

Third Year B. Tech CSE

Subject: - Compiler Construction

Subject Code: -BTCOC601

Course Outcomes (COs):-

Course Outcomes (COs): Upon completion of this course, students will be able to		Mapping with PO's
CO1	Understand Compiler and Phase of Compiler and Compiler Construction Tools.	1,2,12
CO2	Understand Lexical analysis phase & token specification & recognition	1,2,12
CO3	Understand Parsing & types of parsing	1,2,12
CO4	Understand various semantic actions & techniques	1,12
CO5	Understand code generation concept & its types	1,12

CO-PO-PSO Mapping:-

CO	PO												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1	2	1										2		2	
CO2	2	1										2		2	
CO3	2	2										2		2	
CO4	1											2		2	
CO5	1											2		2	
Avg.	1.6	1.3										2		2	

CO-PO Mapping Justification:-

CO	PO/PSO	CL	JUSTIFICATION
1	PO1	2	Apply engineering Knowledge moderately for different phases of compilation.
	PO2	1	Slightly maps as students can able to solve problems in lexical analysis.
	PO12	2	Moderately maps as students will be able to choose appropriate software tools to conduct the experiments using lex and yacc.
	PSO2	2	Information acquired from the compilation phases which is moderately applicable for lifelong learning in the context of Compiler Construction.
2	PO1		Apply engineering Knowledge moderately for different phases of compilation.
	PO2	1	Slightly maps as students can able to solve problems in lexical analysis.
	PO12	2	Moderately maps as students will be able to choose appropriate software tools to conduct the experiments using lex and yacc.
	PSO2	2	Information acquired from the compilation phases which is moderately applicable for lifelong learning in the context of Compiler Construction.
3	PO1	2	Knowledge of Ambiguities in the context free Grammar helps students moderately for analyzing the problems in parsing.
	PO2	2	Identifies mathematical algorithmic knowledge that helps moderately to analyze given problem for removing ambiguities in the context free Grammar.
	PO12	2	Moderately maps as student can acquire the information from bottom up and top down evaluation for lifelong learning in compilation.
	PSO2	2	Information acquired from the fundamentals of parsing leads moderately to implement the intermediate code.
4	PO1	1	Apply engineering fundamentals slightly to learn about the Intermediate code generation and machine code generation in compilation process.
	PO12	2	Moderately maps as students can understand and implement different types Intermediate Representation of code used for generating target code.
	PSO2	2	Information acquired from the fundamentals of intermediate representation leads moderately for implementation of target code.
5	PO1	1	Apply engineering fundamentals slightly to learn about the Intermediate code generation and machine code generation in compilation process.
	PO12	2	Moderately maps as students can understand and implement different types Intermediate Representation of code used for generating target code.

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Subject:- Computer Networks

Subject Code: BTCOC602

Course Outcomes (COs):-

Upon completion of this course, students will be able to	
CO1	Describe the different aspects of networks, protocols and network design models.
CO2	Analyses and compare different LAN protocols.
CO3	Examine various Data Link layer design issues and Data Link protocols.
CO4	Select appropriate routing algorithms for a network.
CO5	Understand the principles of the application layer protocols HTTP, FTP, SMTP and DNS.

CO-PO Mapping:-

CO	PO												PSO			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	2	3		3												
2		2		2												
3			2	2	3											
4		2		2												
5	1	1														
AVG	1.5	2	2	2.25	3											

CO-PO Mapping Justification:-

CO No	PO/PSO	CL	JUSTIFICATION
1	PO1	2	They could just apply the knowledge acquired to classify the layers based on its function
	PO2	3	Understanding the layer functions helps the students to identify and formulate the problems based on the layer
	PO4	3	Understanding the layer functions and understanding the network factors, helps in analyzing and interpreting the quality of networks.
2	PO2	2	Applies the knowledge in identifying the appropriate channel access techniques for both wired and wireless communications
	PO4	2	Understanding the various channel access techniques helps in analyzing and interpreting the quality of networks.
3	PO3	2	Studies about the various routing techniques helps the students to fix up the shortest path routes for packets in the network.
	PO4	2	Understanding the various routing techniques helps in analyzing and interpreting the quality of networks.
	PO5	3	Understanding the various routing techniques helps in analyzing research based works.
4	PO2	2	Applies the knowledge in identifying the appropriate end to end protocol for reliable communication.
	PO4	2	Understanding the various end to end protocols helps in analyzing and interpreting the quality of networks.
5	PO1	1	Understand the principles of the application layer protocols HTTP, FTP, SMTP and DNS.
	PO2	1	Identify working principles of application layer protocols HTTP, FTP, SMTP and DNS

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Subject: Machine Learning

Subject Code: BTCOC603

Course Outcomes (COs):-

CO	DESCRIPTION (Student should be able to...)
1	Students will be able to demonstrate a solid understanding of the foundational concepts in machine learning, apply common algorithms for regression and classification tasks, and critically evaluate model performance.
2	Students will be able to apply kernel functions effectively, optimize model parameters
3	Students will demonstrate the ability to design, train, and evaluate neural networks, understanding the principles of back propagation and the challenges of deep learning
4	Students will acquire skills in ensemble learning, understanding how to leverage multiple models for improved performance
5	Students will gain practical skills in unsupervised learning techniques, specifically clustering algorithms such as k-means, adaptive hierarchical clustering, and Gaussian mixture models.

CO-PO Mapping:-

CO	PO												PSO			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	3	3														
2		3														
3			3									2				
4		3	3									3				
5	2	3														

CO-PO Mapping Justification:-

CO	Justification of mapping		
	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
1			PO1,PO2-strongly aligns with fundamental engineering knowledge and problem analysis, providing a solid foundation.
2			PO2- Strongly mapped because it extensively focuses on modern tools, making it highly relevant.
3		PO12- Moderately mapped as it acknowledges the value of continuous learning throughout one's career	PO3-The unit strongly aligns with problem analysis, design/development, modern tools particularly in the context of deep learning
4			PO2- Strongly mapped as it involves the in-depth analysis of complex problems, emphasizing strong problem-solving skills. PO12- Highly mapped as it acknowledges the value of continuous learning throughout one's career
5		PO1- Moderately mapped as it requires knowledge of engineering tools and concepts	PO2- strongly aligns with problem analysis

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Subject:-Internet of Things

Subject Code:-BTCOE604(B)

Course Outcomes (COs):-

CO	DESCRIPTION (Student should be able to...)
1	Understand IOT Introduction, Impact, challenges, IOT N/W architecture.
2	Apply Smart Objects, connection criteria's, IOT access technologies.
3	Understand IP as the IoT Network Layer, Optimizing IP for IoT, Application Protocols for IoT.
4	Apply Data and Analytics for IoT, Formal Risk Analysis Structures.
5	Apply IoT Physical Devices and Endpoints.

CO-PO Mapping:-

CO	PO												PSO			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	3															
2					3											
3													2	2		
4		2				3										
5			3													
	3	2	3		3	3							2	2		

CO-PO Mapping Justification:-

CO	Justification of mapping		
	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
1			PO-1 Students are getting knowledge at high level of engineering problems.
2			PO-5 Students effectively use smart object with modern tools.
3		PSO-1 Students demonstratrate advanced techniques in recent technologies.	PSO-2 Students demonstrate layered architecture & optimization is carried out
4		PO-2 Students effectively use different Processes Data analytics for IOT	PO-6 Students effectively use good relational designs to asses social, safety, cultural issues.
5			PO-3 Students effectively use IOT concepts in communication with society engineering community.

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Subject: Consumer Behavior

Subject Code: BTHM605(C)

Course Outcomes (COs):-

CO	DESCRIPTION (Student should be able to...)
1	Understand introduction and applications of studying Consumer Behavior
2	Understand Market process.
3	Understand different Models of Consumer Behavior
4	Understand Psychological influences on Consumer
5	Understand difference in Organizational buying and Consumer buying

CO-PO Mapping:-

CO	PO												PSO			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	3															
2									2							
3					3								2	3		
4						3										
5			3							2						
C301	3		3		3	3			2	2			2	3		

CO-PO Mapping Justification:-

CO	Justification of mapping		
	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
1			PO-1 Students are getting knowledge at high level of Market problems.
2		PO-2 Students effectively use different marketing strategies.	
3		PSO-1 Students demonstrate advanced techniques in recent Consumer decision making process	PO-5 Students effectively use Understand Psychological influences on Consumer PSO-2 Students demonstrate decision making process
4			PO-6 Students effectively use good relational designs to assess social, safety, cultural issues.
5		PO-10 Students effectively know difference in Organizational buying and Consumer buying	PO-3 Students effectively use Organizational buying and Consumer buying

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Subject: Competitive Programming

Subject Code: BTCOL606

Course Outcomes (COs):-

CO	DESCRIPTION (Student should be able to...)
CO1	Understand judge the programming challenges robot judge and feedback from the judge, choosing programming language and programming hints.
CO2	Understand Overview of data structure, stacks, dictionary, object library, the C++ standard, the java.util, design example
CO3	Understand Overview of String data structure, Elementary Data .structures, Representation of strings, Some program design Examples- Corporate Renaming, Searching for Patterns, String library functions
CO4	Understand Sorting. Sorting Applications, Sorting Algorithms, Some program design examples, Sorting library functions
CO5	Understand Arithmetic and Algebra and counting techniques, high precision integers , high precision arithmetic, numerical bases and conversion, basic counting techniques binomial coefficients, other counting sequences.

CO-PO Mapping:-

CO	PO												PSO			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
CO1	2	3	2											2		
CO2			3	2	2								2	3	2	
CO3					3								3			
CO4	2		2										2	2		
CO5		2												2		
Avg.	2.5	2.5	2.5	2	2.5								2.5	2.5	2	

CO-PO Mapping Justification:-

CO	Justification of mapping		
	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
1		PO1: Apply Basic knowledge of science to judge the programming challenges and hint. PO3: Design solutions for String data structure, Elementary Data, complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration.	PO2: analyze complex engineering problems reaching substantiated conclusions using first principles.
2		PO4: Use research-based knowledge and research methods to design of experiments and Understand Sorting. Sorting Applications PO5: Create, select, and apply appropriate techniques for Examples- Corporate Renaming, Searching for Patterns	PO3: Design solutions for String data structure, Elementary Data, data structure, stacks and dictionary.
3			PO3: Design solutions for String data structure, String data structure, Elementary Data structures, Representation of strings
4		PO1: Apply the knowledge of mathematics, science, engineering fundamentals for robot judge and feedback from the judge PO3: Design solutions for String data structure, Elementary Data .structures, Representation of strings	
5		PO2: analyze complex engineering to Understand Arithmetic and Algebra and counting techniques	

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Subject: Mini Project-II

Subject Code: BTCOM607

Course Outcomes (COs):-

CO	DESCRIPTION (Student should be able to...)
1	Students will be able to do project development tasks.
2	Able to work on chosen project with a comprehensive and systematic approach.
3	Reproduce, improve and refine technical aspects for report writing using latex
4	Work as an individual or in a team in development of technical projects.
5	Communicate and report effectively project related activities and findings

CO-PO Mapping:-

CO	PO												PSO			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	3		2													
2		3				2										
3										3						
4									2		3					
5												3				

CO-PO Mapping Justification:-

CO	Justification of mapping		
	1: Slight (Low)	2: Moderate (Medium)	3: Substantial (High)
1		Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems
2		Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to professional engineering practice.	Identify, formulate, review research literature, and analyze complex engineering problems, reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3			Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
4		Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.	
5			Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.