T.Y. B.Sc.(Part-III)(with Credits)-Regular-Semester 2012 Sem. VI

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

P. Pages : 1 **GUG/S/17/5634**

Time : Three Hours * 1 7 7 8 * Max. Marks : 50

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

1. Either :

a) What is key de-bouncing? Explain with suitable diagram. **5+5**
Explain the interfacing of 4 x 4 matrix keyboard with μp8085.

OR

b) Explain the interfacing of seven segment display with μp8085. **5+5**
Explain the interfacing of ADC 0800 with μp8085.

2. Either :

a) Explain delay subroutine using one register. **5+5**
Explain use of microprocessor in traffic control.

OR

b) Explain the measurement of frequency using microprocessor. **5+5**
Explain the measurement of temperature using microprocessor.

3. Either :

a) Draw a block diagram of 8086 microprocessor and explain function of each block in it. **7+3**
What is operating modes? State any four operating modes in 8086.

OR

b) What is assembler directives? Explain the meaning of following directives : **5+5**
i) DB ii) ASSUME
Write an assembly language program of 8086μp to perform multiplication of two 8 bit numbers.

4. Either :

a) Draw block diagram of 8051 microcontroller and explain its working. **5+5**
Explain various flags in 8051 microcontroller and give the format for PSW.

OR

b) State the meaning of following instructions of 8051 microcontroller. **10**
i) MOV R3, # 32H ii) MOV A, # 0
iii) ADD A, R5 iv) ORG OH
v) INC R2

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

b) How square wave can be generated using microprocessor? Explain. **2½**

c) Explain Flag register in 8086 microprocessor. **2½**

d) State the features of 8096 microcontroller. **2½**

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