

(FOR THE CANDIDATES ADMITTED

SUBJECT CODE

25 UCT 102

DURING THE ACADEMIC YEAR 2025-26 ONLY)

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : NOVEMBER – 2025

B.Sc. – Computer Technology

MAXIMUM MARKS: 75

I SEMESTER

TIME : 3 HOURS

PART – III

FUNDAMENTALS OF COMPUTER TECHNOLOGY

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

(K1)

1. Which of the following is not an output device?
a) Scanner b) Projector c) Plotter d) Monitor
2. The result of binary addition: $1011 + 1101 = ?$
a) 11000 b) 10100 c) 11110 d) 10001
3. The XOR gate output is HIGH when.....
a) Inputs are equal b) Inputs are different
c) Both inputs are 0 d) Both inputs are 1
4. The main purpose of using a Karnaugh Map is.....
a) To increase the number of variables b) To minimize Boolean expressions
c) To convert binary to decimal d) To implement sequential circuits
5. The basic building block of sequential circuits is.....
a) Logic gates b) Multiplexer c) Flip-flop d) Decoder

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. Define the term Denial of Service (DoS).
7. Find the 9's complement of decimal number 4567
8. What is Boolean algebra?
9. How does a sequential circuit mainly differ from a combinational circuit?
10. Mention another name of associative memory

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K3)

11. a) Discuss the development of the internet.

(OR)

- b) Elucidate Computer Ethics.

12. a) Illustrate how binary multiplication and division are done.

(OR)

- b) Write short notes on Gray code and the conversion to binary code.

(CONTD 2)

13. a) Distinguish XOR and XNOR gates.
(OR)
b) Demonstrate how an AND gate works?
14. a) Explain the working of a Half Adder with circuit diagram.
(OR)
b) Explain the types of sequential circuits
15. a) Describe the JK Flip-Flop and its advantage over RS Flip-Flop.
(OR)
b) Differentiate between Main Memory and Auxiliary Memory.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Explain the generation of Computers.
(OR)
b) Illustrate the major cyber security threats.
17. a) Explain the different number systems used in Digital Electronics.
(OR)
b) Explain how decimal number is converted in to excess-3 code. List out the advantages and disadvantages.
18. a) Illustrate the laws and rules of Boolean Algebra
(OR)
b) Explain how you can implement NOR gate using NAND gate.
19. a) Explain the minimization of SOP form using K-map with an example.
(OR)
b) Explain Half Subtractor and Full Subtractor in detail.
20. a) Illustrate multiplexer and demultiplexer
(OR)
b) Elucidate memory hierarchy.