Please check whether you have got the right question paper.

N.B: 1. Question no. 1 is compulsory
     2. Solve any three questions out of remaining questions.
     3. Figures to the right indicate full marks.
     4. Assume suitable data where necessary.

Q. 1 a) Explain TMOD register of 8051 microcontroller. 
       b) Explain SCON register of 8051 microcontroller 
       c) Explain Current Program Status Register of ARM7 
       d) Explain PUSH & POP instruction in 8051 microcontroller 
       e) Explain Preindexed & Postindexed addressing mode of ARM7 
       f) List & Explain design metrics of Embedded Systems

Q. 2 a) Interface ADC 0808 with 8051 microcontroller. Write Assembly language Program to 
       convert analog signal which is available on channel No 6 to digital and store in memory 
       location.
       b) Draw & Explain dataflow model of ARM7.

Q. 3 a) Explain the Memory Interfacing of 8051 with 16K*8 Data RAM & 16K*8 Data ROM
       b) Write a program for 8051 microcontroller to generate square waveform of 1 Hz & 50% duty 
          cycle at pin P1.5. Assume 8051 is operating at frequency 11.059 MHz.

Q. 4 a) Explain Internal RAM Organization of 8051 microcontroller.
       b) Explain following instructions of ARM7
          1. RSB r0, r1, r2    2. ORR r0, r1, r2    3. LDR r0, [r1, #2]    4. AND r1, r1,#3
          5. CMP r0, r1,LSR #3

Q. 5 a) Explain Operating modes of ARM7 Processor
       b) Discuss Digital camera as an Embedded System

Q. 6 Write short notes on (Any Two)
   1) Interrupt Structure in 8051
   2) Serial communication in 8051
   3) Addressing modes in 8051

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