



USN

--	--	--	--	--	--	--	--	--	--

06CS52

Fifth Semester B.E. Degree Examination, May/June 2010 Systems Software

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART - A

- 1 a. List out registers used in SIC machine architecture along with their use. (07 Marks)
b. Write a sequence of instructions for SIC/XE to set ALPHA equal to GAMMA* BEETA – 9. (Use register operation). (05 Marks)
c. Write a program in both SIC and SIC/XE to copy a character string 'System Software' to another character string. (08 Marks)
- 2 a. Define the following with an example : i) Operation code table ii) Symbol table. (06 Marks)
b. Generate the complete object program for the following assembly level program with the symbol table. Assume : (14 Marks)

CLEAR = B4	LDT = 74	TD = EO	JEQ = 30
TIXR = B8	JLT = 38	RSUB = 4C	LDCH = 50
WD = DC	X = 1	T = 5	
	WRREC	START	105D
		CLEAR	X
	WLOOP	LDT	LENGTH
		TD	OUTPUT
		JEQ	WLOOP
		LDCH	BUFFER, X
		WD	OUTPUT
		TIXR	T
		JLT	WLOOP
		RSUB	
	OUTPUT	BYTE	X '05'
	BUFFER	RESB	400
	LENGTH	RESB	2
		END	WRREC

- 3 a. Describe how the assembler handles literal operands. (06 Marks)
b. Give the format for DEFINE and REFER records. (06 Marks)
c. Explain load and go assembler, with an example. (08 Marks)
- 4 a. With the help of an example, show how relocation and linking operations are performed. (12 Marks)
b. Enlist any four different loader option commands. (04 Marks)
c. Define the following : i) Linking loader ii) Dynamic linking. (04 Marks)

PART - B

- 5 a. List the important four tasks to be accomplished by a text editor for an interactive user computer dialogue. (04 Marks)
- b. Discuss three basic types of computing environments for editors. (06 Marks)
- c. Define tracing and trace back in debugging functions. (04 Marks)
- d. Write a note on the concept of user interface criteria in a text editor. (06 Marks)
- 6 a. Write an algorithm for one pass macro processor. (10 Marks)
- b. RDBUFF HACRO & INDEV , & BUFADR , & RECLTH , & EOR (10 Marks)

& EORCT	SET	% N ITEMS (& EOR)
	CLEAR	X
	CLEAR	A
	+ LDT	# 4096
\$ LOOP	TD	= X '& INDEV'
	JEQ	\$ LOOP
& CTR	RD	= X '& INDEV'
	SET	1
	WHILE	(& CTR LE & EORCT)
	COMP	= X '0000 & EOR [& CTR]'
	JEQ	\$ EXIT
	SET	& CTR + 1
	END W	
	STCH	& BUFADR, X
	TIXR	T
	JLT	\$ LOOP
\$ EXIT	STX	& RECLTH
	MEND	

Expand the following macro invocation statements using the above given macro.

- i) RDBUFF F1, BUFFER, Length, (04, 12)
- ii) RDBUFF F1, BUFFER, Length

- 7 a. Write a note on ANSI C macro language. (05 Marks)
- b. Explain the following regular expressions with examples : (08 Marks)
- i) []
 - ii) { }
 - iii) /
 - iv) ()
- c. Explain various sections of a LEX specification using a basic word count program by reading from a file. (07 Marks)
- 8 a. Define YACC tools. What are the two types of conflicts in YACC? Give examples. (08 Marks)
- b. Write YACC program to validate a simple arithmetic expression involving operators +, -, *, /. (08 Marks)
- c. Define and explain the use of YY wva p(). (04 Marks)
