TKN/KS/16–5932

Sixth Semester B. Sc. Examination

ELECTRONICS

Paper– II

Microcontroller 8051

Time : Three Hours] [Max. Marks : 50

N. B. : (1) All questions are compulsory and carry equal marks.
(2) Draw neat diagrams wherever necessary.

EITHER

1. (A) Differentiate between microprocessor and microcontroller.
Explain lower 128 bytes of internal RAM of 8051 µc. 4+6

OR

(B) Enlist various features of 8051 microcontroller.
Explain the function of following SFRS of 8051 µc.
(i) IE
(ii) TMOD 6+4

EITHER

2. (A) Explain MOV and MOVX instructions of 8051 µc with examples.
Explain any three modes of addressing of 8051 µc instructions. 4+6

OR

(B) Explain how 8051 µc handles interrupt.
Explain any five arithmetic instructions of 8051 µc with examples. 5+5

EITHER

3. (A) Explain how stack operation of 8051 µc differs from the stack operation of 8085 µp.
Explain SJMP, LJMP and AJMP instructions.
Explain DJNZ instruction of 8051 µc. 3+5+2

OR

Explain the need of subroutines.
Explain ACALL and LCALL instructions of 8051 µc.
Explain RET instruction of 8051 µc. 2+6+2

EITHER

4. (A) Explain interfacing of 4x4 matrix type keyboard wing 8051 µc
Explain interfacing of LCD display with 8051 µc. 4+6

OR

(B) Explain interfacing of ADC with 8051 µc. Explain how 8051 µc can be interfaced with personal computer. 6+4

5. Attempt any **Ten** :—

(a) State the function of SCON Register.

(b) Draw the structure of program memory of 8051.

(c) Which ports are also used as address bus in 8051 ?

(d) Explain SETB instruction of 8051.

(e) State the difference between timers and counters.

(f) What do you mean by interrupt priority ?

(g) What is the use of PUSH instruction ?

(h) What is subroutine ?

(i) Explain JNC instruction of 8051.

(j) What is interfacing ?

(k) State the advantage of matrix keyboard.

(l) What is baud ? 1x10