**Model Question (SET-1)**

**MICROCONTROLLER, EMBEDDED SYSTEM & PLC**

**Semester-6TH SEM Branch-E&TC**

**F.M- 80**

1. Answer all. (2\*10)

1. Give two examples of Jump & Call instruction.
2. What is interrupt signal?
3. Define DPTR.
4. State the function of TFO bit in TMOD register?
5. What is IC Technology?
6. Define NRE cost and Unit cost in embedded system.
7. Name the components of embedded system.
8. How many timers are in 8051? Specify their name.
9. Which registers are used for serial communication in 8051?
10. What is interfacing?

2. Answer any six question. (5\*6)

1. Describe in briefly full custom and semicustom ASIC of IC technology.
2. Explain the TMOD register with example.
3. Write a short note on Watch Dog Timer.
4. Discuss the 8051 programming model.
5. Write an assembly language program to convert hexadecimal to decimal using 8051 instruction.
6. Explain PLC as a counter.
7. Discuss the data transfer instruction with examples.

3. Explain the interrupts of 8051. (10)

4. With neat diagram describe the basic operation of PLC. (10)

5. Draw the pin diagram of 8085 and explain the function of each pin. (10)

6. Explain the IP and IE registers. (10)

**Model Question (SET-2)**

**MICROCONTROLLER, EMBEDDED SYSTEM & PLC**

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1. Answer all. (2\*10)

1. What do you mean by embedded system and give any two applications?
2. What are the characteristics of embedded system?
3. Write two difference between microcontroller and microprocessor.
4. What do you mean by full custom IC technology?
5. How many bit addressable location are placed in internal RAM.
6. Mention any two examples of direct addressing instruction.
7. State is the function of C/T bit in TMOD register.
8. What are the various ports available in 8051?
9. Give any two examples of program branching instruction.
10. What is the function of EA pin?

2. Answer any six question. (5\*6)

1. What is application specific processor and explain it with a neat diagram.
2. Briefly explain the Real Time Clock.
3. Discuss different types of addressing modes of 8051.
4. Explain the internal instruction of PLC.
5. Explain the various flags in PSW register of microcontroller.
6. Write an assembly language program to find addition of two 8-bit numbers and whose sum is also 8-bit.
7. Explain the working of LCD controller with a neat diagram.

3. With neat diagram explain the operation of digital camera with suitable diagram.

 (10)

4. Describe the architecture of 8051 with a neat diagram. (10)

5. Give a description of register banks and stack of 8051. (10)

6. Explain briefly about timer & counter of 8051 with example. (10)