

19. Explain the 8085 microprocessor architecture in detail with the block diagram.
20. Explain any two types of 8085 instructions from its instruction set.

S.No. 2266

17UCS01

(For the candidates admitted from 2017–2018 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

First Semester

Computer Science

DIGITAL COMPUTER FUNDAMENTALS AND
MICROPROCESSOR

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Give the classification of computer.
2. Give the binary equivalent of $(FFFE)_{16}$.
3. What is the use of Boolean Algebra?
4. Simplify the Boolean expression
 $Y = \bar{A} \cdot \bar{B} + \bar{A} \cdot B + A \cdot \bar{B} + A \cdot B$.
5. What is a don't care?
6. Realize NOT from NOR only.

7. What do you mean by the term Microprocessor?
8. Define the term interface.
9. HLT stands for which micro operation?
10. What do you mean by Mnemonic?

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Give any five applications of a digital computer.

Or

- (b) Brief on the basic components of a digital computer system.

12. (a) State De-Morgan's theorems.

Or

- (b) Write down any five basic laws of Boolean Algebra.

13. (a) Briefly explain the SOP method.

Or

- (b) Realize NOT and AND from universal gates.

14. (a) Briefly comment on Data transfer instructions.

Or

- (b) Compare and contrast Microprocessors from Microcontrollers.

15. (a) Classify the 8085 instructions.

Or

- (b) How will you perform BCD addition? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the Numbers Systems and give its significance.

17. Apply Boolean Laws to simplify the following Boolean expression :

$$Y = \bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C} + \bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C} + A \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C} + A \cdot B \cdot C.$$

18. Design a three-way switching circuit.