

S.No. 1880

12UELE03

(For the candidates admitted from 2012–2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fifth Semester

Electronics and Communication

Elective — 8051 MICROCONTROLLER AND
INTERFACING

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are the three distinct areas of 8051 internal RAM? Define their address range.
2. List the flags provided with 8051.
3. Explain the instruction DIV AB.
4. Write any four byte level logical instructions.
5. Show the display of number '4' and 7-segment display.

6. Name the interrupt sources of 8051.
7. Define the step angle of a stepper motor.
8. What is the major advantage and disadvantage of successive approximation ADC?
9. What is a non-volatile memory?
10. Expand (a) ROM (b) EPROM.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) List the special function registers of 8051 with their RAM address.

Or

- (b) Describe the bit pattern of TCON register.

12. (a) Explain rotate and swap instructions.

Or

- (b) Briefly discuss the addressing modes of 8051.

13. (a) Distinguish between LED and LCD.

Or

- (b) Explain the interfacing of switches with 8051.

14. (a) Describe the features of ADC 0809.

Or

- (b) Explain the interfacing of a stepper motor with 8051.

15. (a) Explain the Read/write operation of a dynamic RWM.

Or

- (b) Write a note on pseudostatic RWM.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Draw the block diagram of 8051 and describe the internal architecture.

17. Write an ALP in 8051

- (a) for 8-bit subtraction
- (b) for 8-bit multiplication

18. Explain the interfacing of a single 7-segment LED display with 8051.

19. Discuss on 8051 based traffic light control system.

20. Discuss in detail, the various semiconductor memories.