CLASS:     B.Tech                                                                                          SEMESTER : V
BRANCH:    CSE/IT                                                                                          SESSION : MO/2023

**SUBJECT: CS343 SYSTEM PROGRAMMING**

TIME:      3 Hours                                                                                         FULL MARKS: 50

**INSTRUCTIONS:**
**1. The question paper contains 5 questions each of 10 marks and total 50 marks.**
**2. Attempt all questions.**
**3. The missing data, if any, may be assumed suitably.**
*4.* **Before attempting the question paper, be sure that you have got the correct question paper.**
**5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.**
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|---|---|---|---|---|
| Q.1(a) | Define the CISC and RISC  Machine with characteristics and calculate the CPU Time | [5] | 01 | 01 |
| Q.1(b) | Why need system software? Differentiate between Loaders & Linkers? | [5] | 01 | 04 |
| Q.2(a) | How many elements are existing in Assembly Language Programming? Explain | [5] | 02 | 05 |
| Q.2(b) | Comparison in between Single Pass Assembler and Two Pass Assembler? | [5] | 02 | 04 |
| Q.3(a) | Define the loader and function of the loader? Which type of loader is executed? When a system first turned on or restarted? | [5] | 03 | 01 |
| Q.3(b) | Explain about the Relocating loader and Direct linking loader with suitable examples? | [5] | 03 | 02 |
| Q.4(a) | Define the Macro and Macro Processor? How does Macro differ from Subroutine | [5] | 04 | 01 |
| Q.4(b) | Explain about the design of Macro Processor and Types of Macros? | [5] | 04 | 02 |
| Q.5(a) | How is a linkage editor used? Explain about the Relocation of linking concept? | [5] | 05 | 05 |
| Q.5(b) | Define the overlay and If we consider Pass1: ST (70K), Pass2: Generate machine language code (80K), Common subroutine (30K) and Symbol Table (ST) (20K). (i) Total Load requires? (ii) Calculate the memory for Overlay A (ST,CR,Pass1) and Overlay B(ST,CR,Pass2) ? Explain about the Types of Text Editors and software tools? | [5] | 05 | 05 |

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