Total No. of Questions—**8**] [Total No. of Printed Pages—**2**

Seat No.	

[5559]-159

S.E. (Electrical) (Second Semester) EXAMINATION, 2019

FUNDAMENTALS OF MICROCONTROLLER AND ITS APPLICATIONS

(2015 PATTERN)

Time : 2 Hours **Maximum Marks : 50**

1. Attempt Q no1 or 2, Q no 3 or 4,Q no 5 or 6,Q no 7 or 8
2. Figures to the right indicate full marks
3. Neat diagram must be drawn wherever necessary.
4. Use suitable data

Q1 A) Explain the various addressing modes of 8051 and give one example of each addressing mode. 6

B) Explain the Function of following 8051 pins 6

1. ALE
2. $\overline{PSEN}$
3. $\overline{EA}$

OR

Q2 A) Write short note on comparison of Microprocessor & Microcontroller. 6

B) Draw & Explain the Program Status Word of 8051 Microcontroller. 6

Q3 A) Draw & Explain TMOD register. 6

B) Write a program to clear External data memory location From E800H to E8FFH 7

OR

Q4 A) Draw & Explain SCON register. 6

B) Write a program to generate square waveform of frequency 2KHz on pin2.0 Assume XTAL=11.0592MHz 7

Q5 A) Draw & Explain interfacing diagram ADC 0809 with 8051. 6

B) Explain following microcontroller development tools: 6

1. Assembler 2. Simulator 3. Compiler

P.T.O.

OR

Q6 A) Draw and Explain Block Diagram of 8255 PPI. 6

B) Explain the function of following pin of ADC 0809 6

1. SOC 2. EOC 3. ALE 4. Output Enable

Q7 A) Draw & explain power factor measurement using 8051. 6

B) Draw interfacing diagram of a stepper motor with 8051 and write assembly language program to rotate stepper motor in clockwise direction. 7

OR

Q8 A) With the help of block diagram explain Flow measurement using 8051. 6

B) Write a program to monitor a status of SW, if SW is connected to Pin P2.1 and do following: 7

1. If SW= 0 DC motor rotate in Clockwise direction
2. If SW= 1 DC motor rotate in anticlockwise direction