

M.Sc. Second Semester (Applied Electronics) (New) (CBS)
15019 : Microprocessor & Microcontroller
2 AE 4

P. Pages : 2

Time : Three Hours



AV - 3299

Max. Marks : 80

- Notes :
1. Answer **three** question from Section A and **three** question from Section B.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answer necessary with the help of neat sketches.
 4. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Explain the conditional flags of 8085 μ P. 7
b) Draw the function of ALU of 8085. 6

OR

2. a) How many T states are required for STA instruction ? Draw & explain the timing diagram for the same. 7
b) What are the various registers of 8085 ? Explain function of each register. 6
3. a) Explain the function of IC-8255 with neat block diagram. 7
b) Draw & explain the mode register format of USART 8251 for synchronous & Asynchronous mode. 6

OR

4. a) Describe the interfacing of 8255 with 8085 μ P & write an ALP to accept I/P from keyboard connected to port A and send accepted value to port B. Assume suitable addresses. 7
b) List out the interfacing standard of RS 232-C. 6
5. a) With the help of neat sketch explain interfacing of ADC 0809 with 8085 μ P. 7
b) Draw the block schematic of successive approximation based ADC and explain the conversion process using proper signals. 6

OR

6. a) Draw an interfacing of 0808 with 8085 μ P. Write an ALP to generate sawtooth w/f. 6
b) Write an ALP for 8085 to read the ADC 0809 output data at port A and store it at the RAM location 17DGH. 7

7. a) Describe the features of 8051 serial UART interface and explain how variable baud rate for serial communication is implemented. 7
- b) Discuss various modes of operation for timer in 8051 μ C. Also draw the internal structure of the timer in 8051 μ C. 6

OR

8. a) Explain the following SFR's 6
- i) TCON ii) SCON
- iii) PCON
- b) Explain the internal structure of input output ports of 8051 μ C. 7
9. a) Discuss the memory structure of 8051 μ C. 6
- b) Explain the concept of stack memory & stack pointer with example of 8051 μ C. 7

OR

10. Explain dual role of port 0 with its internal logic circuit. 13
11. a) Draw the interfacing diagram of seven segment device with 8051 μ C. Write an ALP to display 0 to 9 with some delay. 7
- b) Describe the features of 8051 serial UART interface and explain how variable baud rate for serial communication is implemented. 7

OR

12. Interface a stepper motor with 8051, explain the need of motor driver IC write ALP to rotate this motor continuously. 14
