

Krantiguru Shyamji Krishna Verma Kachhh University
Master of Science (Information Technology)
Semester: III

Paper Code: CECS306		Total Credit : 4 Total Marks : 70 Time : 3 Hrs
Title of Paper: System Software		
Unit		
	Description	Weighting
I	Language Processors and Compilers Introduction to language processing Language processing activities: program generation, program execution, program interpretation Meaning of analysis and synthesis in language processing Introduction to compilers The analysis-synthesis model of compilation The phases of a compiler	
II	Fundamentals of Assembly Language and Assemblers Elements of assembly language programming Description of a simple assembly language Description of different types of assembly language statements : imperative statements, declaration statements, assembler directives Advantages of assembly language A simple assembly scheme : design specification of assemblers, phases and data structures Design of a two pass assembler	
III	Editors, Linkers and Loaders Editors : line editors, stream editors, screen editors, word processors, structure editors, design of editors Translated, linked and load time addresses Relocation and linking concepts : program relocation, performing relocation The process of linking The concept of loading	
IV	System Software Tools List of software tools for program development and their description Debug monitors Producing debug information Programming environments User interface tools	
V	Micro-Processor and Other System Software Basic macro processor functions – Macro Definition and Expansion – Macro Processor Algorithm and data structures – Implementation examples: MASM Macro Processor- Text editors – Overview of Editing Process - User Interface – Editor Structure – Interactive Debugging Systems – Debugging functions and capabilities –Relationships with Other parts of the system – User Interface Criteria. - Virtual Machines	
Basic Text & Reference Books :-		
1.	Dhamdhare, D M : “System programming and Operating system“, 2nd revised edition, Tata McGraw-Hill Company Limited, 2004	
2.	Aho A. V., Sethi R., Ullman J. D. : Compilers - Principles, Techniques and Tools, Addison-Wesley Publishing Company, 1988.	
3.	Srimanta Pal, “ Systems Programming “ , Oxford University Press, 2011	

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Unit	Description	Total Marks	
I	Q.1 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Short / Medium Questions. (With Internal Option)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	