Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

M.Tech.

Computer Science & Engineering

With Effect From

Academic Year

2018-2019 (F. Y. M. Tech.)

2019-2020 (S. Y. M. Tech.)

Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme

First year M. Tech. Program in Computer Science & Engineering Semester I

Course **Teaching Scheme Evaluation Scheme** Marks T Category Code Name L P **Credits** Component Min Max for **Passing** Research ISE 1 10 Methodology for MSE 30 Computer 2 2 40 MC 3CO501 ISE 2 10 Science 50 20 **ESE** Engineers ISE 1 10 Mathematical MSE 30 foundations of PC 3CO502 3 3 40 Computer ISE 2 10 Science **ESE** 50 20 ISE 1 10 30 Advanced Data MSE 3CO503 3 PC 3 40 ISE 2 10 Structures ESE 50 20 10 ISE 1 MSE 30 Professional 3CO5** PE 3 3 40 Elective 1 ISE 2 10 50 **ESE** 20 ISE 1 10 30 Professional MSE PE 3CO5** 3 3 40 ISE 2 Elective 2 10 ESE 50 20 Mathematical ISE 50 20 foundations of PC 3CO551 Computer 2 1 50 20 ESE Science Laboratory Advanced Data **ISE** 50 20 PC 2 3CO552 Structures 1 **ESE** 50 20 Laboratory Professional ISE 50 20 PE 3CO5** Elective 2 1 **ESE** 20 50 Laboratory 1 20 Professional **ISE** 50 PE 3CO5** Elective 2 1 **ESE** 50 20 Laboratory 2 **Total Credits: 18** 14 0 8 Total 18 **Total Contact Hrs: 22**

List of Professional Elective 1			List of Professional Elective 2			
3CO511	3CO561	Software Architecture	3CO514	3CO564	Data Science	
3CO512	3CO562	Image Processing	3CO515	3CO565	Information System Security	
3CO513	3CO563	Internet of Things	3CO516	3CO566	Advanced Network	
300313	300303		300310	300300	Technologies	

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Teaching and Evaluation Scheme

First year M. Tech. Program in Computer Science & Engineering Semester II

Course			Teaching Scheme				Evaluation Scheme			
Category	Code	Name	L	Т	P	Credits	Component	nonent		
							•	Max	Min for Passing	
							ISE 1	10		
OE	30E5**	Open Elective	3	_		3	MSE	30		40
	JOES	Open Elective	3	_		3	ISE 2	10		40
							ESE	50	20	
							ISE 1	10		
PC	3CO521	Advanced	3			3	MSE	30	Ann Ann	40
I C	300321	Algorithms	3	_		3	ISE 2	10		ts in for assing 40 40 40 40 20 20 20 20 20 20 40 40
							ESE	50	20	
							ISE 1	10		40 40 40 40 60 60 60 60 60 60 60 60 60 60 60 60 60
DC.	200522	Coft Commuting	2			2	MSE	30		40
PC	3CO522	Soft Computing	3	-	-	3	ISE 2	10		rks Min for Passing 40 20 40 20 40 20 40 20 20 20
							ESE	50	20	
							ISE 1	10		
DE.	2005 the	Professional Elective	2			2	MSE	30		40
PE	3CO5**	3	3	-		3	ISE 2	10		40
							ESE	50	20	
							ISE 1	10		
DE	2005	Professional Elective	2				MSE	30		40
PE	3CO5**	4	3	-	-	3	ISE 2	10		40
							ESE	50	20	
		Advanced					ISE	50	l .	
PC	3CO551	Algorithms Laboratory	-	-	2	1	ESE	50		
DC.	200552	Soft Computing			2	1	ISE	50	2	0
PC	3CO552	Laboratory	-	-	2	1	ESE	50	2	0
DE	3CO5**	Professional Elective			2	1	ISE	50	2	0
PE	3003***	Laboratory 3	-	-	2	1	ESE	50	2	0
PE	3CO5**	Professional Elective			2	1	ISE	50	2	0
rc 	Laboratory 4		1	ESE	50	2	0			
PC	3CO541	Pre-dissertation work and seminar	-	-	4	2	ISE			0
Total 15 0 12 21 T			Total (Total Cor			7				

List	of Professional Elective 2	List of Professional Elective 3		
3CO531	Machine Learning	3CO534	High Performance Computing	
3CO532	Computer Vision	3CO535	Theory and Applications of Remote Sensing & GIS	
3CO533	Network Security	3CO536	Modern Operating System	

List of Pr	ofessional Elective Laboratory 2	List of Professional Elective Laboratory 3		
3CO581	Machine Learning Laboratory	3CO584	High Performance Computing Laboratory	
3CO582	Computer Vision Laboratory	3CO585	Theory and Applications of Remote Sensing & GIS Laboratory	
3CO583	Network Security Laboratory	3CO586	Modern Operating System Laboratory	

Open Elective						
Course Code	Course Name	Offered by Department				
3OE501	Design Optimization	Applied Machanias				
3OE502	Structural Health Monitoring and Smart Materials	Applied Mechanics				
3OE515	Life Cycle Assessment and Ecolabelling	Civil Engineering				
3OE516	Construction Equipment	- Civil Engineering				
3OE529	Business Analytics					
3OE530	Industrial Safety					
3OE531	Operations Research					
3OE532	Cost Management of Engineering Projects	Mechanical Engineering				
3OE533	Composite Materials					
3OE534	Waste to Energy.					
3OE535	Project Based Learning with Embedded System					
3OE543	Control Techniques for Electrical Drives.	Electrical Engineering				
3OE544	Neural Network and Fuzzy Control.	Electrical Engineering				
3OE557	Remote sensing and Image Analysis					
3OE558	Automotive Electronics					
3OE559	Mechatronics					
3OE560	Digital Image processing	Electronics Engineering				
3OE561	Nano materials and Nano-technology					
3OE562	Numerical Methods for Engineers					
3OE563	Optimization Techniques					
3OE571	Business Intelligence	Computer Science and				
3OE 572	Cyber Security	Engineering				
3OE585	Geographic Information Systems					
3OE586	Data Visualization & Interpretation					
3OE587	Computational Engineering using Python	Information Technology				
3OE588	3D Modeling, Animation and Computer Simulation					

Walchand College of Engineering, Sangli

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Teaching and Evaluation Scheme

Second year M. Tech. Program in Computer Science & Engineering Semester I

	Course			each	ing	Scheme	Evaluation Scheme					
								Marks				
Category	Code	Name	L	Т	P	Credits	Component	Max	fo	r		
							ISE 1	10				
DE	2006**	Dunfancianal Elective 5	2			2	MSE	30		Min for Passing 40 40 40 40		
PE	3CO6**	Professional Elective 5	3	-	_	3	ISE 2	10				
							ESE	50	20			
	3CO690	Dissertation phase I				4	ISE	100	40			
PC	3CO691	Dissertation phase II	-	-	- 5	5	5	2	ISE	100		0
	300091	Dissertation phase II				4	ESE	100	4	0		
		Mandatory Non Credit			-		ISE 1	35				
MC	3IC6**	Course	2	-		-	MSE	30	4	0		
		Course					ISE 2	35				
				_	5	13	Total (Credits:	redits: 13			
Total		5	_)	13	Total Cor	ontact Hrs: 10					

List of Professional Elective 5					
3CO611	Recommender Systems				
3CO612	Human Computer Interaction and Interface Design				
3CO613	Computer Forensics				

Semester II

Course			Te	each	ing	Scheme	Evaluation Scheme			
C-4	Cada	NT	_			C 1:4-	C	Marks		
Category	Code	Name	L	T	P	Credits	Component	Max	Min for Passing	
	3CO692	Dissertation phase III			- 5		4	ISE	100	40
PC	3CO693	Discontation whose IV				4	ISE	100	40	
	300093	Dissertation phase IV				8	ESE	100	40	
		M 1 A N C I'		- - ISE 1 MSE ISE 2			ISE 1	35		
MC	3IC6**	Mandatory Non Credit	2		MSE	30	40			
		Course					ISE 2	35		
			2		5	16	Total (Credits	: 16	
Total		2	-	5	5 16	Total Co	ontact H	Irs: 7		

List of Mandatory Non Credit Course					
3IC601	Constitution of India				
3IC602	Pedagogy of Studies				
3IC603	Disaster Management				
3IC604	Value Education				

Semester	I	II	III	IV	Total
Credits	18	21	13	16	68

Walchand College of Engineering, Sangli (An Autonomous Institute) Curriculum Comparison for WCE and AICTE

	M. Tech. Computer Science and Engineering									
Sr.	Catagomy	Credits	%							
No.	Category	AICTE	Dept	AICTE	Dept					
1	PC	12	12	17.6	17.6					
2	PE	15	15	22.1	22.1					
3	PCL	10	8	14.7	11.8					
4	OE	3	3	4.4	4.4					
5	PC	26	26	38.2	38.2					
6	MC	2	2	2.9	2.9					
7	PC	0	2	0.0	2.9					
8	PC	0	0	0.0	0.0					
9	MC	0	0	0.0	0.0					
Tota	al Credits	68	68	100.0	100.0					

Category

Core theory courses (PC)

Programme Elective courses relevant to chosen specialization/ branch& (PE)

Core/Elective laboratory courses (PCL)

Open subjects – Electives from other technical and /or emerging subjects (OE)

Dissertation (PC)

Mandatory course on Research Methodology (MC)

Pre-dissertation work and seminar (PC)

Summer Internship (PC)

Mandatory Non- credit Courses (MC)