

B.E. Sixth Semester (Electrical & Electronics Engg.) (CGS)
10392 : Microprocessor & Microcontroller : Paper - 6 EX 04

P. Pages : 2

Time : Three Hours



AU - 2764

Max. Marks : 80

SECTION - A

1. a) What is flag? Explain the flag structure of 8085 with one example. 7
b) What is the role of W & Z registers in 8085? 7

OR

2. What do you mean by T state? And machine cycle? How many total T states are required to following each instruction of 8085? Justify your answer and specify addressing modes of each. 14

- i) STA 2005H ii) OUT 03H
iii) LDAX H iv) MOV B, M
v) LXI vp, data 16 vi) XTHL

3. a) Explain RIM and SIM instruction in 8085 microprocessor. 6
b) Explain similarities and differences between PUSH and POP and CALL and RET instructions. 7

OR

4. a) Data bytes are stored in memory locations from 6050H to 605FH. To insert additional five bytes of data, it is necessary to shift the data string by five memory locations. Write an ALP to store the data from 6055H to 6064H. Use any 16 data bytes to verify your program. 6
b) Explain the interrupt system of 8085 μ p. Discuss hardware interrupt and software interrupts. 7

5. a) Draw and explain the internal block diagram of 8259 PIC. Explain function of each block. 7
b) Draw and explain the need of priority resolver in PIC 8259. 6

OR

6. Write a program in simple I/O mode, port A, B, C are O/P port sending the bytes 33, AA, FE at addresses 30,31,32 respectively. Draw suitable interface diagram. Consider address for CWR is 33H. 13

SECTION – B

7. a) Explain the conditions when following signals of CRT 8275 are active. **6**
i) VSP ii) LTEN
iii) LPEN iv) HILGT
b) Draw and explain block diagram of 8272 FWC. **7**

OR

8. a) For 8086 MPU, Explain: **6**
i) Bus interface unit &
ii) Execution unit.
b) Draw and explain 8237 DMA controller. With its block diagram. **7**
9. a) A speed of DC motor is to be measured. Discuss how it can be done using 8085 μ p. **7**
b) In an industry the power factor is to be measured. Suggest a μ p 8085 based system to measure the power factor. **6**

OR

10. Explain measurement of pulse width using 8085 MPU with suitable diagram. Also give the ALP. **13**
11. a) Explain bit addressable memory in microcontroller with example. **8**
b) Give the format of PCON of 8051 microcontroller. **6**

OR

12. a) Draw a pin diagram of 8051 micro controller and explain various pins. **7**
b) Draw and explain Timer/ counter structure of 8051 microcontroller. **7**
