555 Register No.: [ ]

October 2018

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. What is micro controller?
2. What do you mean by assembler directives?
3. How can you perform multiplication using 8051?
4. List the registers associated with timer/counter.
5. What is the function of TFI in TCON register?
6. List the special function registers used for serial communication.
7. How many ports are available in IC 8255?
8. Mention the capacity of internal RAM and internal ROM in 8051.

PART – B

9. Differentiate between micro processor and micro controller.
10. Define clock cycle and machine cycle.
11. Explain any three assembler directives.
12. Write about TMOD register.
13. What is an interrupt? Name the interrupts used in 8051.
14. What is RS-232 standard?
15. Explain the significance of each bit in the control word register of 8255.
16. What are the bit addresses of I/O port in 8051?

[Turn over.....

PART – C

17. (a) Draw and explain the block diagram of 8051.

(Or)

(b) With necessary example, explain in brief about any five arithmetic instructions.

18. (a) Explain the different addressing models of 8051 in detail.

(Or)

(b) Write an assembly language program for multibyte addition.

19. (a) Explain in detail about the programming of 8051 timer O.

(Or)

(b) Write about the different operating modes of timer/counter.

20. (a) Explain the function of each bit in SCON register and PCON register.

(Or)

(b) How will you program 8051 to transfer and receive data serially?

21. (a) (i) Draw the block diagram of 8255 and explain it.
(ii) Explain the modes of 8255.

(Or)

(b) Explain the interfacing of stepper motor with 8051 in detail.
