

SAMPLE PAPERS
DIPLOMA FIRST SEMESTER EXAMINATION 2025 (JUT)
FUNDAMENTAL OF COMPUTER (FOC)

DIPLOMA WALLAH

[CLICK HERE TO VISIT DIPLOMA WALLAH WEBSITE](#) (MADE WITH ❤️ BY SANGAM)

Full Marks: 70 | **Time:** 3 Hours

Instructions:

1. Question No. 1 is **compulsory**.
 2. Answer any **FOUR** questions from the remaining (Q. 2 to Q. 7).
 3. All questions carry equal marks (14 marks each)
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Q.1 [Compulsory] MCQ: [2 × 7 = 14]

(i) Number system using 0-7?

(A) Binary (B) Octal (C) Hex (D) Decimal

(ii) Diamond shape in flowchart?

(A) Start (B) Process (C) Decision (D) End

(iii) Interface between user and hardware?

(A) App (B) Utility (C) OS (D) Driver

(iv) 1 Megabyte (MB) is:

(A) 1024 KB (B) 1000 KB (C) 1024 B (D) 1024 GB

(v) Gate with output 0 if both inputs are 1?

(A) OR (B) AND (C) NAND (D) XOR

(vi) "WWW" stands for:

(A) World Wide Web (B) Wide World Web (C) Web World Wide (D) None

(vii) Generation using **Microprocessors**?

(A) 2nd (B) 3rd (C) 4th (D) 5th

Q.2 (A) Design a **4:1 Multiplexer (MUX)** with its logic circuit. [7 MARKS]

(B) Describe the working of a **3-to-8 Decoder**. [7 MARKS]

Q.3 (A) Differentiate between **Open Source** and **Proprietary Software**. [7 MARKS]

(B) Explain the **Services** provided by an Operating System. [7 MARKS]

Q.4 (A) Write an **Algorithm** and draw a **Flowchart** for finding the largest of 3 numbers. [7 MARKS]

(B) Differentiate between **Multitasking** and **Multiprocessing**. [7 MARKS]

Q.5 (A) Convert $(125.625)_{10}$ to Binary and Hexadecimal. [7 MARKS]

(B) Convert $(FA)_{16}$ to Octal. [7 MARKS]

Q.6 (A) Explain 3GL (High-Level) vs 5GL (Natural Languages). [7 MARKS]

(B) Explain four types of **Computer Threats** (Virus, Worm, Phishing, etc.). [7 MARKS]

Q.7 Short Notes (Any FOUR): [14]

(a) Boolean Algebra Rules

(b) Advantages of Flowcharts

(c) BCD vs Gray Code

(d) Purpose of BIOS

(e) RAM vs ROM



SOLUTIONS – PAPER 3

- **MCQ Key:** (i) B, (ii) C, (iii) C, (iv) A, (v) C, (vi) A, (vii) C.

