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**T.E. (Electronics & Telecommunication) (Semester - VI) (Revised)
Examination, April - 2016**

MICROPROCESSOR AND MICROCONTROLLER

Sub. Code : 66918

Day and Date : Thursday, 21 - 04 - 2016.

Time : 03.00 p.m. to 06.00 p.m.

Total Marks : 100

- Instructions :**
- 1) All questions are compulsory.
 - 2) Draw neat diagrams wherever necessary.
 - 3) Assume suitable data if necessary.

Q1) Answer three of following. [3 × 6 = 18]

- a) Explain addressing Mode of 8085 with example.
- b) State difference between memory mapped I/O and I/O mapped I/O.
- c) Explain any three instruction related to stack of 8085.
- d) Write a program for exchanging ten bytes stored at 9000h to 8000h.

Q2) Solve Any Two. [2 × 8 = 16]

- a) Draw and explain timing diagram of instruction LHLD address.
- b) Interface 16K × 8 RAM using 8k × 8 RAM memory IC's, Give Suitable address for same.
- c) Explain mode 0 of 8255.

Q3) Solve any two. [2 × 8 = 16]

- a) Write a assembly language programming to continuous transmit "SHIVAJI UNIVERSITY" with 4800 baud rate to terminal connected to serial port of 8051. Crystal is 11.0592 MHz.
- b) Explain auto reload mode of timer of MCS 51. Explain application of this mode.
- c) Write a difference between microprocessor and microcontroller. Explain architecture of 8051 with neat diagram.

P.T.O.

Q4) Solve any three.

[3 × 6 = 18]

- a) Explain PSW of 8051.
- b) Draw and explain Reset circuits of 8051.
- c) Explain data types in embedded C.
- d) Write an embedded C program of 8051 to toggle port 1 after every 20 ms.

Q5) Solve any two.

[2 × 8 = 16]

- a) Draw interfacing diagram of 16 × 2 LCD with 8051 ports and write a program to display the message "KOLHAPUR".
- b) Write an ALP to generate a square wave of 50% duty cycle of 1KHz on port pin P2.0 using timer 0 of 8051. (Use Crystal Frequency = 11.0592 Mhz)
- c) Explain the interrupt structure of 8051. What is the normal priority of the structure? How can it be changed using the IP register?

Q6) Solve any two.

[2 × 8 = 16]

- a) Interface ADC 0809 to 8051. Write a program to convert analog input to digital which is applied to channel no. 1.
- b) Interface 4K × 8 RAM and 4K × 8 ROM with 8051.
- c) Draw the functional diagram of port of 8051 and thus list and explain read, modify, write instruction.

