

19. Explain in detail, the memory organization of 8051 microcontroller.
 20. Write a program for addition, subtraction and multiplication in 8051 with example for 8 bits and 16 bits.
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S.No. 6970

P 16 PYE 1

(For candidates admitted from 2016–2021 batch)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Physics – Elective

MICROPROCESSOR AND MICROCONTROLLER

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. What are the types of instruction?
2. Write the difference between synchronous and asynchronous data transfer.
3. Give some mnemonics used to move data in 8085.
4. List some arithmetic opcodes used in 8085.
5. List out the control word parts used in peripheral devices.
6. Draw the pin diagram of DAC 0800.

7. What are the types of addressing modes in 8051?
8. Describe I/O ports in 8051.
9. Define program control instructions.
10. What are the interrupts used in 8051?

PART B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain in detail data transfer scheme.
Or
(b) Explain the timing diagram of opcode fetch with neat sketch.
12. (a) Write an assembly language program for descending order.
Or
(b) Write an assembly language program to find the smallest number in a data set.
13. (a) Write short notes on 8255 A.
Or
(b) Explain in detail interfacing of DAC 0800 and write its program.

14. (a) Describe the pin configuration of 8051 microcontroller.

Or

- (b) Give a detail explanation about interrupt structure in 8051 microcontroller.
15. (a) Write a 8051 program to find the sum of set of numbers with example.

Or

- (b) Write a short notes on program or machine control instructions.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Explain in detail, the interrupt driven data transfer and interrupts of Intel 8085.
17. Write and explain the program for the sum of series of a multi byte decimal numbers.
18. Describe the architecture of programmable interrupt controller (8259) with neat diagram.