

QP Code :14870

(3 Hours)

[Total Marks : 80]

- Question number 1 is compulsory
- Solve any three out of remaining

Q1. A. Explain Concept of Cortex-A, the Cortex-R, and the Cortex-M. (5 marks)

Q1 B. Explain SCON register of 8051. (5 marks)

Q1 C. Explain features of ARM 7. (5 marks)

Q1 D. Write short note on CPSR. (5 marks)

Q2. A. Draw and explain internal structure of Port 0 and Port 3 of 8051. (10 marks)

Q 2. B. Design a microcontroller system using 8051 microcontroller, 8 KB EPROM & 8 KB RAM.
(10 marks)

Q3. A. Interface 8051 with four, 7- segment displays and write assembly language program to display "2014". (10 marks)

Q.3 B.. Interface 8051 with DAC 0808. WAP to generate a triangular waveform. (10 marks)

Q4. A. Draw and explain dataflow model of ARM7. (10 marks)

Q 4 B . Design an IR based wireless communication system . (10 marks)

Q5 A Explain ARM instructions (10 marks)

- a. CMP R0, R1, LSR #7 b. ADDS Rd, Rm, Rs c. LDR Rd,[Rs]
- d. CMN R0,R1 e. AND R0,R0,#3

Q5. B. Explain digital camera as an example of embedded systems. (10 marks)

Q6 A. Timer modes of 8051. (10 marks)

Q6. B Addressing modes of ARM 7. (10 marks)