B.Sc. (with Credits)-Regular-Semester 2012 Sem VI

B.Sc. 4517: Electronics- I : Paper- I (Compulsory) : Microprocessor, Interfacing and Microcontrollers

P. Pages : 4

Time : Three Hours Max. Marks : 50

Notes :
1. All questions are compulsory and carry equal marks.
2. Draw neat and labelled diagrams wherever necessary.
3. Use of log table / calculators are allowed.

1. Either

a) What is key De-bouncing? Explain bouncing problems in key with suitable hardware circuit. **5**

b) Draw the structure of 4 x 4 key matrix pattern and explain its working. **5**

OR

c) Explain with suitable diagram the interfacing of seven segment display (SSD) with microprocessor. **5**

d) Draw interfacing of ADC 0800 with microprocessor and explain with suitable example. **5**

2. Either

a) What is delay subroutine? Write a delay subroutine using one register and calculate delay time in such subroutine. **5**

b) Explain use of microprocessor to measure the frequency of a given signal. **5**

OR

c) Draw and explain in brief flowchart to measure and control the temperature using microprocessor. **5**

d) Explain with suitable diagram square wave generation using SOD line. **5**

3. Either

a) Draw internal block diagram of 8086 microprocessor and explain BIU and EU in it. **5**

b) What is addressing mode? State any two addressing modes of 8086 μP and explain with examples. **5**

OR

c) Discuss flag register in 8086 μP with flag register format. **5**

d) Write a program in ALP to perform addition of two 8-bit numbers using 8086 μP. **5**

4. Either

a) Draw block diagram of 8051 microcontroller and explain it. **5**

b) State the common features of 8051 μC. **5**

OR

c) Write the instructions in 8051 μC to **5**

i) Move 34 H into register A

ii) Move 3 F H into register. R_2

iii) Add them together.
State the result of register A.

d) Explain flag register of 8051 microcontroller. **5**

5. Either

a) Explain the interfacing of LED with microprocessor. **2½**

b) Explain with suitable diagram the microprocessor based traffic control. **2½**

c) State various assembler directives of 8086 μP. **2½**

d) Draw the block diagram of Intel 8096. **2½**

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