Total No. of Questions—**8**]   [Total No. of Printed Pages—**3**

Seat No.	

[5668]-160

S.E. (Electrical) (II Semester) EXAMINATION, 2019
FUNDAMENTALS OF MICROCONTROLLER AND ITS APPLICATIONS
(2015 PATTERN)

Time : Two Hours   **Maximum Marks : 50**

N.B. :— (*i*) Solve 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*) Neat diagrams must be drawn wherever necessary.

(*iii*) Figures to the right indicate full marks.

(*iv*) Assume suitable data, if necessary.

1. (A) With neat diagram explain internal and external data and program Memory of 8051 µc. [6]

   (B) Explain the instructions : [6]

   (1) MUL AB

   (2) RLC A

   (3) MOV A, @R_1

Or

2. (A) Explain the registers : [6]

   (1) Program Counter

   (2) Stack Pointer

   (3) B register.

   (B) Explain the various addressing modes of 8051 and give *one* example of each addressing mode. [6]

P.T.O.

3. (A) Write a program to generate square waveform of frequency 2 KHz on pin2.2. Assume XTAL = 11.0592 MHz. [6]

(B) Draw and explain IE register. [7]

Or

4. (A) Draw and explain PCON register. [6]

(B) Explain steps to transfer data serially in 8051 microcontroller. [7]

5. (A) Explain the following microcontroller develompent tools : [6]

    (1) Compiler

    (2) Simulator

    (3) Assembler.

(B) Write a program to generate triangular wave using DAC (0808). [6]

Or

6. (A) Draw and explain the block diagram of DAC (0808). [6]

(B) Explain the function of the following pin of ADC (0809) : [6]

    (1) SOC

    (2) EOC

    (3) Output Enable

    (4) ADD A, ADD B, ADD C.

7. (A) Draw and explain temperature measurement using 8051. [6]

(B) Draw and explain the interfacing diagram of stepper motor with 8051 microcontroller. [7]

Or

8. (A) Draw and explain power measurement using 8051. [6]

(B) Draw and explain interfacing diagram of 8051 to control DC motor. [7]