

18. Write about NAND gates and NOR gates with suitable diagrams.
19. Explain the logic pinout and signals of the 8085 microprocessor with diagrams.
20. Explain the following :
- (a) BCD – to – binary conversion.
- (b) Binary – to – BCD conversion.

S.No. 2045

12UCS01

(For the candidates admitted from 2012 – 2013 onwards)

B.Sc. DEGREE EXAMINATION, APRIL/MAY 2018.

First Semester

Computer Science

DIGITAL COMPUTER FUNDAMENTALS AND
MICROPROCESSOR

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

1. Define : Memory.
2. Perform the binary subtraction : 1001 – 101.
3. What do you mean by gate?
4. Simplify : $XYZ + X\bar{Y}Z + XY\bar{Z}$.
5. Define : Product.

6. Draw the block diagram for NOR gate.
7. What is machine language?
8. List out the categories of the microprocessor external communication functions.
9. What are the flags of the 8085 flag registers?
10. Add two packed BCD numbers : 77 and 48.

PART B — (5 × 5 = 25 marks)

Answer ALL the questions.

All questions carry equal marks.

11. (a) Write short note on decimal number system with an example.

Or

- (b) Convert the following binary numbers to equivalent decimal numbers.

(i) 11000 (ii) 0.1001.

12. (a) Explain how perform logical multiplication.

Or

- (b) How to evaluate logical expressions?

13. (a) Explain about Don't care conditions.

Or

- (b) Explain derivation of a three – input – variable expression.

14. (a) Describe internal data operations of 8085 microprocessor.

Or

- (b) What is address decoding? Explain.

15. (a) Give short note on unconditional jump.

Or

- (b) Write about the concept of binary – to – ASCII and ASCII – to – binary code conversion.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

16. What are negative numbers and use of complements to represent negative numbers? Explain.

17. Discuss DeMorgan's theorems in detail.