

SE(INFT) Sem-4 C-scheme May 2026

21/05/2026

TIME: 3 HRS

MAX MARKS: 80

N.B. 1. Question No 1 is compulsory.

2. Solve any three questions out of the remaining five questions.

3. Assume suitable data if necessary.

4. Figures to the right indicate marks.

Q. 1. Solve any **four** out of five.

(4*5=20)

a. Discuss any five arithmetic instructions of 8086 with examples.

b. Explain any two types of FLIP-FLOPS with diagrams.

c. Perform subtraction $(52)_{10} - (65)_{10}$ using 2's Complement method

d. Discuss various characteristics of memory.

e. Explain Amdahl's Law.

Q.2 a) What is Flynn's classification? Discuss computer architecture with diagrams. (10)

b) Explain working of DMA and its different configuration with diagram. (10)

Q. 3 a) Explain different types of pipeline hazards in computer architecture. (10)
Illustrate each with an example. (10)

b) Discuss various addressing modes of 8086 microprocessor. (10)

Q. 4 a) Explain the suitable diagram architecture of 8086 microprocessor. (10)
b) Perform multiplication of (-11) and (-5) using Booth's algorithm. (10)Q. 5 a) Explain all Gates with diagrams and truth tables. (10)
b) Write notes on decoder and encoder. (10)Q.6 a) Draw structure of four variable K map and minimize the following (10)
Boolean function. $F(A, B, C, D) = \sum m(0, 2, 7, 10, 15) + \sum d(3, 14)$
b) Discuss the various characteristics of computer memory and (10)
their impact on system performance.
