

Roll No. _____

22660

**M. Tech. 1st Semester (ECE)
CBCS Scheme**

Examination – February, 2022

**ADVANCE MICROPROCESSOR AND
MICROCONTROLLER**

Paper : MTECE21C1

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is **compulsory**. Attempt **one** question from each Section. All questions carry equal marks.

1. (a) What do you understand by pipelining? 4
(b) What is the size of PC and SP register of 8051? 4
Also explain their function. 4
(c) Explain the function of address bus and data bus? 4
(d) How many address lines are required to address an 8KB of memory? Explain. 4
(e) What do you understand by an Interrupt? 4

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SECTION - I

- 2. (a) What do you mean by the word length of a microprocessor ? How it is helpful in the selection of a microprocessor ? Explain. 10
- (b) Discuss Microprocessor's speed architectural characteristics. 10
- 3. Explain the functions of ALU, GPRs, Control logic and Internal data bus in detail. 20

SECTION - II

- 4. (a) Differentiate between microprocessor and microcontroller. 10
- (b) Draw and explain the Pin Configuration of 8051. 10
- 5. Explain the logical instructions of 8051 with suitable example. 20

SECTION - III

- 6. Explain in detail the programming model (register set) of Intel's x86 family. 20
- 7. (a) Explain in detail the protected mode memory addressing. 10
- (b) What is memory segmentation ? Explain in detail. 10

SECTION - IV

- 8. Explain A/D and D/A interfacing with microprocessor. 20
- 9. Write short note on : 20
- (a) Introduction to design process
- (b) Design tool for Microprocessor development.
