



TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
20CS6T01	Compiler Design	VI	CSE	6	2024-2025	18-11-24
COURSE OUTCOMES						
1	Understand about language processors and its phases. (K2)					
2	Perform the syntax analysis by using parsing techniques. (K3)					
3	Perform Semantic analysis using attribute grammar. (K3)					
4	Compare different memory Management techniques in runtime environment. (K4)					
5	Ascertain optimization techniques for intermediate code forms and code generation. (K5)					
UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
I	CO1: Understand about language processors and its phases.(K2)	1.01	Preprocessors	T1	1	Chalk and Talk, PPT & Video
		1.02	Compiler	T1	1	
		1.03	Assembler	T1	1	
		1.04	Linkers	T1	1	
		1.05	loaders	T1	1	
		1.06	Difference between compiler and interpreter	T1	1	
		1.07	Structure of a compiler	T1	1	
		1.08	Phases of a compiler	T1	1	
		1.09	Role of lexical analysis	T1	1	
		1.10	Input buffering	T1	1	
		1.11	Specification of Tokens	T1	1	
		1.12	Recognition of Token	T1	1	
		1.13	The Lexical Analyzer Generator Lex	T1	1	
		1.14	Class Test-for Unit-I	T1	1	
				Total	13	
II	CO2: Demonstrate about scanning of tokens. (K2)	2.01	Role of a parser	T1	1	Chalk and Talk, PPT & Video
		2.02	Context free Grammar	T1	1	
		2.03	Top-Down parsing	T1	1	
		2.04	Recursive Descent Parsing	T1	1	
		2.05	Non recursive Predictive parsing	T1	1	
		2.06	FIRST and FOLLOW	T1	1	
		2.07	LL (1) Grammar	T1	1	
		2.08	LL (1) Grammar Examples	T1	1	
		2.09	Error recovery in Predictive Parsing			
		2.10	Class Test-for Unit-II	T1, T3	1	
				Total	10	



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III	CO3: Perform the syntax analysis by using parsing techniques. (K3)	3.01	Reductions	T1,R1	1	Chalk and Talk, PPT
		3.02	Handle Pruning	T1,R1	1	
		3.03	Shift Reduce Parsing	T1,R1	1	
		3.04	Introduction to simple LR	T1,R1	1	
		3.05	Why LR Parsers	T1,R1	1	
		3.06	Construction of SLR Tables	T1,R1	1	
		3.07	Construction of SLR Tables	T1,R1	1	
		3.08	Construction of CLR(1)	T1,R1	1	
		3.09	Construction of CLR(1) Examples	T1,R1	1	
		3.10	LALR Parsing tables	T1,R1	1	
		3.11	LALR Parsing tables Examples	T1,R1	1	
		2.12	Class Test-for Unit-III	T1,R1	1	
				Total	12	
IV	CO4: Perform Semantic analysis using attribute grammar (K3)	4.01	Storage organization	T1,R2	1	Chalk and Talk, PPT & Video
		4.02	Stack Allocation	T1,R2	1	
		4.03	Static allocation	T1,R2	1	
		4.04	Heap Management	T1,R2	1	
		4.05	Parameter passing mechanisms	T1,R2	1	
		4.06	DAG	T1,R2	1	
		4.07	Three Address Code	T1,R2	1	
		4.08	Quadruples	T1,R2	1	
		4.09	Triples	T1,R2	1	
		4.10	Indirect Triples			
		4.11	Class Test-for Unit-III	T1,R2	1	
				Total	11	
V	CO5: Ascertain optimization techniques for intermediate code forms and code generation. (K4)	5.01	Folding	T1	1	Chalk and Talk, PPT & Video
		5.02	Copy Propagation	T1	1	
		5.03	Common sub expression elimination	T1	1	
		5.04	Frequency reduction	T1	1	
		5.05	Strength reduction	T1	1	
		5.06	Machine dependent code optimization:	T1,T2	1	
		5.07	Peephole optimization:	T1	1	
		5.08	Eliminating redundant loads and stores	T1	1	
		5.09	Register Allocation:	T1	1	
		5.10	Global Register Allocation	T1	1	
		5.11	Instruction scheduling	T1	1	Chalk and Talk, PPT & Video
		5.12	Inter Procedural Optimization	T1	1	
		5.13	Garbage collection via ref. counting	T1	1	
		5.14	Garbage collection via ref. counting	T1	1	
				Total	14	
CBS	Content Beyond Syllabus	1	Run Time Administration		1	Chalk and Talk, PPT & Video
		2	Storage organization		1	
		3	Error Detection and Recovery		1	
		4	Error Recovery in Predictive Parsing		1	
				Total	4	
CUMULATIVE PROPOSED PERIODS					64	



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1.	Ravi Sethi, Jeffrey D. Ulman;Compilers: Principles, Techniques and Tools: 2nd Edition, Pearson Education-2007
2.	Andrew N. Appel ,Modern Compiler Implementation in C,Cambridge University Press-2004
Reference Books:	
Sl. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1.	John R. Levine, Tony Mason, Doug Brown ,Lex & Yacc -, O'reilly -2015
2.	Dick Grune, Henry E. Bal, Cariel T. H. Jacobs, Wiley Reamtech, Modern Compiler Design-2012
3.	Engineering a Compiler-Cooper & Linda, Elsevier-2012
4.	Louden, Thomson. Principles of compiler design, V. Raghavan Compiler Construction 2nd ed, TMH, 2011
Web Details	
1.	https://www.wisdomjobs.com/e-university/compiler-design-tutorial-1144.html
2.	https://tutorialspoint.dev/computer-science/compiler-design
3.	https://rdw.rowan.edu/oer/1/
4.	http://hjemmesider.diku.dk/~torbenm/Basics/basics_lulu2.pdf
5.	http://www.freebookcentre.net/ComputerScience-Books-Download/Principles-of-Compiler-Design-and-Advanced-Compiler-Design.html

	Name of Faculty & Section	Name	Signature with Date
i.	Faculty I Sec/A	Mr. M.Vijaya Raju	
ii.	Faculty II (for common Course) Sec/B	Mr. K. Karunakar	
iii.	Faculty III (for common Course) Sec/C	Ms. G. Archana	
iv.	Faculty IV (for common Course) Sec/D	Dr. T. Keshava Rao	
v.	Faculty V (for common Course) Sec/E	Mr. K. Rajesh umar	
vi.	Course Coordinator	Mr. M. Vijay Raju	
vii.	Module Coordinator	Mr. K. Karunakar	
viii.	Programme Coordinator	Professor. P. Srinivasulu	

Principal