

Total No. of Questions—8]

[Total No. of Printed Pages—2

Seat No.	
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[5352]-550

S.E. (ELECTRICAL) (II Sem.) EXAMINATION, 2018
FUNDAMENTALS OF MICROCONTROLLER AND ITS APPLICATIONS
(2015 Pattern)

Time : Two Hours

Maximum Marks : 50

- N.B. :—** (i) Attempt Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8.
(ii) Figures to the right indicate full marks.
(iii) Neat diagram must be drawn wherever necessary.

1. (a) Explain clearly the differences between Microcontroller and Microprocessor. [6]
(b) Explain the addressing modes of 8051 with example. [6]

Or

2. (a) Compare different family members of MCS-51 family. [6]
(b) Explain the following instructions with example. [6]
(i) SJMP
(ii) DJNZ
(iii) MUL AB.

3. (a) Write an assembly language program to multiply 2 numbers stored at memory location C000 H and C001 H. Store the answer in D000H and D001 H. [6]
(b) Write a note on the different interrupts available in 8051. [7]

P.T.O.

Or

4. (a) Write an assembly language program to find smallest number from an array of 5 numbers stored at memory location 6000 H and store the answer in 1000 H. [6]
(b) Write the steps taken by CPU to transfer data serially. [7]
5. (a) Explain the function of the following Microcontroller tools :
(i) Assembler
(ii) Simulator
(iii) Emulator. [6]
(b) Write down the steps to program ADC 0809. Also draw the interfacing diagram with 8051 Microcontroller. [6]

Or

6. (a) Explain the control word format of 8255 PPI. Write the control word to program all ports as output ports. [6]
(b) Interface DAC 0808 with 8051 Microcontroller. Write program to generate sawtooth waveform. [6]
7. (a) With the help of block diagram, show how temperature can be measured using 8051. [6]
(b) Draw circuit diagram and write program for relay interfacing using 8051. [7]

Or

8. (a) With the help of block diagram, show how power factor can be measured using 8051. [6]
(b) Draw an interfacing diagram and write program for speed control of a stepper motor. [7]