N.B. : (1) Question No. one is compulsory.
       (2) Attempt any three from remaining five questions.

Q1. a) Explain program status word of 8051 microcontroller in detail. (5)
      b) Describe the TCON, TMOD SFR? (5)
      c) Explain the ARM7 pipeline mechanism (5)
      d) What are the statuses of Condition Flags in Logical & Arithmetic Instructions? (5)

Q2. a) What are the different addressing modes of 8051 microcontroller?
       Explain each with suitable examples. (10)
      b) Explain various timer modes available in 8051 microcontroller in detail. (10)

Q3. a) Describe the interrupt structure of 8051 in detail. (10)
      b) Explain the following instructions of 8051 with examples. (10)
         i) CJNE destination,source, label ,ii) MUL AB , iii) INC @R0
         iv) SWAP A , v) SETB P2.0

Q4. a) Explain ARM Processor modes (10)
      b) Explain various ARM processor exceptions & interrupts with its vector locations (10)

Q5. a) Explain how the ARM instruction set suitable for embedded applications (10)
      b) Explain the following instructions of ARM processor: (10)
         i) TSTEQ r2, #5 ; ii) CMP r0, r1 ; iii) BICEQ r2, r3, #7 :
         iv) MVNEQ r1,#0 ; v) STR r0,[r1,#12]

Q6. a) Create a Square wave of 50% duty cycle over a pin P1.5 with 2 KHz
      frequency (Assume Crystal frequency = 12 Mhz) (10)
      b) Write an 8051 assembly language program to find largest number
      among five 8-bit numbers? (10)