Code : 15MC34T

Register Number | | | | | | | | | | |

III Semester Diploma Examination, Nov./Dec.-2018

MICROCONTROLLER & APPLICATIONS

Time : 3 Hours] **[Max. Marks : 100**

PART – A

Answer any **six** questions. **5 × 6 = 30**

1. Explain briefly the function of flags & status word. **5**

2. Explain addressing modes with examples. **5**

3. Explain instruction format of 8051 microcontroller. **5**

4. WAP of compliment higher nibble to 2AH. **5**

5. Explain the bit structure of IP register. **5**

6. Write the block diagram of 8255 PPI. **5**

7. Explain with circuit diagram interfacing relay with 8051 microcontroller. **5**

8. Explain with circuit diagram interfacing Opto coupler with 8051 Microcontroller. **5**

9. Explain microcontroller based force measuring system. **5**

PART – B

Answer any **seven** full questions. **10 × 7 = 70**

10. Explain 8051 microcontroller with its functional block diagram. 10

11. (a) Distinguish between CISC & RISC Architecture. 5

    (b) Explain the features of 8051 microcontroller. 5

12. Explain the classification of Instruction set with examples. 10

13. (a) State & explain ADDC A, # 30 H **5 + 5 = 10**

    (b) Explain algorithm with example.

14. Write a program to separate positive and negative numbers in a series of N-eight bit numbers. 10

15. (a) Explain the bit structure of TMOD register. **5 + 5 = 10**

    (b) Explain TCON register.

16. Write a program to receive data serially at a baud rate of 4800 and send the received data to R1. 10

17. Explain interfacing 8051 microcontroller with ADC. 10

18. Explain microcontroller based Robot arm position measuring system. 10

19. Explain microcontroller based angular speed measuring system. 10