

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: CSE**

**SEMESTER : V
SESSION : MO/2024**

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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		CO	BL
Q.1(a)	Application Software and System Software are both computer program how? Differentiate between Loaders and Assembler?	[5] 01	01
Q.1(b)	Define and differentiate between the SIC, SIC/XE, CISC and RISC Machine architecture with features and calculate the CPU Time.	[5] 01	04
Q.2(a)	How many elements are existing in Assembly Language Programming? Differentiate between Assembly Language and Machine Language?	[5] 02	05
Q.2(b)	Define Assembly Language Format with suitable examples ? Comparison in between Single Pass Assembler and Two Pass Assembler?	[5] 02	04
Q.3(a)	Define the loader and Loading Operation with diagram? Which type of loader is executed, When a system first turned on or restarted?	[5] 03	01
Q.3(b)	Explain about the Boot loader and the boot sequence on a standard PC ? Differentiate between RL and DLL?	[5] 03	02
Q.4(a)	Define the Structure of a Macro Definition and also explain Type1 Format of macro definition? 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)	Define Linking Process by suitable diagram? 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 Subprograms, Their size and Corresponding calling routines ,Math1 , Math2, Math3, Math4, Math5, Size 30K,30K,40K,20K,30K,Calling subprograms Math2, Math4,Math5 for subprogram Math1, Math3, Math5, for subprogram Math2, Math5 for subprogram Math4.(i) Find the subroutine calls between the procedures(ii)Draw the overlay structure (iii) Maximum Memory allocation for each procedure?	[5] 05	05

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