(3 Hours) **Total Marks: 80**

N.B: (1) Question No. 1 is compulsory.
(2) Attempt any three questions out of the remaining five questions.
(3) Figures to the right indicate full marks.
(4) Make suitable assumptions wherever necessary.

==========

Q.1.	A.	Differentiate between Application Software and System Software.	**5**
	B.	What are the functions of a Loader? Enlist the loader schemes.	**5**
	C.	Explain Macro and Macro Expansion with example.	**5**
	D.	Compare Bottom-Up and Top-Down Parser.	**5**
Q.2.	A.	Explain with flowchart design of two pass assembler.	**10**

	B.	Construct Three address code for the following program
		For(i=0;i<10;i++)
		{
		If (i<5)
		a=b+c*3;
		else
		x=y+z;
		}
			10

Q.3.	A.	Explain different features of macros with suitable example.	**10**
	B.	Design LL(1) parsing table for the given grammar: $S \rightarrow Ad$ $A \rightarrow aB \mid BC$ $B \rightarrow b$ $C \rightarrow e \mid \varepsilon$ Also state that whether the given grammar is LL(1) or not.	**10**
Q.4.	A.	Explain the working of a Single-pass macro processor with neat flowchart.	**10**
	B.	What are the different ways of representing Intermediate code? Explain with suitable example.	**10**
Q.5.	A.	Explain different issues in code generation phase of compiler.	**10**
	B.	Construct DAG for the following expression **x= m+p/q – t+ p/q *y**	**10**
Q.6.	A.	Explain Direct Linking Loader in Detail.	**10**
	B.	Explain the different phases of a compiler with suitable example.	**10**