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Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: CS303

Course Name: SYSTEM SOFTWARE

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions, each carries 3 marks.   Marks

1   Write a sequence of instructions for SIC to set ALPHA = BETA*9+GAMMA.   (3)

2   List out the various registers used in SIC along with their purpose.   (3)

3   What is meant by forward reference? How it is resolved by two pass assembler?   (3)

4   Write down the format of Modification record. Describe each field with the help   (3)
     of an example.

PART B
Answer any two full questions, each carries 9 marks.

5   What are the various addressing modes supported by SIC/XE? With the help of   (9)
     an example, explain how to find target address during assembling in each case.

6   a)   Distinguish between Application software and System Software   (3)

    b)   Let A,B & C are arrays of 10 words each. Write a SIC/XE program to add the   (6)
         corresponding elements of A & B and store the result in C.

7   a)   What are the functions of Operating System?   (3)

    b)   With the aid of an algorithm explain the Second pass of a Two Pass Assembler.   (6)

PART C
Answer all questions, each carries 3 marks.

8   What are control sections? What is the advantage of using them?   (3)

9   Given an idle computer with no programs in memory, how do we get things   (3)
     started?

10   What are the uses of assembler directives EXTDEF and EXTREF?   (3)

11   What is the use of bitmask in program relocation?   (3)

PART D
Answer any two full questions, each carries 9 marks.

12 a)   Distinguish between Program Blocks and Control Section   (2)

    b)   How the assembler handles multiple Program blocks?   (7)

13 a)   Write short note on Dynamic Linking   (3)

	b)	Explain the algorithm for Pass 1 of Linking Loader.	(6)
14	a)	List and explain the different machine independent features of loaders	(3)
	b)	Explain the working of any one type of One pass Assembler	(6)

PART E

Answer any four full questions, each carries 10 marks.

15	a)	Differentiate between keyword and positional macro parameters.	(3)
	b)	Explain the working of One pass Macro Processor.	(7)
16	a)	Is it possible to include labels in the body of macro definition? Justify your answer.	(6)
	b)	Write short note on concatenation of macro parameters within a character string.	(4)
17		Explain the different types of conditional macro expansion statements and their implementation with examples.	(10)
18	a)	Draw the structure of a typical text editor and describe the functions of each block.	(8)
	b)	List out the main four tasks associated with the Document Editing Process.	(2)
19	a)	Describe the functions and capabilities of an Interactive debugging system.	(6)
	b)	List out the criteria that should be met by the user interface of an efficient debugging system.	(4)
20	a)	What is a Device Driver? What are the major design issues of a Device Driver?	(5)
	b)	Distinguish between Character and Block Device drivers.	(5)

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