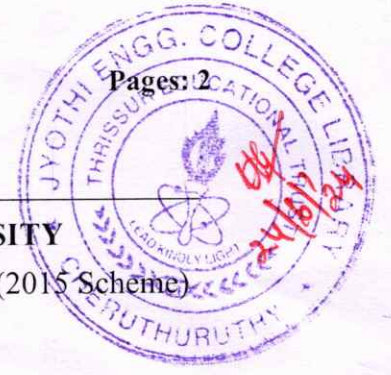Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S5 (S, FE) / S3 (PT) (S,FE) Examination June 2024 (2015 Scheme)

Course Code: CS303

Course Name: SYSTEM SOFTWARE

Max. Marks: 100　　　　　　　　　　　　　　　　　　Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

1	Distinguish between linker and loader.	(3)
2	Differentiate between base relative and program counter relative addressing modes.	(3)
3	Write a sequence of instruction for SIC to sore the value (ALPHA+INCR-5) in BETA.	(3)
4	Describe any three important functions of operating system.	(3)

PART B

Answer any two full questions, each carries 9 marks.

5	a)	Explain how input and output operations performed in SIC/XE architecture.	(4)
	b)	Describe with suitable examples, how the instruction format for SIC is handled during assembling.	(5)
6	a)	Suppose that ALPHA is an array of 100 words. Write a sequence of instructions for SIC/XE to set all elements of array to 0. Use immediate addressing and register to register operations.	(5)
	b)	List out records used in object program with example.	(4)
7		Describe Pass 2 assembler algorithm in detail with suitable example.	(9)

PART C

Answer all questions, each carries 3 marks.

8	What is a literal? Explain how literals are specified in source program.	(3)
9	Distinguish absolute and relative expressions.	(3)
10	Explain how the conversion process of character to Hexa decimal value in bootstrap loader.	(3)
11	Define Automatic Library Search.	(3)

PART D

Answer any two full questions, each carries 9 marks.

12	a)	Briefly discuss the concept of program linking.	(5)
	b)	Describe symbol defining statements with example.	(4)
13	a)	Explain how loading, linking and relocation are performed in dynamic linking.	(5)
	b)	Briefly describe the working of Single Pass Assembler.	(4)
14		Describe the algorithm for Pass 2 of a linking loader and specify the data structures used for the operations of linking loader.	(9)

PART E

Answer any four full questions, each carries 10 marks.

15	a)	Describe different types of text editors.	(7)
	b)	What is block device driver? Explain.	(3)
16		Describe data structures and algorithm for one Pass Macro Processor.	(10)
17	a)	Write Short notes on conditional macro expansion.	(5)
	b)	Describe line-by-line macro processor with example.	(5)
18	a)	Describe kernel and user interface of device driver.	(5)
	b)	Explain how the device driver define it's entry point.	(5)
19	a)	Distinguish between macro and sub routine. Illustrate how the macro statements are expanded with example.	(7)
	b)	Explain different types of statements in macro definition.	(3)
20	a)	List out the situations where debugging by induction, back tracking and deduction are used.	(7)
	b)	Describe the main task associated with the document editing process.	(3)

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