2024

System Programming

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1.	a)	Define system software and state the difference between application software.	10
	b)	What is a linker, and what is its main purpose? Explain with an example.	10
2	a)	Explain the difference between static linking and dynamic linking.	10
	b)	What is a symbol table, and how is it used in linking?	10
3	a)	What are the steps involved in translation of a C program and steps in linking an executable file?	10
	b)	What is a loader, and what role does it play in program execution?	10
4	a)	What is an assembler, and what is its primary function?	10
	b)	Write an assembly language program for the expression X = A+B * C / D using only one register.	10
5	a)	Describe the difference between a one-pass assembler and a two-pass assembler.	10
	b)	Explain the concept of an opcode in assembly language with an example.	10
6	a)	How does an assembler convert assembly code into machine code? Explain with an example.	10
	b)	What are the common directives used in assembly language programming?	10
7	a)	Describe various phases of compiler with an example.	10
	b)	What is process? Draw and explain the process state transition diagram.	10

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