

1136

Code : 15EC42T

Register
Number

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IV Semester Diploma Examination, April/May-2017

MICRO CONTROLLERS AND APPLICATIONS

Time : 3 Hours]

[Max. Marks : 100

- Note :** (i) Answer any **six** questions from **Part-A**.
(ii) Answer any **seven** full questions from **Part-B**.

PART – A

5 × 6 = 30

1. List the features of 8051 micro controller. 5
2. Point out the mistake in the following instructions : (i) POP R1 (ii) MOV R1, #450 (iii) RET Label (iv) MoV R₃, R₄ (v) MUL A, B 5
3. Write an ALP to transfer a block of data from one memory location to another location, within internal RAM. 5
4. Explain the 8051C data types. 5
5. Compare the interrupt method and polling method of servicing devices. 5
6. List the steps involved in serial data transmission. 5
7. Explain the operation of timer 0 in mode 1 with diagram. 5
8. Sketch the schematic for interfacing DC motor to 8051. 5
9. Write the schematic for interfacing ADC0804 to 8051. 5

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PART – B

7 × 10 = 70

10. Explain the architecture of 8051 micro controller. 10
11. Describe the method of interfacing 4K data RAM to 8051 micro controller. 10
12. Explain the different addressing modes of 8051 with examples. 10
13. Write an ALP to find the largest of n 8 bit numbers. 10
14. (a) Write a 8051 C program to convert unpacked BCD to ASCII and to display it on Po. 5
(b) Write a 8051 C program to toggle all the bits of Po for every 300 ms. 5
15. (a) Write a C program to read P_{1,2} and send it to P_{2,3} after inverting it. 5
(b) Explain the different bit wire logical operators available in 8051 C. 5
16. (a) Explain bit structure of IP register. 5
(b) List the interrupts of 8051 and their vector locations. 5
17. (a) List the steps involved in executing the interrupt. 5
(b) Differentiate between ISR and subroutine. 5
18. Explain the bit structure of TMOD register and TCON register in detail. 10
19. Write the schematic, algorithm and a program to interface a DAC to 8051 and to generate a triangular waveform. 10

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