Total No. of Questions : 4]

SEAT No. :

**PD17**

[Total No. of Pages : 1

# [6409]-210

## S.E. (Electrical Engineering) (Insem)

## FUNDAMENTAL OF MICROCONTROLLER & APPLICATIONS

## (2019 Pattern) (Semester - IV) (203149)

*Time : 1 Hour]* *[Max. Marks : 30*

***Instructions to the candidates:***

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Use suitable data.***

***Q1)*** a) Describe the salient features of 8051 microcontroller and the various flags in the PSW registers. **[5]**

b) Explain the following instructions in detail: **[4]**

i) MOV @R0, A

ii) SWAP A

c) Write a assembly language program to clear External data memory location From E800H to E8FFH. **[6]**

OR

***Q2)*** a) Enlist and explain all the instructions that are associated with rotate operation. **[8]**

b) Explain the stack organization and enlist instructions related to stack. Where is the stack pointer initialized at power ON? **[7]**

***Q3)*** a) Explain the various addressing modes of 8051 and give one example of each addressing mode. **[8]**

b) Write a assembly language program to multiply two 8 bit number stored at external memory location AE00 & AE01. Stored the result in next memory location i.e AE02 & AE03. **[7]**

OR

***Q4)*** a) Write a assembly language program to find 2's compliment of number stored in register R3. Move the result to R2. **[5]**

b) Write a assembly language program to count the occurrence of 1 FH in a array of 10 numbers stored from 2000h memory location. **[6]**

c) Write a assembly language program to subtract two 8 bit numbers stored to location 41h and 42h. **[4]**

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