



SRI KRISHNA INSTITUTE OF TECHNOLOGY

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Department of Computer Science & Engineering

Assignment 1

Dept.	CSE	Sem / Div:	6/A & B	Course	System Software and Compilers
Date :	11-5-2023			CCode:	18CS61

Note: Answer ANY TWO full questions. All questions carry 20 marks.

Q No.	Questions	Level	CO	Marks	Module
1.	List the various machine independent assembler features. Explain control sections how the assembler converts them to object code.	L2	CO1	9	1
2.	Write an algorithm for one pass assembler and give sample object program of one pass assembler.	L3	CO1	12	1
3.	What are the functions of loader? Explain 2 ways of program relocation in loader.	L2	CO1	9	1
4.	Explain in detail the SIC/XE machine architecture. Write a note about distinguishing features of SIC machine.	L2	CO1	10	1
5.	Write the pass 1 and pass 2 algorithms of 2 pass assembler.	L3	CO	10	1
6.	Generate the object program for SIC/XE machine and write record contents and sample symbol table. Given LDX=04, LDA=00, ADD= 18, LDB=68, TIX=2C, JLT=38, STA=0C, RSUB=4C. SUM START 3000 FIRST LDX #100 LDA #13 +LDB #TABLE2 BASE TABLE2 LOOP ADD TABLE, X ADD TABLE2, X TIX COUNT JLT LOOP +STA TOTAL RSUB COUNT RESW 1 TABLE RESW 1000 TABLE2 RESW 300 TOTAL WORD 10 END FIRST	L3	CO1	15	1
7.	With source code explain about bootstrap loader.	L2	CO1	7	1
8.	What is the need of 2-buffering technique in lexical analysis? Write an algorithm for lookahead code with sentinels. Or Explain the concept of input buffering with its implementation.	L3	CO2	8	2
9.	Build the regular definitions and Construct the transition diagrams for identifiers and unsigned numbers.	L3	CO2	10	2
10.	Explain about different phases of compilers. Show the generation of code for result = (total marks/no.of subjects) * 100	L2	CO2	12	2