c. Explain following assembler directives ORG, DB, EQU, Public and Extern | 5 |
| d. Write a program for 8051 to subtract 2, 16 bit numbers | 5 |
| e. Explain following instructions of 8051 μ c | 5 |
| i) DA A ii) SETB bit iii) AJUMP iv) JB b v) SWAP A | |
| f. Explain CPSR register in ARM 7 TDMI | 5 |
| Q.2 a. Draw and explain memory organization of 8051 μ c | 10 |
| b. Explain interrupt structure in 8051 | 10 |
| Q.3 a Explain ADC interfacing and operation in 8051 | 10 |
| b. Explain the structure of port 0 and port 1 in 8051 μ c with neat diagram. | 10 |
| Q.4 a. Show LCD interfacing to 8051 and program to display 'GO'. | 10 |
| b. Write an assembly language program for sending message "HI" serially at 4800 baud 8 bit data, 1 stop bit, continuously using 8051 . | 10 |
| Q.5 a. Explain various processor modes of ARM7 TDMI | 10 |
| b. Design 8051 based system with following specifications | 10 |
| i) 8 KB RAM using 4 Kb devices | |
| ii) 8 KB EPROM using 4 Kb devices | |
| show detailed memory map and chip select logic .Draw interfacing diagram. | |
| Q.6 Write short notes on any 3 | 20 |
| a. Timer modes of 8051 | |
| b. Addressing modes of ARM7 TDMI | |
| d. Interfacing seven segment display to 8051 | |
| e. Addressing modes of 8051 | |