

Ref  
V-Ext

TE/VI/CTR7/MCA/CBS/25/05/18

Sub:- Microcontrollers and Application

Q.P. Code: 36599

Duration: 3 Hours

Marks: 80

N.B : (1) Question No.1 is compulsory.

(2) Attempt any three questions from remaining questions.

(3) Figures to the right indicate full marks.

Q1)

- a) Explain the SFR's required for Serial Communication in 8051. 5
- b) Explain the CPSR Register of ARM 7. 5
- c) Explain the ARM 7 pipeline Mechanism. 5
- d) Draw the Memory Map of 8051 internal RAM. 5

Q2) a) Explain in detail the ARM Processor operating Modes. 10

b) Write a program to transfer "Hello" serially using 8051 with a baud rate of 9600. 10

Q3) a) Explain the Interrupt Structure of 8051 using the appropriate Registers. 10

b) Write 8051 based assembly Program to generate a square wave on P1.0 of 10Khz frequency and 50% duty cycle . 10

Q4) a) Explain the following 8051 instructions.

a) MOV A,@R0 b)MOVC A,A+@DPTR c)ANL A,@R0 d)ADDC A,25H 10

b) Explain the following ARM7TDMI architecture based instructions

i)TST r2,r5 ii)LDR R0,[r1+r2] iii)MVN r0,r2,LSL 2 iv)CMP r0,r1 10

Q5) a) Explain the programmers Model (Register structure) in ARM7. 10

b) Explain the different addressing modes in 8051 with suitable examples. 10

Q6) Write Short Notes on any 2

a) Stepper Motor Interfacing with 8051. 10

b) Timer and Counter operation of 8051 10

c) 8 bit ADC interfacing with 8051. 10