Roll No. _____ Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Electrical & Electronics Engineering / Electrical Engineering/Electronics & Electrical Engineering) (Sem.–6)
MICROCONTROLLER AND PLC
Subject Code : BTEE-604
M.Code : 71150
Date of Examination : 09-07-22

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION 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

1.   **Answer briefly :**

a) What is microcontroller?

b) Draw pin diagram of 8051.

c) What do you mean by assembly language ?

d) What is the difference between Analog to digital(A/D) and digital to analog(D/A)?

e) What do you understand from external memory ?

f) What is the principle of working of PLC?

g) What is instruction set?

h) What is FPGA?

i) What is Clock pulse?

j) What is the difference between call and return instructions?

SECTION-B

2. What is microprocessors and microcontrollers? How do they differ from each other? Explain with block diagrams.

3. What are the arithmetic and logical operations in 8051? Explain with suitable example.

4. How does address decoding done in 8051 microcontroller? Discuss.

5. How does the ladder diagram programming is done? Develop a switching on/off operation in a ladder diagram.

6. What is the use of assembler and simulator in embedded systems applications.

SECTION-C

7. Explain the architecture of 8051 along with its instruction set.

8. What is assembly language programming process? Develop a program to add two numbers.

9. What is the difference between PLC and computer? Explain PLC timer and counter.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.