Walchand College of Engineering

(Government Aided Autonomous Institute)

Vishrambag, Sangli. 416415

*** Platinum Jubilee Year ***

Credit System for
S.Y. M.Tech. (Computer Science and Engineering)
Sem-III and IV

2021-22

Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Credit System for S.Y. M.Tech. (Computer Science and Engineering) Sem-III AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
Professional Core (Theory)												
1	PC	5CO601	Legal, Financial aspects of Industrial Project	2	0	0	0	2	2	20	20	60
Professional Core (Lab)												
2	PR	5CO690	Dissertation Phase 1	0	0	20	0	20	10	30	30	40
3	PC	5CO602	Industry Orientation Course	0	0	0	1	1	1	30	30	40
Professional Elective (Theory)												
4	PE	Refer list	Elective 5	2	0	0	0	2	2	20	20	60
5	PR	Refer list	Activity Based Elective Lab 2	0	0	2	0	2	1	30	30	40
Value Added Professional Courses #												
--												
Value Added Life-Skill Courses #												
--												
			Total	4	0	22	1	27	16			

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Elective Course List for S.Y. M.Tech. (Computer Science and Engineering) Sem-III AY 2021-22

Sr.No.	Track	Course Code	Course Name
Activity Based Elective Lab 2			
1	AI and ML	5CO651	Deep Learning Lab
2	IP and CV	5CO652	Computer Vision Lab
3	Miscellaneous	5CO653	High Performance Computing Lab
Elective 5			
1	AI and ML	5CO611	Deep Learning
2	IP and CV	5CO612	Computer Vision
3	Miscellaneous	5CO613	High Performance Computing

Notes:

For Lab courses: There shall be only internal continuous assessment (LA1, LA2, ESE). LA1 and LA2 together shall be Lab ISE. The ESE is a separate head of passing.
For Theory courses: There shall be two tests (T1 and T2) and one ESE. The ESE is a separate head of passing.

\# The Value Added Courses are Optional Courses. The mode of teaching (LTPI) is decided by the resource person.
   The credits earned from these courses will be shown on grade card. For SGPA and CGPA calculation, these courses will be excluded.
   The list of Value added courses will be updated from time to time. The courses may be on paid basis. These courses will be offered as per availability of faculty.

The contact hours of each dissertation with the guide (research supervisor) shall be of one hour per week.

For further details, refer to Academic and Examination rules and regulations.

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Credit System for S.Y. M.Tech. (Computer Science and Engineering) Sem-IV AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
			Professional Core (Theory)									
			--									
			Professional Core (Lab)									
1	PR	5CO691	Dissertation Phase 2	0	0	24	0	24	12	30	30	40
2	PR	5CO671	Techno-Socio Activity	0	0	0	1	1	1	30	30	40
			Professional Elective (Theory)									
3	PE	Refer list	Elective 6	3	0	0	0	3	3	20	20	60
			Value Added Professional Courses #									
			--									
			Value Added Life-Skill Courses #									
			--									
			Total	3	0	24	1	28	16			

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Elective Course List for S.Y. M.Tech. (Computer Science and Engineering) Sem-IV AY 2021-22

Sr.No.	Track	Course Code	Course Name
Elective 6			
1	Cyber Security	5CO621	Cyber Forensics
2	Miscellaneous	5CO622	Human Computer Interaction and Interface Design

Notes:

For Lab courses: There shall be only internal continuous assessment (LA1, LA2, ESE). LA1 and LA2 together shall be Lab ISE. The ESE is a separate head of passing.

For Theory courses: There shall be two tests (T1 and T2) and one ESE. The ESE is a separate head of passing.

\# The Value Added Courses are Optional Courses. The mode of teaching (LTPI) is decided by the resource person.

The credits earned from these courses will be shown on grade card. For SGPA and CGPA calculation, these courses will be excluded.

The list of Value added courses will be updated from time to time. The courses may be on paid basis. These courses will be offered as per availability of faculty.

@ Minimum two AICTE mandatory courses need to be completed for award of degree.

The contact hours of each dissertation with the guide (research supervisor) shall be of one hour per week.

For further details, refer to Academic and Examination rules and regulations.

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Tracks and Semester-wise Elective Courses for M.Tech. (Computer Science and Engineering) AY 2021-22

Sr.No.	Sem	Elective	Course Code	Course Name
		AI and ML		
1	1	Elective 1	5CO511	Introduction to Artificial Intelligence
2	1	Elective 2	5CO514	Data Science
3	2	Elective 3	5CO523	Natural Language Processing
4	2	Elective 4	5CO526	Machine Learning
5	2	Activity Based Elective	5CO575	Natural Language Processing Lab
6	2	Activity Based Elective	5CO578	Machine Learning Lab
7	3	Elective 5	5CO611	Deep Learning
8	2	Activity Based Elective	5CO651	Deep Learning Lab
		Cyber Security		
1	1	Elective 2	5CO515	Advanced Network Technologies
2	2	Elective 3	5CO524	Data Encryption & Compression
3	2	Elective 4	5CO527	Network Security
4	2	Activity Based Elective	5CO576	Data Encryption & Compression Lab
5	2	Activity Based Elective	5CO579	Network Security Lab
6	4	Elective 6	5CO621	Cyber Forensics
		IP and CV		
1	1	Elective 1	5CO512	Image Processing
2	2	Elective 3	5CO525	Theory and Applications of Remote Sensing & GIS
3	2	Activity Based Elective	5CO577	Theory and Applications of Remote Sensing & GIS Lab
4	3	Elective 5	5CO612	Computer Vision
5	2	Activity Based Elective	5CO652	Computer Vision Lab

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Tracks and Semester-wise Elective Courses for M.Tech. (Computer Science and Engineering) AY 2021-22

Sr.No.	Sem	Elective	Course Code	Course Name
Miscellaneous				
1	1	Elective 1	5CO513	Internet of Things
2	1	Elective 2	5CO516	Modern Operating System
3	2	Elective 4	5CO528	Advanced Database Systems
4	2	Activity Based Elective 1	5CO580	Advanced Database Systems Lab
5	3	Elective 5	5CO613	High Performance Computing
6	3	Activity Based Elective 2	5CO653	High Performance Computing Lab
7	4	Elective 6	5CO622	Human Computer Interaction and Interface Design

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List of Professional Core (Theory) Courses for M.Tech. (Computer Science and Engineering) AY 2021-22

Sr.No.	Sem	Course Code	Course Name
Professional Core (Theory) Courses			
1	1	5CO501	Mathematical Foundations of Computer Science
2	1	5CO502	Advanced Data Structures
3	2	5CO521	Computer Algorithms
4	2	5CO522	Soft Computing
5	3	5CO601	Legal, Financial aspects of Industrial Project

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List of Professional Core (Lab) Courses for M.Tech. (Computer Science and Engineering) AY 2021-22

Sr.No.	Sem	Course Code	Course Name
			Professional Core (Lab) Courses
1	1	5CO560	Research Methodology
2	1	5CO551	Mathematical Foundations of Computer Science Lab
3	1	5CO552	Advanced Data Structures Lab
4	1	5CO553	Presentation and Technical Report Writing
5	1	5CO554	Professional Skills 1
6	2	5CO571	Computer Algorithms Lab
7	2	5CO572	Soft Computing Lab
8	2	5CO573	Industrial Project
9	2	5CO574	Professional Skills 2
10	3	5CO690	Dissertation Phase 1
11	3	5CO602	Industry Orientation Course
12	4	5CO691	Dissertation Phase 2
13	4	5CO671	Techno-Socio Activity

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Open Electives offered by M.Tech. (Computer Science and Engineering) to other programmes AY 2021-22

Sr.No.	Offering Dept	Sem	Course Code	Course Name
Open Electives Offered
1	CSE	2	5OE109	Machine Learning in Practice

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Open Electives available from other programmes to M.Tech. (Computer Science and Engineering) AY 2021-2

Sr.No.	Offering Dept	Sem	Course Code	Course Name
				Open Electives Available
1	Civil_Env	2	5OE101	Solid Waste Management
2	Civil_Struct	2	5OE102	Structural Health Monitoring
3	Mech_Prod	2	5OE103	Advanced Production systems
4	Mech_Heat	2	5OE104	Waste to Energy
5	Mech_Design	2	5OE105	Industrial Product Design
6	Elect_Power	2	5OE106	Control Techniques for Electrical Drives
7	Elect_Control	2	5OE106	Control Techniques for Electrical Drives
8	Eln	2	5OE108	Introduction to Embedded Systems