



MANAV RACHNA UNIVERSITY

(FORMERLY MANAV RACHNA COLLEGE OF ENGINEERING)
Declared as State Private University vide Haryana Act 26 of 2014

Department of Computer Science & Technology 11th Meeting - Board of Studies (Online)

Minutes of Meeting

11th BoS - Computer Science & Technology meeting was held online on Gmeet Platform at 10.30 am on 27th July 2023

MEMBERS PRESENT:

- | | |
|---|-----------------|
| 1. Prof. Anjana Gosain, Professor, GGSIP University | Expert Member |
| 2. Mr. Anurag Upadhyay, Program Manager, Accenture | Expert Member |
| 3. Mr. Abhinav Gambhir, Software Architect, Microsoft | Expert Member |
| 4. Dr. Manpreet Kaur, Professor and Head | Chairperson |
| 5. Dr. Jyoti Pruthi, Professor | Member |
| 6. Dr. Susmita Ray, Professor | Member |
| 7. Dr. Sachin Lakra, Professor | Member |
| 8. Dr. Parneeta Dhaliwal, Professor | Member |
| 9. Dr. Mrinal Pandey, Professor | Member |
| 10. Ms. Chandni Magoo, Associate Head | Special Invitee |
| 11. Dr. Mamta Arora, Associate Professor | Special Invitee |
| 12. Dr. Neelu Chaudary, Associate Professor | Special Invitee |
| 13. Ms. Gunjan Chandwani | Special Invitee |

At the outset, the chairperson welcomed all the board members, thanking them for participating in the meeting. The agenda items of the meeting were then discussed and the board recommended as under.

Agenda Points discussed in the meeting and decisions taken by the board are mentioned below:

11.1 Confirmation of the MoM of the 10th BoS held on 21st Feb,2023.

The chairperson outlined the previous BoS which was conducted on 21st Feb,2023 and conveyed to the board that all decisions have been smoothly implemented as per the discussions.

11.2 Revision of B. Tech. CSE Program Structure (2022-2026)

The chairperson presented the objective behind revising the program structure of 2K22 batch which was to promote innovation among students.

The major changes are as follows:

Restructuring of courses

-> Placing the course on “Entrepreneurship” in an earlier semester to encourage startups

-> Placing IOT/ 3d printing in 2nd yr for encouraging students to build technical solutions for societal problems

-> Placing Machine learning in 5th semester

Decision:

The board approved the changes in 2K22 program structure. The discussed program structure of B.Tech-CSE (2022-2026) has been mentioned in **Annexure-I**.

11.3 Approval of B.Tech. Robotics & AI Program Structure

The Chairperson presented the program structure of B.Tech. Robotics & AI Program.

Decision: - The board approved the program structure of B.Tech Robotics and AI. The discussed program structure of B.Tech- Robotics & AI Program Structure has been mentioned in **Annexure-II**.

11.4 Approval of Course Assessment Plans for July-Dec 2023 session

The Chairperson presented the Course Assessment Plans for all the courses as proposed by the course coordinators for the July 2023 - Dec 2023 session.

Decision: - The BoS approved the Course Assessment plans of all the courses for July-Dec 2023 session.

11.5 Approval of the list of all courses being offered in Project-based learning(PBL) mode for the July-Dec 2023 session

The Chairperson presented the courses which are proposed to be offered in **Project-Based Learning** and the mode are listed below,

In the 10th BoS meeting, the expert put forth the interest to see the list of projects which are offered to the students. The chairperson presented the list of projects offered in Jan-June 2023 and also showed some of the sample projects being finalized for July-Dec 2023.

Decision: - The BoS approved the list of all courses being offered in PBL (Project-based learning) as shown in **Annexure-III**.

11.6 Assessment of CO attainment and corresponding actions taken for all courses during the Jan-June 2023 session

The Chairperson presented assessment of CO attainment of all courses and actions taken during the semester Jan 2023-June 2023. A few observations and corresponding actions taken during the semester are given below.

Observations:

Most of the courses attained a level varying **around 2**; a few courses have attained **Level 3**, whereas a few courses were able to score **Level 1 only**.

Actions:

1. For courses attaining Level 1, it was decided to improve the **quality of assignments, course content, tutorials and lab exercises** so that learners are able to perform better in the next academic cycle.
2. Similarly, it was advised to lay more emphasis on fundamental concepts, so as to have a clear understanding of basics before proceeding to advanced topics.
3. For courses meeting their attainment levels, it may be decided by faculty members **to increase the CO attainment targets** in the next academic cycle, or to increase the competency level of the course.

Decision: The expert advised to analyze the observations carefully and to decide future course of actions so as to meet/improve the target levels where applicable.

11.7 Direct and Indirect PO attainment of 2K17, 2K18 and 2K19 Batch

The Chairperson presented the direct and indirect PO attainment of the pass-out batch (2019-2023) for the session 2022-23. She also explained the details of events, assessment tools and assessment frequency as to calculate the program attainment. She further showed the comparison of PO attainment of past three pass-out batches i.e. 2017-2021, 2018-2022 and 2019-2023.

Decision: The board observes the improvement in PO attainment across all the batches. The comparison of PO attainment of past three pass-out batches i.e. 2017-2021, 2018-2022 and 2019-23. Is shown in **Annexure-IV**.

11.8 Approval of list of online courses from online platforms: SWAYAM-NPTEL which are being offered for credit transfer for July-Dec 2023 academic session.

The list of MOOC courses that have been shortlisted by the Dept was presented. A Review Committee for reviewing the credit transfer for the upcoming semester on the mentioned platform was presented for approval. The list has been attached as **Annexure-V**.

Decision: The BoS approved all the online courses which are planned to be offered to the students.

11.9 Approval of list of external examiners for Project Based Learning (PBL) courses and practical examinations

List of external examiners for practical examinations and also for PBL mode courses were proposed as given in **Annexure - VI**.

Decision: - All external examiners for practical examination and PBL courses have been approved by the board.

11.10 Updation of Specialization Course basket for BTech CSE : Full Stack Development (FSD)

The Chairperson presented the updated course basket for BTech CSE : Full Stack Development (FSD) that are more aligned towards the specified specialization and thus leads to better placement opportunities for concerned students. The updated basket is attached as **Annexure-VII**

11.12 Change in L-T-P of Computer Aided Drafting

The Chairperson shared that the course i.e “**Engineering Graphics and Drawing**” offered in the first year by an external department namely the Department of Mechanical Engineering, is renamed as “**COMPUTER AIDED DRAFTING**” with a new code(MEW106B) and changed L-T-P, i.e.,0-0-2, from the academic year 2023-2024.

11.13 Faculty and Student Achievements.

During the session Jan-June 2023, students participated in many events such as INNOSKILL, HACK-ATHON, IEEE events, research papers in conferences and journals, in industry initiatives etc. Many faculty members of the Deptt of CST have published the research papers in SCI and scopus indexed journals and conferences, filed patents and copyrights, delivered expert talks and acted as session chairs, keynote speakers in many workshops and conferences. Few faculty members are acting as editors/guest editors/ reviewers in many esteemed journals. The BoS experts appreciated the way the department is progressing and taking initiatives for the professional development of the students and up-skilling of the faculty members.

The meeting ended with the note of the thanks to the BoS expert members for their valuable time and suggestions.

Neelu

Prepared by:

Dr. Neelu Chaudhary
Associate Professor, CST

Manpreet Kaur

Approved by:
BoS Chairperson,

Dr. Manpreet Kaur
Professor and Head, CST

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Annexure-I

MANAV RACHNA UNIVERSITY										
DEPARTMENT OF COMPUTER SCIENCE & TECHNOLOGY										
B.TECH COMPUTER SCIENCE ENGINEERING (CSU01)										
3 Weeks Induction Programme (Mandatory)										
SEMESTER – 1										
SUBJECT CODES	SUBJECT NAME	PRE-REQUISITE	**OFFERING DEPARTMENT	*COURSE NATURE (Hard/Soft/Workshop/NTCC/Audit/Outcome)	COURSE TYPE (Core/EI/active)	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
PHH101B-T	QUANTAM MECHANICS FOR ENGINEERS					3	1	0	4	
PHH101B- P	QUANTAM MECHANICS FOR ENGINEERS LAB	NIL	PH	HARD	CORE	0	0	2	2	5
MAH101B-T	CALCULUS & LINEAR ALGEBRA					3	1	0	4	
MAH101B- P	CALCULUS & LINEAR ALGEBRA LAB	NIL	MA	HARD	CORE	0	0	2	2	5
CSH101B-T	PROGRAMMING FOR PROBLEM SOLVING USING C					3	1	0	4	
CSH101B-P	PROGRAMMING FOR PROBLEM SOLVING USING C LAB	NIL	CS	HARD	CORE	0	0	2	2	5
EDS166	PROFESSIONAL ENGLISH	NIL	ED	SOFT	CORE	2	0	2	4	3
CSW102B	USER INTERFACE-I (HTML5,CSS,JAVASCRIPT,JQUERY)	NIL	CS	WORKSHOP	CORE	0	0	2	2	1
CHH137	ENVIRONMENTAL SCIENCE	NIL	CH	AUDIT	CORE	2	0	0	2	0
CDO105	PROFESSIONAL COMMUNICATION I					2	0	0	2	1

		TOTAL (L-T-P-O/CONTACT HOURS/CREDITS)					1	1		28	20
SEMESTER – 2											
SUBJECT CODES	SUBJECT NAME	PRE-REQUISITE	**OFFERING DEPARTMENT	*COURSE NATURE (Hard/Soft/Workshop/NTCC/Audit/Outcome)	COURSE TYPE (Core/Elective)	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS	
CHH144-T	CHEMISTRY-I					3	0	0	3		
CHH144-P	CHEMISTRY-I LAB	NIL	CH	HARD	CORE	0	0	2	2	4	
MAH104B-T	DISCRETE MATHS					3	1	0	4		
MAH104B-P	DISCRETE MATHS LAB	NIL	MA	HARD	CORE	0	0	2	2	5	
ECH103B-T	BASICS OF ELECTRONICS & ELECTRICAL ENGINEERING					3	1	0	4		
ECH103B-P	BASICS OF ELECTRONICS & ELECTRICAL ENGINEERING LAB	NIL	EC	HARD	CORE	0	0	2	2	5	
CSH103B-T	DATA STRUCTURES & ALGORITHMS					3	1	0	4		
CSH103B-P	DATA STRUCTURES & ALGORITHMS LAB	NIL	CS	HARD	CORE	0	0	2	2	5	
MEW102B	ENGINEERING GRAPHICS & DRAWING	NIL	ME	WORKSHOP	CORE	0	0	2	2	1	
CSW111B	CLOUD COMPUTING 101	NIL	CST	WORKSHOP	CORE	0	0	2	2	1	
CDO106	PROFESSIONAL COMMUNICATION-II	CDC				2	0	0	2	1	
		TOTAL (L-T-P-O/CONTACT HOURS/CREDITS)					1	1		29	22
CSO104B	Post 2nd Sem Summer Training (Mandatory)									2	
SEMESTER – 3											

SUBJECT CODES	SUBJECT NAME	PRE-REQUISITE	**OFFERING DEPARTMENT	*COURSE NATURE (Hard/Soft/Workshop/NTCC/Audit/Outcome)	COURSE TYPE (Core/Elective)	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
CSH225B-T	OOPS USING JAVA	PROBLEM SOLVING USING C	CS	Hard	CORE	3	0	0	3	3
CSH225B-P	OOPS USING JAVA LAB	PROBLEM SOLVING USING C	CS	Hard	CORE	0	0	2	2	1
CSH226B-T	DATABASE MANAGEMENT SYSTEM	NIL	CS	Hard	CORE	3	0	0	3	3
CSH226B-T	DATABASE MANAGEMENT SYSTEM LAB	NIL	CS	Hard	CORE	0	0	2	2	1
CSH221B-T	SOFTWARE ENGINEERING.	NIL	CS	Hard	CORE	3	1	0	4	4
CSW203B	USER INTERFACE-II	USER INTERFACE-I	CS	Workshop	CORE	0	0	2	2	1
FLS101/FLS102/FLS103 / MOOC	FOREIGN LANGUAGE (SPANISH-I/GERMAN/FRENCH) / NPTEL COURSES FROM MOOC	NIL	FL		ELECTIVE	2	0	0	2	0
CDO231	PROFESSIONAL COMPETANCY ENHANCEMENT-I	NIL	CDC		Outcome	4	0	0	4	1
RDO505	INTRODUCTION TO RESEARCH	NIL	CS		CORE	0	1	0	1	1
LWS324	INDIAN CONSTITUTION	NIL	LAW	Outcome	CORE	1	0	0	1	0
H-102	UNIVERSAL HUMAN VALUES-II	NIL				2	1	0	3	3
CSH227B-T	COMPUTER	NIL	CS	HARD	CORE	3	1	0	4	5

	NETWORKS										
CSH227B-P	COMPUTER NETWORKS LAB					0	0	2	2		
	TOTAL (L-T-P-O/CONTACT HOURS/CREDITS)					2	1	4	8	33	23

SEMESTER – 4

SUBJECT CODES	SUBJECT NAME	PRE-REQUISITE	**OFFERING DEPARTMENT	*COURSE NATURE (Hard/Soft/Workshop/NTCC/Audit/Outcome)	COURSE TYPE (Core/Elective)	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
MAH125B-T	PROBABILITY & STATISTICS	NIL	MA	HARD	CORE	3	1	0	4	4
CSH205B-T	ARTIFICIAL INTELLIGENCE	NIL	CS	HARD	CORE	3	1	0	4	5
CSH205B-P	ARTIFICIAL INTELLIGENCE LAB					0	0	2	2	
CSH206B-T	OPERATING SYSTEM	NIL	CS	HARD	CORE	3	1	0	4	5
CSH206B-P	OPERATING SYSTEM LAB					0	0	2	2	
ECH208B-T	DIGITAL ELECTRONICS	NIL	CS	HARD	CORE	3	0	0	3	4
ECH208B-P	DIGITAL ELECTRONICS LAB					0	0	2	2	
CSW208B	PROGRAMMING FOR PROBLEM SOLVING USING PYTHON	NIL	CS	WORKSHOP	CORE	0	0	2	2	1
ECW310B MEW318B	SENSORS & IOT 3 D Printing	NIL	EC/ME	WORKSHOP	ELECTIVE	0	0	2	2	1
FLS105/FLS106/FLS107	FOREIGN LANGUAGE	NIL	FL	AUDIT	ELECTIVE	2	0	0	2	0

CDO232	PROFESSIONAL COMPETANCY ENHANCEMENT- II	NIL	CDC	OUTCOME BASED	CORE	4	0	0	4	1
EDS240	ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE	NIL	ED	AUDIT	CORE	1	0	0	1	0
RDO506	RESEARCH & INNOVATION-1	NIL	RESEARCH	OUTCOME	CORE	0	1	0	1	1
	TOTAL (L-T-P- O/CONTACT HOURS/CREDITS)					1	1	1	33	22
CSO215B	SUMMER TRAINING POST 4TH SEMESTER									2

SEMESTER – 5

SUBJECT CODES	SUBJECT NAME	PRE- REQUIS ITE	**OFFERING DEPARTME NT	*COURSE NATURE (Hard/Soft/ Workshop/ NTCC/Audit/ Outcome)	COURS E TYPE (Core/EI ective)	L	T	P	NO. OF CONT ACT HOU RS PER WEE K	NO. OF CRE DITS
CSH209B-T	COMPUTER ARCHITECTURE & ORGANISATION	NIL	CS	HARD	CORE	3	1	0	4	4
CSH209B-P	COMPUTER ARCHITECTURE & ORGANISATION LAB					0	0	2	2	1
CSH311B-T	THEORY OF AUTOMATA & COMPILER DESIGN	NIL	CS	HARD	CORE	3	1	0	4	5
CSH311B-P	THEORY OF AUTOMATA & COMPILER DESIGN LAB					0	0	2	2	
CSH303B-T	MOBILE COMPUTING WITH ANDROID	NIL	CS	HARD	ELECTIV E	3	0	2	5	4
CSH303B-P	MOBILE COMPUTING WITH ANDROID LAB									
CSH305B-T	NEURAL NETWORK	NIL	CS							

	& FUZZY LOGIC									
CSH305B-P	NEURAL NETWORK & FUZZY LOGIC LAB									
CSH314B-T	MACHINE LEARNING	NIL	CS							
CSH314B-T	MACHINE LEARNING LAB									
MOOC	NPTEL COURSES FROM MOOC									
MCS368	ENTREPRENEURSHIP	NIL	MGT	SOFT	ELECTIVE	2	0	0	2	2
MOOC	NPTEL COURSES FROM MOOC									
CDO331	PROFESSIONAL COMPETANCY ENHANCEMENT-III	NIL	CDC	OUTCOME	CORE	6	0	0	6	1
RDO605	RESEARCH & INNOVATION-II	NIL	RESEARCH	OUTCOME	CORE	0	1	0	1	1
TOTAL (L-T-P-O/CONTACT HOURS/CREDITS)						17	3	6	26	18

SEMESTER – 6

SUBJECT CODES	SUBJECT NAME	PRE-REQUISITE	**OFFERING DEPARTMENT	*COURSE NATURE (Hard/Soft/Workshop/NTCC/Audit/Outcome)	COURSE TYPE (Core/Elective)	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
CSH310B-T	COMPUTER GRAPHICS & MULTIMEDIA	NIL	CS	HARD	CORE	3	1	0	4	5
CSH310B-P	COMPUTER GRAPHICS & MULTIMEDIA LAB					0	0	2	2	
CSH312B-T	ADVANCED ANDROID DEVELOPMENT	MOBILE COMPUTING WITH ANDROID	CS	HARD	ELECTIVE	3	0	2	5	4
CSH312B-P	ADVANCED ANDROID DEVELOPMENT LAB									

CSH313B-T	DATA WAREHOUSE & DATA MINING	NIL	CS							
CSH313B-P	DATA WAREHOUSE & DATA MINING LAB									
CSH316B-T	DEEP LEARNING	NIL	CS							
CSH316B-P	DEEP LEARNING LAB									
MOOC	NPTEL COURSES FROM MOOC									
ECH403B-T MEH403B-T	WIRELESS SENSOR NETWORK/ OPERATION RESEARCH	NIL	EC/ME	HARD	ELECTIVE	3	1	0	4	4
MOOC	NPTEL COURSES FROM MOOC									
ECH403B-P MEH403B-P	WIRELESS SENSOR NETWORK LAB OPERATION RESEARCH LAB	NIL	EC/ME	HARD	ELECTIVE	0	0	2	2	1
MOOC	NPTEL COURSES FROM MOOC									
CSW406B CSW407B CSW423B CSW308B	.NET USER EXPERIENCE DATA VISUALIZATION WITH TABLEAU ADVANCED JAVA	NIL	CS	WORKSHOP	ELECTIVE	0	0	2	2	1
MOOC	NPTEL COURSES FROM MOOC									
LWS325 PSE301-P MCS232	LAW RELATING TO INTELLECTUAL PROPERTY RIGHTS ESSENTIAL OF PEACE & SUSTAINABILITY INTRODUCTION TO FINANCE	NIL	MC/Law/edu	SOFT	ELECTIVE	2	0	0	2	2
MOOC	NPTEL COURSES FROM MOOC									
CDO332	PROFESSIONAL COMPETENCY ENHANCEMENT-IV	NIL	CDC	OUTCOME	COE	6	0	0	6	1
TOTAL (L-T-P-O/CONTACT						17	2	8	27	18

		HOURS/CREDITS)								
CSO320B	SUMMER TRAINING POST 6TH SEMESTER									3
SEMESTER – 7										
SUBJECT CODES	SUBJECT NAME	PRE-REQUISITE	**OFFERING DEPARTMENT	*COURSE NATURE (Hard/Soft/Workshop/NTCC/Audit/Outcome)	COURSE TYPE (Core/Elective)	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
CSH408B-T	MOBILE APP. ANALYTICS	NIL	CS	HARD	ELECTIVE	3	0	2	5	4
CSH408B-P	MOBILE APP. ANALYTICS LAB									
CSH414B-T	INFORMATION RETRIEVAL	NIL	CS							
CSH414B-P	INFORMATION RETRIEVAL LAB									
CSH403B-T	IMAGE PROCESSING	NIL	CS							
CSH403B-P	IMAGE PROCESSING LAB									
MOOC	NPTEL COURSES FROM MOOC									
EDS288 EDS289 EDS290	APPLIED PHILOSOPHY APPLIED PSYCHOLOGY APPLIED SOCIOLOGY	NIL	ED	SOFT	ELECTIVE	1	0	2	3	2
MOOC	NPTEL COURSES FROM MOOC									
CSW317B CSW207	SOFTWARE TESTING AGILE TECHNOLOGIES IMAGE EDITING & ANIMATION	NIL	CS	WORKSHOP	ELECTIVE	0	0	2	2	1

Annexure-II

MANAV RACHNA UNIVERSITY, FARIDABAD							
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING							
B-TECH ROBOTICS AND ARTIFICIAL INTELLIGENCE							
SEMESTER - 1							
SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
CSH101B-T&P	PROGRAMING FOR PROBLEM SOLVING USING C	CST	3	1	2	6	5
CSH107B-T&P	OVERVIEW OF DATA SCIENCE & MACHINE LEARNING	CST	3	1	2	6	5
ECH103B-T/P	BASICS OF ELECTRONICS AND ELECTRICAL ENGINEERING (ECE Sem 1)	ECE	3	1	2	6	5
MEH108B-T&P	INTRODUCTION TO ROBOTICS	ME	3	0	2	5	4
MEW106B	COMPUTER	ME	0	0	2	2	1

	AIDED DRAFTING						
PHH101B- T&P	QUANTAM MECHANICS FOR ENGINEERS	PHYSICS	3	1	2	6	5
CDO105	PROFESSIONAL COMMUNICATI ON I		2	0	0	2	1
TOTAL (L-T-P/CONTACT HOURS/CREDITS)			17	4	2	33	26

SEMESTER - 2

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDIT S
CSH103B- T&P	DATA STRUCTURES & ALGORITHMS	CST	3	1	2	6	5
CSH108B- T&P	PYTHON PROGRAMMING	CST	3	1	2	6	5
MEH109B- T&P	MATERIALS FOR ROBOTICS	ME	3	0	2	5	4
ECH110B- T&P	DIGITAL LOGIC AND HARDWARE DESIGN ((ECE Sem 3)	ECE	3	1	2	6	5
ECW218B	SENSORS, ACTUATORS AND	ECE	0	0	2	2	1

	AUTOMATION (ARDUINO, R-PI ETC)						
CHH144- T&P	CHEMISTRY-I	CHEM	3	0	2	5	4
CDO106	PROFESSIONAL COMMUNICATI ON-II	CDC	2	0	0	2	1
TOTAL (L-T-P/CONTACT HOURS/CREDITS)			17	3	2	32	25

CSO104B	Post 2nd Sem Summer Training (Mandatory) (Project Management)						2
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SEMESTER - 3

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTA CT HOURS PER WEEK	NO. OF CREDIT S
CSH205B- T&P	ARTIFICIAL INTELLIGENCE	CST	3	1	2	6	5
CSH201B- T&P	OOPS USING JAVA	CST	3	1	2	4	5
ECH217B- T&P	MICROPROCESSORS AND MICROCONTROLLERS	ECE	3	0	2	5	4
MEW107B -T&P	ENGINEERING MECHANICS	ME	3	0	2	5	4
FLS101 FLS102 FLS103	SPANISH-I GERMAN-I FRENCH-I	FL	1	1	0	2	0

CDO231	PROFESSIONAL COMPETANCY ENHANCEMENT-I	CDC	4	0	0	4	1
RDO505	INTRODUCTION TO RESEARCH	CST	0	1	0	1	1
LWS324	INDIAN CONSTITUTION	LAW	1	0	0	1	0
H-102	UNIVERSAL HUMAN VALUES- II	EDU	2	1	0	3	3
TOTAL (L-T-P/CONTACT HOURS/CREDITS)			20	5	8	31	23

SEMESTER - 4

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTA CT HOURS PER WEEK	NO. OF CREDIT S
CSH206B- T&P	OPERATING SYSTEM	CST	3	1	2	5	4
CSH314B- T&P	MACHINE LEARNING	CST	3	0	2	5	4
ECH221B- T&P	COMMUNICATION SYSTEMS	ECE	3	0	2	5	4
MEH209B- T&P	KINEMATICS & DYNAMICS OF ROBOTS	ME	3	0	2	5	4
CHH137	ENVIRONMENTAL SCIENCES	CHEM	2	0	0	2	0
RDO506	RESEARCH & INNOVATION-1	CST	0	1	0	1	1
EDS166	PROFESSIONAL ENGLISH	EDUCATION	2	0	2	4	3

	TOTAL (L-T-P/CONTACT HOURS/CREDITS)		14	1	8		22		20
CSO215B	SUMMER TRAINING POST 4TH SEMESTER								2

SEMESTER - 5

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
ECH219B -T&P	DIGITAL SIGNAL & IMAGE PROCESSING	ECE	3	0	2	5	4
ECH435B- T&P CSH305B- T&P	ROBOTIC PROCESS AUTOMATION SPEECH PROCESSING & RECOGNITION NEURAL NETWORK & FUZZY LOGIC	ME/ECE/CST	3	0	2	5	4
ECH335B- T&P	EMBEDDED SYSTEM DESIGN	ECE	3	0	2	5	4
MCS368B LWS323 PSE301-P	ENTREPRENEURSHIP LAW RELATING TO INTELLECTUAL PROPERTY RIGHTS "ESSENTIAL OF PEACE & SUSTAINIBILITY"	MGMT LAW EDU	2	0	0	2	2
CSS325B	GREEN COMPUTING	CST	1	0	2	3	2

CDO201	PROFESSIONAL COMPETANCY ENHANCEMENT-I		4	0	0	4	2
TOTAL (L-T-P/CONTACT HOURS/CREDITS)			16	0	8	24	18

SEMESTER - 6

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTA CT HOURS PER WEEK	NO. OF CREDIT S
CSH316B- T&P	DEEP LEARNING	CST	3	0	2	5	4
ECH436B- T&P /CSH324B -T&P	INDUSTRY 4.0 NATURAL LANGUAGE PROCESSING MOBILE COMMUNICATION	ME/ECE/CST	2	0	2	4	3
MEH323B- T&P	HUMANOID ROBOTICS						
ECH222B- T&P	DIGITAL HARDWARE MODELLING USING VHDL	ECE/ME	3	0	2	5	4
CDO202	PROFESSIONAL COMPETANCY ENHANCEMENT-II	CDC	4	0	0	4	2
ECH330B	MECHATRONICS	MECH	3	0	2	5	4
TOTAL (L-T-P/CONTACT HOURS/CREDITS)			9	0	4	23	17

POST 6th SEM SUMMER TRAINING - (6 WEEKS)

3

SEMESTER - 7

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
NEW CODE	CONTROL SYSTEM	ECE	3	0	2	5	4
MEH413B-T/P	ROBOTS, AI & ETHICS	MECH	2	0	0	2	2
CSH410B-T&P	ROBOT PROGRAMMING/ WIRELESS COMMUNICATION FOR RPA CONVOLUTIONAL NEURAL NETWORK FOR VISUAL RECOGNITION	ECE/CSE	3	0	2	5	4
CHS234 CS306B	ENVIRONMENTAL ETHICS & SUSTAINABLE DEVELOPMENT E-WASTE MANAGEMENT		2	0	0	2	2
TOTAL (L-T-P/CONTACT HOURS/CREDITS)			8	0	4	12	12

SEMESTER - 8

SUBJECT CODE	SUBJECT NAME	OFFERING DEPARTMENT	L	T	P	NO. OF CONTACT HOURS PER WEEK	NO. OF CREDITS
CSH413B-T&P	PROJECTS/ELECTIVES/ENTREPRENEURSHIP/INCUBATION/INNOVATION	CST/ECE/ME				320-360 hrs	14
TOTAL (L-T-P/CONTACT HOURS/CREDITS)							14
TOTAL CREDITS							
	SEM	CONTACT HOURS				Credits	
	I				33	26	
	II				32	25	
	Internship/Project					2	
	III				31	23	
	IV				22	20	
	Internship/Project					2	
	V				24	18	
	VI				23	17	
	Internship/Project					3	

	VII	12	12	
	VIII		14	
		0	162	

Annexure-III

List of all courses being offered in PBL (Project-based learning) mode for the July-Dec 2023 session

Subject in PBL Mode	Subject Code	Credits	Semester	Course Coordinator/ Subject Faculty
Supervised Machine Learning	CSH212B-T&P	5	3rd Sem	Dr.Mamta Arora
Advanced Neural Network	CSH323B-T&P	5	5th Sem	Dr.Parneeta Dhaliwal
Mobile Computing with Android	CSH303B-T&P	4	5th Sem	Dr.Sanjay Singh
Computer Vision and Data Visualization	CSH416B-T&P	5	7th sem	Dr.Mrinal Pandey
Continuous Integration and Continuous Deployment	CSH415B-T&P	5	7th Sem	Dr.Sanjay Singh
Virtualization and Cloud Automation	CSH422B-T&P	5	7th Sem	Dr.Shalu
IOT	CSH415B-T&P	5	7th Sem	

Annexure-IV

CO Attainment Levels of Dept of CST

Range of CO Attainment	Attainment Level
>0 to <60%	1
>=60% to <70%	2
>70%	3

Direct PO attainment of 2K17, 2K18 and 2K19 Batch

Batch	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2
17-21	2.18	1.83	1.91	1.86	1.97	1.59	1.75	1.80	1.84	1.62	1.75	1.89	1.92	1.73
18-22	2.33	2.14	2.18	2.09	2.16	2.04	2.09	2.25	2.09	2.05	2.03	2.07	2.05	2.05
19-23	2.37	2.20	2.22	2.12	2.17	2.15	2.10	2.25	2.16	2.12	2.10	2.14	2.14	2.14

Indirect PO attainment of 2K18 and 2K19 Batch

Indirect Assessment Tool	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Employer Survey	2.75	2.60	2.50	2.67	2.67	2.50	2.00	2.00	2.50	3.00	2.00	2.50	2.00	2.25
Program Exit Survey	3.00	2.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.00	3.00
Alumni Survey	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Manav Rachna Life Skills Points – Extracurricular						2.00	2.00	2.00	1.78	1.78	2.00	1.78	2.00	1.33
Manav Rachna Life Skills Points – Co-curricular						3.00	3.00	3.00	2.00	3.00		3.00	3.00	2.50
Manav Rachna Life Skills Points – Entrepreneurship			2.00	2.33		2.33	2.50	2.33	2.00	2.00	2.40	2.00	2.50	2.80

Annexure-V

MANAV RACHNA UNIVERSITY
SWAYAM-NPTEL Courses for Semester July-Dec, 2023
Faculty of Engineering : Department of Computer Science & Engineering
Course: B.Tech CSE

SN o	Course Type (Domain \ Allied Elective)	NPTEL Course	Instit ute	Durati on (Week s)	Cred its at MR U	Mappin g Status Full/Par tial	NPTEL URL
1	Domain Elective	Introduction to Machine Learning	IITM	12 weeks	5	Full	https://nptel.ac.in/courses/106/105/106105152/
2		Artificial Intelligence Search Methods For Problem Solving	IITM	12 Weeks	5	Full	https://nptel.ac.in/courses/106/106/106106126/
3		Introduction to Internet of Things	IITK GP	12 Weeks	5	Full	https://nptel.ac.in/courses/106/105/106105166/
4		Deep Learning	IIT Ropar	12 Weeks	5	Full	https://nptel.ac.in/courses/106/106/106106184/

5		Social Networks	IIT Ropar	12 weeks	5	Full	https://nptel.ac.in/courses/106/106/106106169/
6		Natural Language Processing	IITK GP	12 Weeks	5	Full	https://nptel.ac.in/courses/106/105/106105158/
7		Computer Vision	IITK GP	12 Weeks	5	Full	https://nptel.ac.in/courses/106/105/106105216/
8		The Joy of Computing using Python	IIT Ropar	12 Weeks	5	Full	https://nptel.ac.in/courses/117/105/117105135/
9		Introduction to Industry 4.0 and Industrial Internet of Things	IITK GP	12 Weeks	5	Full	https://nptel.ac.in/courses/106/105/106105195/
10	Allied Soft Elective I	Innovation, Business Models and Entrepreneurship	IITR	8 Weeks	2	Full	https://nptel.ac.in/courses/110/107/110107094/
12		Entrepreneurship and IP strategy	IIT KGP	8 Weeks	2	Full	https://nptel.ac.in/courses/109/105/109105176/
13		Design Technology		8 Weeks	2	Full	https://nptel.ac.in/courses/107/101/107101088/

		and innovation					
15		Organization Development and Change in 21st Century	IITB	8 Weeks	2	Full	https://nptel.ac.in/courses/110/101/110101146/
19	Allied Soft Elective II (Finance)	Corporate Finance	IITK GP	8 Weeks	2	Full	
20	Allied Hard Elective	Introduction to Wireless and Cellular Communications	IITM	12 Weeks	2	Full	https://nptel.ac.in/courses/106/106/106106167/
21		Data Science for Engineers	IITM	8 Weeks	2	Full	https://nptel.ac.in/courses/106/106/106106179/
22	Elective Workshop	Cloud computing	IIT KGP	8 Weeks	2	Full	https://nptel.ac.in/courses/106/105/106105167/

23	Big Data Computing	IITP	8 Weeks	2	Full	https://nptel.ac.in/courses/106/104/106104189/
24	Introduction To Haskell Programming	CMI	8 Weeks	2	Full	https://nptel.ac.in/courses/106/106/106106137/
25	Programming, Data Structures And Algorithms Using Python	CMI	8 Weeks	2	Full	https://nptel.ac.in/courses/106/106/106106145/

Annexure-VI

S.No.	External Examiner	University
1	Mr. Naresh Kumar	SGT University
2	Dr. Kuldeep Tomar	NGF College of Engineering & Technology
3	Dr. Neelam Duhan	J. C. Bose University of Science and Technology, YMCA
4	Dr. Rohit Tanwar	UPES, Dehradun
5	Puneet Garg	ABES ENGG. COLLEGE, GHAZIABAD,U.P.
6	Ms. Sarika	IMS Engineering College, GHAZIABAD,U.P.
7	Ms. Dimple	J. C. Bose University of Science and Technology, YMCA
8	Dr. Harish	J. C. Bose University of Science and Technology, YMCA
9	Mohit Chowdhary	Galgotias College of Engineering

10	AMIT RAJPUT	J. C. Bose University of Science and Technology, YMCA, Sector 6, Faridabad, Haryana
11	Naved Alam	Jamia hamdard Universitysoftware
12	Sushil Chhabra	IMT FARIDABAD ,SECTOR 86,FBD
13	Dr. Mala Saraswat	Bennett University, Greater Noida
14	Ms. Ranjita Joon	Nehru Govt. College, Faridabad
15	Dr. Neeraj Varshney	GLA University,Mathura

Annexure-VII

Subjects	Semester
UI Specialist - HTML, CSS and JavaScript	1
UX Expert - React/Native + Angular	2
Software Craftsmanship	3
DevOps Fundamentals(Version Control + CICD with Jenkins)	4
Backend Development with Node Js	5
Database Engineering with Mongo DB	6
Docker	7

Few glimpses of CST 11th BOS:

11.1 Confirmation of the MOM of the 10th BOS held on 21st Feb 2023.

10th BOS- MOM
https://docs.google.com/document/d/120nuKuCyHNIGPria87Lr_rcDyKQL2_9NQC/edit?usp=sharing&oid=103158223107197574356&rtop=true&sd=1#u

10th BOS- PPT
https://docs.google.com/presentation/d/115hNWr5eVXX9HMMWvMOY1Cg2X17Mrq5Evl_Ol_Clo4ba/edit?usp=sharing

10:23 AM | wzs-ftke-qpm

11.5 Approval of the list of all courses being offered in PBL (Project-based learning) mode for the July-Dec 2023 session

PBL Projects Jan-June 2023:
<https://docs.google.com/spreadsheets/d/1AvRRM1L3/AJK-FRTMe0z8R4xTvszyKQmKesiqMU-za/edit?usp=sharing>

PBL Sample Projects July-Dec 2023:
<https://docs.google.com/spreadsheets/d/1ZcNMgcK8E7Vimls4II-cyhmGqUoydK7waAywbtdnUsU/edit?usp=sharing>

11:10 AM | wzs-ftke-qpm

meet.google.com/wzs-ftke-qpm?pli=1&authuser=1

docs.google.com/presentation/d/1T2EamDDName-gpUf-dQqHmVv3BuhCustQVvK26-hu/edit#slide=id.g25c197e5d43_0_127

11.12 Placement 2023

Ananya Kamra @ Palo Alto Networks (54 Lakhs)	Karan Aditya Goshal @ KPMG (46 Lakhs)	Deepanshu Sharma @ équipe Nutrition Canada (30 Lakhs)
Lokdeep Saluja @ Tekion India (25 Lakhs)	Kolla Teja @ AW WORKS PVT LTD(19.88 Lakhs)	Sahil Jhangra @ Futures First (12.11 Lakhs)
	Hitesh Mittal @ Amadeus Labs(11.77 Lakhs)	

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11:32 AM | wzs-ftke-qpm

30°C 27-07-2023

https://meet.google.com/wzs-ftke-qpm

Vineet Dubey

JYOTI PRUTHI

HOD.CST

Anjana Gosain

Dr. Susmita Ray

SACHIN LAKRA

GUNJAN CHANDWANI

Dr. Parneeta Dhaliwal

Dr. Neelu Chaudhary

11:34 AM | wzs-ftke-qpm

30°C Partly sunny 11:34 27-07-2023