Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET B

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester : Semester V - 2021
Course Code : CSE2050
Course Name : System Software
Program : B.Tech.

Date : 11-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **5 X 2M = 10M**

1. The Bootstarp loader begins with address ___ and loads Operating System with starting address _____

(CO1) [Knowledge]

2. Write the difference between Macros and Subroutines

(CO2) [Knowledge]

3. In design of a Macro-processor, which data structure points to the beginning and end of the macro definition.

(CO3) [Knowledge]

4. Define Macro Time variable

(CO4) [Knowledge]

5. A Debugging system should provide functions _____ and _____

(CO5) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **5 X 10M = 50M**

6. Consider you are leading a development team tasked with creating a complex software system for a new computing platform.During the development process, you encounter challenges related to loading programs into memory efficiently.
In this scenario, discuss the fundamental functions of a basic loader and how they contribute to the successful execution of programs on the target system also discuss the various types of loaders.

(CO1) [Comprehension]

7. Describe the significance of the macro processor algorithm and the role of data structures in managing macros effectively

(CO2) [Comprehension]

8. With neat diagram, illustrate the overview of the editing process.

(CO3) [Comprehension]

9. You're developing an assembler for a custom computer architecture. Explain the importance of addressing machine-dependent features and provide examples of such features in the context of assembly language design. With respect to Assembler Design, Describe Machine dependent Features

(CO4) [Comprehension]

10. Explain Macro Processor Pass 1 and Pass 2 and MACROS for SIC & SIC/XE

(CO5) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **2 X 20M = 40M**

11. Imagine you're tasked with designing Assembler for a new computer architecture. Write and explain the key steps and considerations involved in creating the algorithm for PASS-2 by highlighting its significance in the assembly process.

(CO1) [Application]

12. Illustrate following data structures used in designing various system softwares
A. OPTAB & SYMTAB
B. ESTAB
C. DEFTAB, NAMTAB & ARGTAB

(CO2) [Application]