

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 μ C. [6]
- (B) Explain the instructions : [6]
- (1) MUL AB
- (2) RLC A
- (3) MOV A, @R₁

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 development 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

2

[5668]-160

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]