School of Computer Science and Engineering

In Semester Assessment - II		
Course: System Software	USN:	
Course Code: 17ECSC302	Semester: V	
Date of Exam: 12-02-2021	Duration: 75 minutes Max. Marks:40	

Note: Answer any two full questions.

Q. No	Questions	Marks
1a	Compare the three LDA instructions given below and translate those to object code (Opcode of LDA is 00H).	10
	I | 2000 LDA #8 *₀₀₀₀₈*	
	II | 2000 LDA EIGHT ---- *₀₃₂₀₃₀* ---- 2040 EIGHT WORD 8	
	III | 2000 LDA =X'008' ------ ------ *₀₃₂₀₄D* 2050 LTORG	
1b	Modification records and Bit-masks are the two approaches of performing relocation, Illustrate these with examples also list the merits and demerits.	10
2a	Following lines shows a sequence of symbol defining statements that involve forward references. How are these resolved by a multi-pass assembler? Demonstrate with a separate figure for each line. 1 DOUBLESZ EQU LENGTH * 2 2 LENGTH EQU BUFFEND - BUFFER 3 NEXTBT EQU BUFFER + 1 4 BUFFER RESB 12 5 BUFFEND EQU * BUFFER 1034	10
2b	Demonstrate program blocks and control sections with examples.	10
3a	Generate the object code and also write suitable modification records for the following program.	8

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0000	PROGA	START	0
		EXTDEF	LISTA, ENDA
		EXTREF	LISTB, ENDB, LISTC, ENDC
0023	REF2	+LDT	LISTC+8
0040	LISTA	EQU	*
0054	ENDA	EQU	*
0054	REF4	WORD	LISTA+LISTB-LISTC
0057	REF5	WORD	ENDB-LITSC-4

3b	Discuss the working of ONE-PASS assembler with an example.	6
3c	Compare absolute loader with linking loader.	6