Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (ECE) (2012 to 2017)
B.Tech. (Automation & Robotics) (2012 & Onwards)
(Sem.–5)

MICROPROCESSORS & MICROCONTROLLERS

Subject Code : BTEC-504
M.Code : 70480

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Answer briefly :

1. List few applications of microprocessor-based system.
2. What is meant by interrupt? List various interrupts of 8051.
3. Explain LDA, STA and DAA instructions.
4. What is the function of IO/M signal in the 8085?
5. What is the time period of the machine cycle of an 11.0592 MHz 8051 system?
6. Differentiate between SJMP and LJMP instructions.
7. Which registers are allowed to be used for register indirect addressing mode if the data is in on chip RAM?
8. What do you mean by data types and directives in 8051?
9. What is the function of TMOD register?
10. Show the status of the CY, AC and P flags after the addition of 9CH and 64H in the following instruction: MOV A, #9CH; ADD A, #64H.

SECTION-B

11. Interface a temperature sensor to an 8051 through an ADC and write a program to read and display the temperature from the sensor.

12. Write a program to add two 16-bit numbers. Place the sum in R7 and R6, R6 should have the lower byte.

13. Explain the memory mapped I/O addressing scheme.

14. List out the five categories of the 8085 instructions. Give examples of the instructions for each group.

15. Differentiate between microprocessor 8085 and microcontroller 8051.

SECTION-C

16. What are the functions of RS, RW and E pins in LCD interfacing? Show interfacing diagram of LCD with 8051. Also write assembly language program to support this interfacing.

17. a) With the help of a functional block diagram, explain the architecture of 8051 microcontroller.

    b) Write a program to add 10 BCD numbers stored at 51H-60H and save the result in RAM memory locations starting at 70H.

18. What is the significance of addressing modes? Discuss various addressing modes for 8085 microprocessor with suitable examples for each mode.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.