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December, 2019

M.Tech. (ECE) - I SEMESTER

Advanced Microprocessor and Micro Controller

(MECE107)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) Explain flag register & its uses. (1.5)

(b) Write the format of PSW in Motorola 68XXX. (1.5)

(c) Define word length. (1.5)

(d) What do you understand by Mnemonics? Illustrate with example. (1.5)

(e) What is the use of TCON & TMOD register? (1.5)

(f) Write the difference of hardware among 186, 286, 386 & 486 processors. (1.5)

(g) Explain types of communication protocol. (1.5)

(h) Why modem is used? Give its application. (1.5)

(i) Discuss the operation of data transfer using UART. (1.5)

(j) If the XTAL frequency of 8051 is 8 MHz, find the time taken to execute the following program.

```
        MOV R2, #04
        MOV R1, #06
WAIT :  DJNZ R2, WAIT
```

(1.5)

PART - B

2. (a) Draw the basic microprocessor architecture & explain its block diagram. (10)

(b) Write any *five* addressing mode used in microprocessor with example. (5)

3. (a) Explain the flag register format of 80286 with suitable figure. (5)

(b) Define Polling & Interrupts. Also explain different types of interrupts in microprocessors. (10)

4. Draw & explain architecture of 8086. Also explain the concept of Memory segmentation in processor. (15)

5. (a) How can be classified instructions of 8085? Write down examples. (5)

(b) Explain the interfacing of ADC in microprocessor with neat block diagram. (10)

6. (a) Discuss memory addressing architecture with block diagram. (10)

(b) Explain about the design tool for microprocessor development. (5)

7. Discuss the architecture of 8051 micro controller in detail with neat block diagram. (15)
