Supporting Documents



I.K.G PTU MOHALI CAMPUS - I

Mapping of Courses to Employability/ Skill Development



	BTCS(type code) :	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values	Learning	Focus or	Assessment Tools to Measure
CO No.	CO Statements (U	PO-a	PO-b	PO-c	PO-d	РО-е	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning	Focus of	Attainment of CO
CO1	Identify classes, objects, members of a class and the relationships among them needed to solve a specific problem operators	З	3	3	3	2	3	0	0	0	0	1	3	3	3	1	0			MSTs, ESE, Class/Quiz Tests
CO2	Demonstrate the concept of constructors and destructors. And create new definitions for some of the operators	3	3	3	3	1	2	0	Q	1	0	1	3	3	3	1	0	Unive	ISIN'	MSTs, ESE, Class/Quiz Tests
		1					1						t		A.Guira	Dire Punjab Moh	Technic Technic all Camr	alusi		

0.00	Create function templates, overload function templates	3	3	3	3	1	1	0	0	1	0	1	3	3	3	1	0	2	MSTs, ESE, Class/Quiz Tests
CO4	Understand and demonstrate the concept of data encapsulation, inheritance, polymorphism with virtual functions	3	3	3	3	2	2	0	0	3	0	3	3	3	3	1	0		
CO5	Demonstrate the concept of file operations, streams in C++ and various I/O manipulators	3	3	3	3	2	2	0	0	3	0	3	З	3	3	1	0		

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Director Director Technical University Partment Computer Science and Engineering
Program : B.Tech. (Computer Science and Engineering)
S(401-18) : Discrete Mathematics

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GONG	CO State	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO State	PO-a	PO-b	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning	Focus on	Assessment Tools to Measure Attainment of CO
C01	able to express logical sentence in terms of predicate s, quantifier s, and logical connectiv es	3	3	3	2		1	1		1				2				Understar	mployabili	MSTs, ESE, Class/Quiz Tests
CO2	To derive the solution for a given problem using deductive logic and prove the solution based on logical inference	3	3	3	З		1			2			1	2				Design	mployabili	MS⊺s, ESE, Class/Quiz Tests

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CO3	For a given a mathema tical problem, classify its algebraic structure	3	3	3	2					1				1	1			Design	mployabil	MSTs, ESE, Class/Quiz Tests
C04	To evaluate Boolean functions and simplify expressio ns using the propertie s of Boolean algebra	3	3	3	3		2			2	2	1	1	1				Design	mployabil	i MSTs, ESE, Class/Quiz Tests
CO5	To develop the given problem as graph networks and solve with technique s of graph theory.		3	3	3	1	2	1	1	2	2	2	2	2	2	2	1	Design	mployabi	li MSTs, ESE, Class/Quiz Tests

Director Director Technical University

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(506-18) : Software Engineering Lab

		Engineering Knowledge	roblem Analysis	esign/development of solutions	onduct investigations of complex problems	Modern tool usage	he engineer and society	nvironment and sustainability	Ethics	Individual and team work	Sommunication	roject management and finance	ife-long Learning	Honing Domain Knowledge	nnovation and design	Entrepreneurship Skills	Ethical values		
CO No.	CO Stater		PO-b	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(understand/ analyse/ deisgn etc)	Assessment Tools to Measure Attainment of CO
CO1				-	-														MSTs, ESE, Class/Quiz Tests
CO2																			MSTs, ESE, Class/Quiz Tests
CO3																			MSTs, ESE, Class/Quiz Tests

Note * : CO's are not defined in Syllabus



Program : B.Tech. (Computer Science and Engineering 102-18UC) : Artificial Intelligence

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
and the second second	CO Stater	PO-a	РО-Ь	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(understand/ analyse/ deisgn etc)	Focus on Employability / Entrepreneursh ip	Assessment Tools to Measure Attainment of CO
CO1	nd different types of Al agents.	3	2	2	2	1	1	1		1	2	2	2	2	1			Understand	Employability	MSTs, ESE, Class/Quiz Tests
CO2	Develop different types of various Al search algorithm s.	3	З	3	3	3	2	2	1	2	2	2	3	3	3	3	1	Create	Entrepreneurship	MSTs, ESE, Class/Quiz Tests
CO3	Construct simple knowledg e-based systems and to apply knowledg e represent ation.	3	3	3	3	3	2	2		2	2	2	3	3	3	1			Entrepreneurship	MSTs, ESE, Class/Quiz Tests

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CO4	Convert intermedi ate represent ation in contest to understa nd learning.	3	2	2	2	3	3	2	1	2	3	3	3	3	3	3	Understand and Des	Entrepreneurship	MS⊺s, ESE, Class/Quiz Tests
CO5	Apply for various technique s for Expert Systems.	3	2	2	3	3	2	2		2	2	3	3	3	3	2	Understand and Des	Entrepreneurship	MSTs, ESE, Class/Quiz Tests

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Partment Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering)

initial condition initial conditended initial condition	rogram	. D. Tech. (C	Joinpator	Obioinee a	Duranala										TRANSPORTED BY		der under Die office	REFERENCE PROFILE			
CON C	5-18UC)	: Speech ar	nd Natura	I Language	Processin	g															
CO No. PO-a PO-a PO-b PO-c				m Analysis	velopment of solutions	s of complex problems	lem tool usage	engineer and	and	ics	and team	innn	ct management and finan		ning Domain Kno	novation and	eneurship	thical values			
CO No. CO State PO-a PO-a PO-c PO-c <th></th> <th></th> <th></th> <th><u>a</u></th> <th></th> <th></th> <th></th> <th>₽0-f</th> <th>Ш</th> <th></th> <th></th> <th></th> <th>PO-k</th> <th>2</th> <th>PSO-m</th> <th>PSO-n</th> <th>PSO-0</th> <th></th> <th>Level(understan d/analyse/</th> <th>Employability / Entrepreneurshi</th> <th>Assessment Tools to Measure Attainment of CO</th>				<u>a</u>				₽0-f	Ш				PO-k	2	PSO-m	PSO-n	PSO-0		Level(understan d/analyse/	Employability / Entrepreneurshi	Assessment Tools to Measure Attainment of CO
Image: Constraint of the state of the s	CO No.	CO State	PO-a	РО-р	PO-C	FO-u	100												deisgn etc)	p	MSTs, ESE,
CO1 Image: Constraint of the state of																					Class/Quiz Tests
CO2 A A A A A A A A A A A A A A A A A A A	CO1																-				MSTs, ESE, Class/Quiz Tests
	CO2																				MSTs, ESE, Class/Quiz Tests
CO3	CO3																				
C04																1	1	-			

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		Engineering Knowledge	Sensor Ne	Design/development of solutions	conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	rdividual and team work	Communication	Project management and finance	ife-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			-		
CO No.	CO Stater		PO-b	PO-c	PO-d	<u>≥</u> P0-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Level(unders	Employability	Assessment Tools to Measure Attainment of CO		
	1.1.57					the second of the		and a state of			a second			3				understand	Employability			
CO1	To understan	3				2				2				3				understand	Employability			
CO2	To understan	3								2				3				develop	Employability			
CO3	To understan	3		2	2	1								-								
CO4	To develop wireless sensor systems for different	3	2	3	2	1	1							3	2			Design	Employability	MSTs, ESE,	Class/Quiz	z Tests

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering)

W.Gula Punjab rechnical University

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(type code) BTCS 709-18 (Computer Vision Lab)

1	Tanan Se	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO Stater		PO-b	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(understand/analys e/ deisgn etc)	Focus on Employability / Entrepreneurship	Assessment Tools to Measure Attainment of CO
CO1		3	2	3	3	3	3	3	2	3	3	1	3	3	3	2	2			MSTs, ESE, Class/Quiz
CO2		3	3	3	3	3	3	3	1	3	3		3	3	3	3	1			Tests MSTs, ESE, Class/Quiz
CO3		3	2	3	3	3	2	2							5					Tests
			*	0	5	3	3	3	1	3	3	1	3	3	3	2	1			MSTs, ESE, Class/Quiz Tests

Director I.K.Gujral-Punjab Technical University Mohali Campus-1

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(type code) : BTCS 523-18 (Computational Biology Lab)

	1		T		a blology L															
CO No. CO		Engineering Knowledge	Problem Analysis	Design/development of solutions	P-Od Conduct investigations of complex problems	Modern tool usage	The engineer and society	6 Environment and sustainability	sithics PO-P	-Od Individual and team work	Communication	Project management and finance	Life-Jong Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills PSO-o	Ethical values	Level(understand/ana	Focus on Employability / Entrepreneurship	Assessment Tools to Measure Attainment of CO
C01		3	2	1	2	3	3	2	1	3	3		2	3	2	2	1			MSTs, ESE, Class/Quiz
CO2		3	2	2	3	3	3	3	1	3	3		3	3	2	2	2			Tests MSTs, ESE, Class/Quiz Tests
CO3		3	3	3	3	3	3	3	2	3	3		3	3	3	3	1			MSTs, ESE, Class/Quiz Tests
CO4		3	3	3	3	3	3	3	1	3	3	1	3	3	3	2	1			MS⊺s, ESE, Class/Quiz Tests

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Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(type code) BTCS 705-18 (Deep Learning Lab)

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	ife-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO Stater	PO-a	РО-Ь	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o		Learning Level(understan d/analyse/ deisgn etc)	Focus on Employability Entrepreneurs hip	Assessment Tools to Measure Attainment of CO
CO1		3	2	3	3	3	3	3	1	3	3		3	3	2	2	1			MSTs, ESE, Class/Quiz Tests
CO2		3	3	3	3	3	3	3	2	3	3		3	3	2	2	1			MSTs, ESE, Class/Quiz Tests

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No.

Department Computer Science and Engineering Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(612-18UC) Data Warehousing and Data Mining

And the state of the

CO No.	CO Statements (Data	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	.fe-long Learning	Honing Domain Knowledge	nnovation and design	Entrepreneurship Skills	hical values			
CO No.	Warehousing and Data Mining)	PO-a	РО-Ь	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	all of the second	Ethi	Learning	Focus on	A
CO1	Understand the functionality of the various data mining and data warehousing	3	3	3	3	3	3	2	1	1	2		104		PSO-n	PSO-o	PSO-p	Level(understand/an alyse/ deisgn etc)	Employability / Entrepreneurship	Assessment Tools Measure Attainmen of CO
C02	Appreciate the strengths and limitations of various data										2	2	1	2	1	2		Understand	Employability	MSTs, ESE, Class/Quiz Tests
002	mining and data warehousing models	3	3	2	3	2	3	2	2	1	1	1	3	2	2	2				
CO3	Explain the analyzing techniques of various data	3	2	2	3	2	3	2	1	2	1				-	2		Understand	Employability	MSTs, ESE, Class/Quiz Tests
CO4	Describe different methodologies used in data mining and data ware	3	2	3							1	2	2	3	1	2	1	Design	Entrepreneurship	MSTs, ESE,
	housing. Compare different	-	3	3	3	3	3	1	2	1	2	1	2	2	2	2		Understand	Entrepreneurship	Class/Quiz Tests
CO5	approaches of data ware housing and data mining with various technologies.	3	3	2	2	3	2	3	2	1	1	2	1						ridepreneurship	Class/Quiz Tests
	interesting to a second s											2		2	1	1	1	Compare	Entrepreneurship	MSTs, ESE, Class/Quiz Tests

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Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(type code) : (type course name)

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-Jong Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO Stater	PO-a	РО-Ь	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o		Learning	Focus on Employability / Entrepreneur ship	Assessment Tools to Measure Attainment of CO
C01	To know the basics of ERP	3	3	3	2	2	2	3			2	2	2	2	2	2		2	2	MSTs, ESE, Class/Quiz Tests
CO2	To understa nd the key implemen tation issues of ERP	3	3	3	2	2	2	3			2	2	2	2	2	2		2	2	MSTs, ESE, Class/Quiz Tests
CO3	To know the business modules of ERP	3	3	3	2	2	2	3		5	2	2	2	2	2	2		2	2	MSTs, ESE, Class/Quiz Tests
CO4	To be aware of some popular products in the area of ERP	3	3	3	2	2	2	3			2	2	2	2	2	2		2	2	

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Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering)

	BTCS	(Graph th	eory Lab)																	
		Engineering Knowledge	oblem Analysis	esign/development of solutions	onduct investigations of complex problems	odern tool usage	The engineer and society	Environment and sustainability	Ethics	ndividual and team work	Communication	roject management and finance	ife-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO Stater	ш PO-a	PO-b	PO-c	PO-d	≥ PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p		Focus on Employability / Entrepreneurship	Assessment Tools to Measure Attainment of CO
				3	3	3		-		2				3		2		Apply	Employability	MSTs, ESE,
CO1	Solve probler	3	0		3	3				2				3		2		Apply	Employability	Class/Quiz
CO2	Solve problem	3	3	3		3				2		-		3			1	Apply	Employability	Tests
CO3	Solve problem	3	3	3	3	3	2			2				3	2			Design	Employability	10515

Director J.K.Gujral-Punjab Technical University Mohali Campus-1

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering)

	BTCS :	Engineering Knowledge	Analysis	/development of solutions	Conduct investigations of complex problems	n tool usage	engineer and society	Environment and sustainability		ual and team work	Communication	t management and finance	ng Learning	ng Domain Knowledge	ation and design	Entrepreneurship Skills	al values			
		nginee	Problem	Design/dev	onpuo	Modern	The en	Enviror	Ethics	ndividual	Comm	Project	Life-long	Honing	Innov	Entre	Ethical			
CO No.	CO Stater	ш PO-a	РО-Ь	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(understa nd/analyse/ deisgn etc)	Focus on Employability / Entrepreneur ship	Assessment t Tools to Measure Attainment of CO
CO1		3			3									3				understand	Employability	MSTs, ESE Class/Quiz Tests
	Identify induc			2	2									3				Design	Employability	
CO2 CO3	Reason from Apply theoret	3	3	3	3	2	1							3				Apply	Employability	

Director Director I.K.Gujral-Punjab Technical University Mohali Campus-1

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(type code) Microprocessor & Assembly Language Programming Lab

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
	CO Stater	PO-a	PO-b	РО-с	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(understa nd/analyse/ deisgn etc)	ty / Entreprene	Assessment Tools to Measure Attainment of CC
CO1		3	2	3	3	3	3	2		3	3	1	3	3	2	1		EDIDORE (CENTRE	urship	MSTs, ESE,
CO2		3		3	3	3	3	1		3	3		2						_	Class/Quiz Tests
CO3		-									5		3	3	2	2				MSTs, ESE, Class/Quiz Tests
003		3	1	3	3	3	3	1		3	3		3	3	3	1				MSTs, ESE,
CO4																				Class/Quiz Tests
		3	1	3	3	3	3	3	1	3	1		3	3	3	1				MSTs, ESE, Class/Quiz Tests
005		3	1	3	3	3	3	1		2	3		3	3	2	1				MSTs, ESE, Class/Quiz Tests

Director I.K.Gujral-Punjab Technical University Mohali Campus-1

Department Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) BTCS(type code) Microprocessor & Assembly Language Programming

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	-ife-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No. 0	O Stater	PO-a	PO-b	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	ш PSO-р	Learning Level(understa nd/analyse/ deisgn etc)	Focus on Employability / Entrepreneursh	Assessment Tools to Measure Attainment of CO
CO1		3	2	3	3	3	3	2	1	3	3	0				Lencaulter 1		delsgil etc)	ip	
C02		3	2	3	3	-				5	3	2	3	3	3	2	1			MSTs, ESE,
			-	3	3	3	3	2	1	2	3		3	3	3	2				Class/Quiz Tests MSTs, ESE,
CO3		3	3	3	3	3	3	2		2	3	1								Class/Quiz Tests
004										2	3	1	3	3	3	2	1			MSTs, ESE,
CO4		3	3	3	3	3	3	3	2	3	3	2	3							Class/Quiz Tests MSTs, ESE,
205		3	1	3	3	2						L	3	3	3	2	1			Class/Quiz Tests
206					3	3	3	3	1	3	3	1	3	3	3	1	1			MSTs, ESE,
		3	1	3	3	3	3	3		3	3									Class/Quiz Tests MSTs, ESE,
										5	3		3	3	3	1				Class/Quiz Tests

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Partment Computer Science and Engineering Program : B.Tech. (Computer Science and Engineering) 717-18UC : Parallel Computing

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	Individual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO Stater	PO-a	РО-ь	РО-с	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(underst and/analyse/ deisgn etc)	Focus on Employability / Entrepreneurshi P	Assessment Tools to Measure Attainment of CO
CO1	To develop an understa nding of various basic concepts associate d with parallel computin g environm ents.	3	2	3	2	3	2	2	2	3	2	2	3	3	2	1	2	Understand and	Employability	MSTs, ESE, Class/Quiz Tests

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	CO2	To understa nd the effects synchroni zation, latency and bandwidt h have on the efficiency and efficiency and efficiency and g applicatio ns.	3	3	3	3	2	2	2		2	2	2	3	3	2	2		Understand ar	ic Employability	MSTs, ESE, Class/Quiz Tests	
	CO3 i r r s c c a a a e	To gain experien ce in a number of different parallel computin g parallel computin g aradigm s ncluding memory passing, lata- parallel ind other ipproach is,	3	3	3	3	2	3	2		2	2	2	3	3	3	3		Understand and	Employability	MSTs, ESE, Class/Quiz Tests	
С	e c d a te C O 4 c c c c c c c c t c c f t c c f te t c f te f f f f f f f f f f f f f f f f f	olutions	3	3	3	3	3	3	3	2	3	2	3	3	3	3	3	2	Understand and	Employability	MSTs, ESE, Class/Quiz Tests	

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CO5	To develop improved communi cation and collabora tive skills. Sy mbolic Logic & Logic Processi ng	3	3	-3	3	3	2	3	2	3	3	2	3	3	3	3	2	Understand and	Employability	MSTs, ESE, Class/Quiz Tests	
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Department	Computer Science and Engineering
Program	: B.Tech. (Computer Science and Engineering)
BTCS 607)	: (Simulation and Modeling Lab)

		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern tool usage	The engineer and society	Environment and sustainability	Ethics	ndividual and team work	Communication	Project management and finance	Life-long Learning	Honing Domain Knowledge	Innovation and design	Entrepreneurship Skills	Ethical values			
CO No.	CO Statements		PO-b	PO-c	PO-d	PO-e	PO-f	PO-g	PO-h	PO-i	PO-j	PO-k	PO-I	PSO-m	PSO-n	PSO-o	PSO-p	Learning Level(understand/analys e/ deisgn etc)	Focus on Employability / Entrepreneurship	Assessment Tools to Measure Attainment of CO
C01	Students will learn to simulate the models for the purpose of optimum control by using software	3	2	2	2	2	2	2	1	3	1	1	3	3	1	2	1			3 MSTs, ESE, Class/Quiz Tests
° CO2	The student will be able to appreciate the utility of the tools like ANSYS or FLUENT in solving real time problems and day to day problems.	3	3	3	3	2	1	2	2	3	2	3	3	3	1	1	2	3		3 MSTs, ESE, Class/Quiz Tests
CO3	Use of these tools for any engineering and real time applications.	3	3	3	3	3	2	2	2	2	2	3	3	3	2	3	2	3		3 MSTs, ESE, Class/Quiz Tests

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