CONTINUOUS INTERNAL EVALUATION– 1

Dept:CSE	Sem / Div:6th / A & B	Sub:**System software & Compilers**	S Code:**18CS61**
Date:24/05/2021	Time: 9:30-11:00 am	Max Marks: 50	Elective:N

Note: Answer any 2 full questions, choosing one full question from each part.

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QN		Questions	Marks	RBT	COs
		PART A			
1	a	Generate the complete object program for the following SIC/XE assembly level language program. Assume the following opcodes: LDX – 04 LDA – 00 LDB – 68 ADD – 18 TIX – 2C JLT – 38 STA – 0C RSUB – 4C. SUM START 1120 FIRST LDX #0 LDA #200 +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 430 TOTAL RESW 3 END FIRST	8	L3	CO1
	b	Explain the significance of program blocks.	8	L2	CO1
	c	Explain the phases of compiler design with example.	9	L2	CO2
		OR			
2	a	Generate the complete object program for the following SIC/XE assembly level language program. Assume the following opcodes: LDX=04, LDT=74, LDCH=50, TD=E0, JEQ=30, WD=DC, TIXR=B8, JLT=38 READ START 60 FIRST LDX #0 LDT #80 WLOOP TD OUTDEV JEQ WLOOP LDCH RECORD,X	8	L3	CO1

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		WD OUTDEV TIXR T JLT WLOOP OUTDEV BYTE X'05' RECORD RESB 150 END FIRST			
	b	Explain different data structures of two pass assembler.	8	L2	CO1
	c	Explain language processors with the help of diagram.	9	L2	CO2
PART B					
3	a	Explain the following with respect to SIC/XE architecture. Give one example for each instruction format. a) Memory b) Registers c)Instruction format	8	L2	CO1
	b	What is loader? What are its basic functions? Write the code for absolute loader.	8	L2	CO1
	c	i) Differentiate between compiler and interpreter. ii) Briefly explain compiler construction tools.	9	L2	CO2
OR					
4	a	Write the steps and algorithm of pass 2 of a two pass assembler.	8	L2	CO1
	b	i) Differentiate between literal and immediate operand with example. ii) Differentiate between relative and absolute expression with example.	8	L2	CO1
	c	What are the applications of compiler technology? Explain any 2 of them.	9	L2	CO2

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