

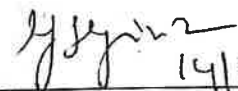
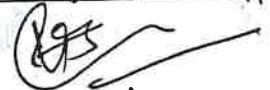
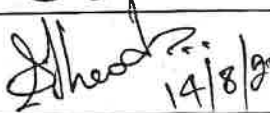
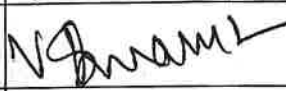
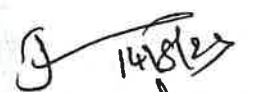
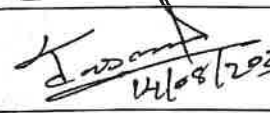
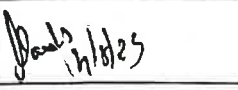
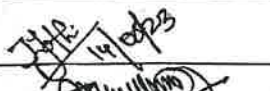


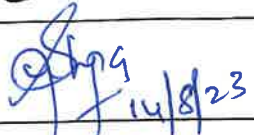
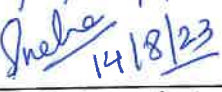
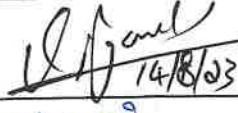
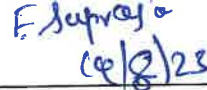
DAYANANDA SAGAR UNIVERSITY
School of Engineering

Minutes OF BOS MEETING

- School : School of Engineering
- College : Dayananda Sagar University
- Program/Department : B.Voc Programs,
B.Voc in Computer Science and IT
Infrastructure
- Mode of BOS Held : Offline
- Date : 14th August 2023
- Venue : Autodesk Lab, Block A, DSU
- Time : 10:00 AM

Members Present :

SL. No.	Name	Designation & Affiliation	Signature
1	Dr.Girisha G S	Professor & Chairman, Dept of CS&E Dayananda sagar University	 14/8/23
2	Dr.Vinayak Hemadri	Professor & Chairman, Dept of Mechanical Engineering, Dayananda sagar University.	
3	Dr.Theodar Chandra	Associate Professor & Chairman, Dept of ECE, Dayananda sagar University	 14/8/2023
4	Prof. Viswanathan	Dy. General Manager, Curriculum Department. NTTF	
5	Prof. Jagdish	Divisional Manager, IT Department, NEC. NTTF	 14/8/23
6	Prof. Jasmi	Manager, Academic Coordinator, NTTF	 14/08/2023
7	Prof. Nandish B M	Asst Manager, Shop floor Incharge, BTC, NTTF	 14/8/23
8	Prf. Jyothi	STO, Assessment and Evaluation Department, NTTF.	 14/08/23
9	Prof. Santhosh Joshi	Dy. Manager, BTC, AIC, NTTF	
10	Dr. Basavaraj Hiremath	Professor, Dept of CS&E Dayananda sagar University	 14/8/23

11	Dr. Bondu Venkateswarlu	Associate Professor, Dept of CS&E Dayananda sagar University,	
12	Prof. Nandini	Assistant Professor, Dept of CS&E Dayananda sagar University,	
13	Dr. Saravana Bavan	Associate Professor, Dept of Mechanical Engineering, Dayananda sagar University	 14/8/2023
14	Dr. Shashidhara LC	Assistant Professor & B.Voc SPOC, Dept of Mechanical Engineering, Dayananda sagar University,	 14/8/23
15	Prof. Karthik	Assistant Professor, Dept of Mechanical Engineering, Dayananda sagar University	
16	Dr. Pushpa mala	Associate Professor, Dept of ECE, Dayananda sagar University	 14/8/23
17	Dr. Sneha Sharma	Assistant Professor, Dept of ECE, Dayananda sagar University	 14/8/23
18	Mr. Vijayakumar	Dy Director, Training and Placement, Dayananda Sagar University	 14/8/23
19	Dr. Supraja	Assistant Professor, Dept of ECE, Dayananda sagar University	 14/8/23
20	Mr. Narendra V	Mechanical Component Engineer, RGBSI, Bangalore	 N.V.

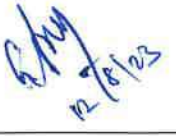


DAYANANDA SAGAR UNIVERSITY

PROCEEDINGS OF BOS MEETING

- School : School of Engineering
- College : Dayananda Sagar University
- Program/Department : Computer Science & Engineering
- Mode of BOS Held : Online
- Date : 12th August 2023
- Venue : Block B, DSU
- Time : 9:30 AM

• Members Present :

SL. No	Name	Designation & Affiliation	Signature
1	Dr. Girisha G S	Professor & Chairman, Dept of CS&E Dayananda Sagar University	 12/8/23
2	Dr. Ramaswamy Govindarajan	Professor, Dept of Computer Science & Automation and Super Computing Education and Research Center, IISc, Bangalore Ph No: 9480051754 Email Id: govind@iisc.ac.in	https://meet.google.com/izz-agxc-eqy
3	Mr. Raju Hiremath	Associate Vice President, Mphasis Ltd, Ph.NO: 9845041538 Email: raju.hiremath@mphasis.com	https://meet.google.com/izz-agxc-eqy
4	Dr. M K Banga	Professor & Dean, Research, Dayananda Sagar University	 12/8/23
5	Dr. Basavaraj Hiremath	Professor, Dept of CS&E Dayananda Sagar University Ph.No: 9886496530 Email: Basavaraj-cse@dsu.edu.in	 12/8/23
6	Dr. Jayita Saha	Assistant Professor, Dept of CS&E Dayananda Sagar University Ph.No: 9432956787 Email: jayita-cse@dsu.edu.in	 12/8/23
7	Mr. Rohan Vijapur	Team Lead, Bimaplan Ph.No: 8951825819 Email: rvijapur6@gmail.com	 12/8/23
8	Dr. Arunkumar Gopu	Associate Professor, Dept of CS&E Dayananda Sagar University Ph.No: 9952254714 Email: arunkumarg-cse@dsu.edu.in	 12/8/23

- Members Absent:

SL. No	Name	Designation & Affiliation
1	Dr. RishiKesh K Joshi	Professor, Dept of CS&E IIT, Mumbai Ph No: 9323799961
2	Dr. Sudarshan Iyengar	Associate Professor, Head of Dept. CS&E, IIT, Raipur Ph NO: 9023978851
3	Mr. Girish N Patil	General Manager, Digital Experiences of Data, ITC Infotech Pvt Ltd, Ph.No 9980039808 Email: girish@gmail.com
4		

• Agenda

SL. No	Particulars
1.	Stakeholder feedback on curriculum : VC, student, faculty, alumni, Employer
2.	Deliberations on the 2020 scheme 7th & 8th semester of BTech. CS&E
3.	Discussion on syllabi of 7th & 8th Sem (2020 scheme) of BTech. CS&E, and approving the same
4.	Deliberations on the 2021 scheme for 5rd to 8th semester of BTech. CS&E
5.	Discussion on syllabi of 5th Sem & 6th sem (2021 scheme) and approving the same
6.	Deliberations on the 2022 scheme for 3rd to 8th semester of BTech. CS&E as per NEP 2020
7.	Discussion on syllabi of 3rd Sem & 4th sem (2022 scheme) as per NEP 2020 for and approving the same
8.	Deliberations on the 2023 scheme for 1st to 8th semester of BTech. CS&E as per NEP 2020
9.	Discussion on syllabi of 1st Sem & 2nd sem (2023 scheme) as per NEP 2020 and approving the same
10.	Deliberations on MTech-CS&E (2023 scheme) for 1st to 4th semester
11.	Discussion on syllabi of 1st semester & 2nd semester MTech (2023 scheme) and approving the same
12.	Deliberations on the scheme of additional 20 credits programmes and finalization • Honors • Minor in CS&E
13.	Feedback on Computer Science and Engineering VISION,MISSION and PEOs, PSOs
14.	Overall suggestions and directions, Concluding remarks

• Discussions on Agenda

Agenda	Discussions Brief
1	Stakeholder feedback on curriculum : VC, student, faculty, alumni, Employer From Faculties and Students 1. New courses such as 5G networks, AR/VR, ADAS needed. 2. Faculty members were satisfied with the curriculum. 3. Include more practical implementation in theoretical subjects. From VC Sir 1. Adopting 7Cs in Teaching learning 2. Each course -3 credits(Two-hour Lecture + One hour skill component) 3. Provide opportunity for internships in industry and research institutes during last year From Dean & Pro-VC sir 1. unique and meaningful curriculum 2. Emphasis on well-balanced mix of hardware, software From Employers Include some course including marketing, human resource, operations, finance, industrial certifications
2	Deliberations on the 2020 scheme 7th & 8th semester of BTech. CS&E No Comments from the member of BoS

3.	Discussion on syllabi of 7th & 8th Sem (2020 scheme) of BTech. CS&E and approving the same. No Comments from the member of BoS
4.	Deliberations on the 2021 scheme for 5th to 8th semester of BTech. CS&E Dr. Govindarajan R - Many new subjects are included. Instead of concentrating on many new subjects the member suggested to focus in-depth on few verticals. Create awareness/educate the students on selecting the domain courses. Capstone projects can incorporate in professional elective courses. Consider introducing core subjects prior to introducing latest subjects such as mobile computing and application development, block chain..
5.	Discussion on syllabi of 5th Sem & 6th sem (2021 scheme) and approving the same Machine Learning Course • In module 2 include probability concepts necessary for ML • Include topic such as Introduction to neural networks and deep learning. Microcontroller and Embedded System • Programming concept need to be reduced, more design concept need to be included Internet of Things • Rajkamal book need to be removed. Instead search some other latest books. Data Warehouse and Data Mining • Industrial Tools can be introduced in data analytics in any of the modules. Mobile Application Development • Include flutter programming language. Compiler Design and System Software • Module 3 name should be introduction to compilers. • Ensure that there will be no overlapping among the topics Cloud Computing • History of cloud computing the origin of cloud computing model should be covered as a part of the course. • The subject should highlight the need of cloud computing in the module 1 itself. Blockchain and Distributed Ledger

	• Practical example need to be explored more next point • Covering only the algorithmic concept is not enough Data Science • Include more of the practical components the theoretical aspects
6.	Deliberations on the 2022 scheme for 3rd to 8th semester of BTech. CS&E as per NEP 2020 • It is difficult for student to follow two professional electives in a given semester. • The requested to consider the subject microprocessors and microcontrollers • Requested to include subjects called as a distributed systems • Dr. Govindarajan R the suggested to concentrate more on standard computer science subjects rather than giving more importance on new courses. • More hands-on tools need to be practiced in new courses. • Dr. Govindarajan R external members are requested to combine software engineering and software testing into a single subject and their requested to add new subjects called 5G networks • Ordering of the subjects that includes (operating system embedded system and computer organization) should be given special consideration.
7.	Discussion on syllabi of 3rd Sem & 4th sem (2022 scheme) as per NEP 2020 for and approving the same. Digital Electronics • Data converter is important topics such as digital to analogue, analogue to digital concepts, power systems concepts need to be included Discrete mathematics • Include topics such as predicate logic, proposition logic • Reduce more topics on graph theory and the members suggested to make it as a one single module on graph theory. Computer Network • The computer networks it very vast syllabus • requested to revise the syllabus • relook into the lab experiment Probability and statistics • Basic introduction on stochastic and queuing theory. Design and analysis of algorithms • Dynamic Programming and backtracking should have more preference than divide and conquer. • open ended problems need to be included as a part of a lab experiment

	- Consider Corman as main textbook. Microcontrollers and embedded systems - Dean research, Dr.Banga requested the to include embedded operating system, hardware & software implementation, real time operating system and creating device drivers in this course. Computer Organization and Architecture - Give more emphasis on pipelining, input output operations, computer arithmetic, data part, instruction set, memory hierarchy. - Explanation on assembly level language can be reduce - Emphasis on arm processor based topics can be reduced - David A Patterson book is in reference, can be considered as a main text book
8.	Deliberations on the 2023 scheme for 1st to 8th semester of BTech. CS&E as per NEP 2020 The member suggested to look into the combining of mechanical and electrical engineering subject which can be provided as a separate course. He also suggested to combine electric and electronic engineering courses. Balance is needed for mechanical based subjects and also electrical subject
9.	Discussion on syllabi of 1st Sem & 2nd Sem (2023 scheme) as per NEP 2020 and approving the same. Basics of Mechanical and Electrical Engineering - more weightage is given on mechanical part and only one module is on electrical engineering. Member requested to give equal weightage. Engineering Mechanics - The syllabus is very vast the member request to reduce the syllabus C Programming - Scenario based problem solving questions should be included in the lab component.
10.	Deliberations on MTech-CS&E (2023 scheme) for 1st to 4th semester - Introduce more number of bridge courses to help students coming from other departments to study Masters in CS&E. - Computer science fundamental course should be included as a core courses. Latest/Advanced courses can be put in professional electives.
11.	Discussion on syllabi of 1st semester & 2nd semester MTech (2023 scheme) and approving the same

12.	Deliberations on the scheme of additional 20 credits programmes and finalization • Honors • Minor in CS&E • Students opting minors in CSC should be offered with more computer science based fundamental courses instead of advanced or latest courses like computer organization • Practical components need to be included for honors courses. Because all of them are theoretical courses.
13.	Feedback on Computer Science and Engineering VISION,MISSION and PEOs, PSOs No comments from the members of BoS Committee
14.	Overall suggestions and directions, Concluding remarks • Emphasis more on Practical components/Open needed question. • More importance should be given to fundamental CSE subjects rather than considering latest subjects • Students should be well educated regarding professional elective and open elective subject selection • Ordering of the subjects need to be taken care

SCHEME 2023 – 2027 Batch

I SEMESTER (Chemistry Cycle)													
S.N	Course Type	Course Name	Teaching Department	Specific to Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practice	Project	Durationin Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	BSC	Linear Algebra and Differential Equations	MAT	All Depts.	3	0	0	0	03	60	40	100	3
2	BSC	Engineering Chemistry	CHEM	All Depts.	2	0	2	0	03	60	40	100	3
3	ESC	Basics of Mechanical and Electrical Engineering	ME	All Depts.	3	0	2	0	03	60	40	100	4
4	ESC	C Programming for Problem Solving	CSE	All Depts.	2	1	2	0	03	60	40	100	4
5	ESC	Engineering Mechanics	ME	All Depts.	2	0	0	0	03	60	40	100	2
6	HSMC	Technical English	HUM	All Depts.	1	2	0	0	--	100	--	100	2
7	AEC	Environmental Science	Biology	All Depts.	1	0	0	0	--	100	--	100	1
8	HSMC	Kannada Kali / Manasu	HUM	All Depts.	1	0	0	0	--	100	--	100	1
		Total								600	200	800	20

I SEMESTER (Physics Cycle)													
S.N	Course Type	Course Name	Teaching Department	Specific to Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practice	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	BSC	Linear Algebra and Differential Equations	MAT	All Depts.	3	0	0	0	03	60	40	100	3
2	BSC	Engineering Physics	PHY	All Depts.	3	0	2	0	03	60	40	100	4
3	ESC	Introduction to Electronics Engineering	ECE	All Depts.	3	0	0	0	03	60	40	100	3
4	ESC	C Programming for Problem Solving	CSE	All Depts.	2	1	2	0	03	60	40	100	4
5	ESC	Engineering Graphics and Design Thinking	ME	All Depts.	1	0	4	0	03	60	40	100	3
6	AEC	Biology for Engineers	Biology	All Depts.	2	0	0	0	--	100	--	100	2
7	HSMC	Constitution of India and Professional Ethics	HUM	All Depts.	1	0	0	0	--	100	--	100	1
		Total								500	200	700	20

II SEMESTER (Physics Cycle)

S.N	Course Type	Course Name	Teaching Department	Specific to Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practice	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	BSC	Single and Multivariate Calculus	MAT	All Depts.	3	0	0	0	03	60	40	100	3
2	BSC	Engineering Physics	PHY	All Depts.	3	0	2	0	03	60	40	100	4
3	ESC	Introduction to Electronics Engineering	ECE	All Depts.	3	0	0	0	03	60	40	100	3
4	ESC	Object Oriented Programming (Python)	CSE	All Depts.	2	1	2	0	03	60	40	100	4
5	ESC	Engineering Graphics and Design Thinking	ME	All Depts.	1	0	4	0	03	60	40	100	3
6	AEC	Biology for Engineers	Biology	All Depts.	2	0	0	0	--	100	--	100	2
7	HSMC	Constitution of India and Professional Ethics	HUM	All Depts.	1	0	0	0	--	100	--	100	1
		Total								500	200	700	20

II SEMESTER (Chemistry Cycle)

S.N	Course Type	Course Name	Teaching Department	Specific to Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practice	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	BSC	Single and Multivariate Calculus	MAT	All Depts.	3	0	0	0	03	60	40	100	3
2	BSC	Engineering Chemistry	CHEM	All Depts.	2	0	2	0	03	60	40	100	3
3	ESC	Basics of Mechanical and Electrical Engineering	ME	All Depts.	3	0	2	0	03	60	40	100	4
4	ESC	Object Oriented Programming (Python)	CSE	All Depts.	2	1	2	0	03	60	40	100	4
5	ESC	Engineering Mechanics	ME	All Depts.	2	0	0	0	03	60	40	100	2
6	HSMC	Technical English	HUM	All Depts.	1	2	0	0	--	100	--	100	2
7	AEC	Environmental Science	Biology	All Depts.	1	0	0	0	--	100	--	100	1
8	HSMC	Kannada Kali / Manasu	HUM	All Depts.	1	0	0	0	--	100	--	100	1
		Total								600	200	800	20

			III SEMESTER										
S. N	Course Type	Course Code	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	BSC		All Depts: Transforms and Numerical Techniques	MAT	3	0	0	0	03	60	40	100	3
2	IPCC		CS Cluster & ECE: Data Structures	CSE	3	0	2	0	03	60	40	100	4
3	IPCC		CS Cluster & ECE: Digital Logic Design	ECE	3	0	2	0	03	60	40	100	4
4	PCC		CS Cluster & ECE: Discrete Mathematics and Graph Theory	CSE	3	0	0	0	03	60	40	100	3
5	PCC		CS Cluster & ECE: Introduction to Computer Networks	CSE / ECE	3	0	0	0	03	60	40	100	3
6	AEC		Liberal Studies	Any Dept.	1	0	0	0	01	50	--	50	1
7	SEC		Skill Enhancement Course – I	Resp. Dept.	1	0	2	0	01	100	--	100	2
			Total		17	0	06	0	17	450	200	650	20

IV SEMESTER													
S.N	Course Type	Course Code	Course Name	Teaching Department	Teaching Hours / Week			Examination					Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	BSC		All Depts: Probability & Statistics	MAT	3	0	0	0	03	60	40	100	3
2	IPCC		CS Cluster: Design and Analysis of Algorithms	CSE	3	0	2	0	03	60	40	100	4
			ECE: Signals and Systems	ECE	3	1	0	0	03			100	4
3	IPCC		CS Cluster & ECE: Database Management System	CSE	3	0	2	0	03	60	40	100	4
4	IPCC		CS Cluster & ECE: Embedded System Design	ECE	3	0	2	0	02	60	40	100	4
5	PCC		CS Cluster & ECE: Computer Organization and Architecture	CSE	3	0	0	0	03	60	40	100	3
6	SEC		Skill Enhancement Course – II	Resp. Dept.	1	0	2	0	--	100	--	100	2
			Total		16	01	08	0	14	400	200	600	20

SCHEME - B.TECH – 2021-22 ONWARDS

III SEM - COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103	21CS2301	DISCRETE MATHEMATICAL STRUCTURES	CR	3	-	-	-	3	*	***
2	103	21CS2302	DATA STRUCTURES	CR	3	-	-	-	3	*	***
3	103	21CS2303	DIGITAL ELECTRONICS & LOGIC DESIGN	CR	3	-	-	-	3	*	***
4	103	21CS2304	FULL STACK DEVELOPMENT	CR	2	-	2	-	3	*	***
5	103	21CS2305	COMPUTATIONAL THINKING WITH PYTHON	CR	2	-	2	-	3	*	***
6	103	21CS2306	INTRODUCTION TO NETWORKS & CYBERSECURITY	CR	3	-	-	-	3	*	***
7	103	21CS2307	DATA STRUCTURES LAB	CR	-	-	2	-	1	*	***
		21CS2308	DIGITAL ELECTRONICS & LOGIC DESIGN LAB				2		1		
9	103	21CS2309	MANAGEMENT AND ENTREPRENEURSHIP	CR	2	-	-	-	2	*	***
10	103	21CS2310	LIBERAL STUDIES – I	CR	1	-	-	-	1	*	***
					19	-	08	-	23		

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

IV SEM - COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103	21CS2401	PROBABILITY AND STATISTICS	CR	3	-	-	-	3	*	***
2	103	21CS2402	DESIGN AND ANALYSIS OF ALGORITHMS	CR	3	-	-	-	3	*	***
3	103	21CS2403	PRINCIPLES OF MICROPROCESSORS AND COMPUTER ORGANIZATION	CR	4	-	-	-	4	*	***
4	103	21CS2404	FINITE AUTOMATA & FORMAL LANGUAGES	CR	3	-	2	-	4	*	***
5	103	21CS2405	SOFTWARE ENGINEERING AND PROJECT MANAGEMENT	CR	3	-	-	-	3	*	***
6	103	21CS2406	LINUX PROGRAMMING & SCRIPTING	CR	2	-	2	-	3	*	***
7	103	21CS2407	DESIGN AND ANALYSIS OF ALGORITHMS LAB	CR	-	-	2	-	1	*	***
8	103	21CS2408	MICROPROCESSORS LABORATORY	CR	-	-	2	-	1	*	***
9	103	21CS2409	SPECIAL TOPICS – I	CR	-	-	-	4	2	*	***
10	103	21CS2410	LIBERAL STUDIES – II	CR	1	-	-	-	1	*	***
					19	-	08	04	25		

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

V SEM - COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103		DATABASE MANAGEMENT SYSTEMS	CR	3	-	-		3	*	***
2	103		OBJECT ORIENTED PROGRAMMING WITH JAVA	CR	3	-	-	-	3	*	***
3	103		OPERATING SYSTEMS	CR	3	1	-	-	4	*	***
4	103		MACHINE LEARNING	CR	3	-	-	2	4	*	***
5	103		PROFESSIONAL ELECTIVE-1	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
6	103		OPEN ELECTIVE-1	CR	3	-	-	-	3	*	***
7	103		DATABASE MANAGEMENT SYSTEMS LABORATORY	CR	-	-	2	-	1	*	***
8	103		OPERATING SYSTEMS LABORATORY	CR	-	-	2	-	1	*	***
9	103		SPECIAL TOPICS -II	CR		-	-	4	2	*	***
					18	1	4	6	24		

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

V SEM-PROFESSIONAL ELECTIVE – I

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1		GRAPH THEORY	03	-	-	-	03	-	**
2		MICROCONTROLLERS AND EMBEDDED SYSTEMS	03	-	-	-	03	-	**
3		INTERNET OF THINGS	03	-	-	-	03	-	**
4		AGILE SOFTWARE ENGINEERING	03	-	-	-	03	-	**
5		DATA WAREHOUSE AND DATA MINING	03	-	-	-	03	-	**
6		MOBILE COMPUTING AND APPS DEVELOPMENT	03	-	-	-	03	-	**
7		MOOC	-	-	-	-	03	-	**

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

VI SEM - COMPUTER SCIENCE &ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103		COMPILER DESIGN AND SYSTEM SOFTWARE	CR	3	1	-	-	4	*	***
2	103		COMPUTER NETWORKS	CR	3	-	-	-	3	*	***
3	103		CLOUD COMPUTING	CR	3	-	-	-	3	*	***
4	103		PROFESSIONAL ELECTIVE-2	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
5	103		PROFESSIONAL ELECTIVE-3	CR	3	-	-	-	3	*	
6	103		OPEN ELECTIVE-2	CR	3	-	-	-	3	*	***
7	103		COMPILER DESIGN AND SYSTEM SOFTWARE LAB	CR	-	-	2	-	1	*	***
8	103		COMPUTER NETWORKS LAB	CR	-	-	2	-	1	*	***
					18	02	04	-	21		

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

VI SEM-PROFESSIONAL ELECTIVE – II & III

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1		BLOCK CHAIN AND DISTRIBUTED LEDGER	3	-	-	-	03	*	***
2		MACHINE LEARNING FOR HEALTHCARE	3	-	-	-	03	*	***
3		DEEP LEARNING	3	-	-	-	03	*	***
4		DIGITAL IMAGE PROCESSING	3	-	-	-	03	*	***
5		HUMAN COMPUTER INTERFACE	3	-	-	-	03	*	***
6		UG RESEARCH PROJECT-I/PRODUCT DEVELOPMENT FOUNDATION-I	-	-	-	06	03	*	***
7		GAME THEORY	3	-	-	-	03	*	***
8		DATA SCIENCE	3	-	-	-	03	*	***
9		BIG DATA ANALYTICS	3	-	-	-	03	*	***
10		QUANTUM COMPUTATION	3	-	-	-	03	*	***
11		MOOC COURSE	3	-	-	-	03	*	***

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

VII SEM - COMPUTER SCIENCE &ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103		PROFESSIONAL ELECTIVE – 4/MOOC	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
2	103		PROFESSIONAL ELECTIVE – 5/MOOC	CR	3	-	-	-	3	*	
3	103		OPEN ELECTIVE-3	CR	3	-	-	-	3	*	***
4	103		PROJECT PHASE – I	CR	-	-	-	6	3	*	***
					09			06	12		

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

VII SEM-PROFESSIONAL ELECTIVE – IV & V

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1		ADVANCED DRIVING ASSISTANCE SYSTEMS	3	-	-	-	03	*	***
2		WIRELESS NETWORKS	3	-	-	-	03	*	***
3		CRYPTOGRAPHY	3	-	-	-	03	*	***
4		NATURAL LANGUAGE PROCESSING	3	-	-	-	03	*	***
5		PATTERN RECOGNITION	3	-	-	-	03	*	***
6		SEQUENCE NETWORKS AND GAN	3	-	-	-	03	*	***
7		UG RESEARCH PROJECT-II/PRODUCT DEVELOPMENT FOUNDATION-II	-	-	-	06	03	*	***
8		AWS WEB SERVICES	3	-	-	-	03	*	***
9		AUGMENTED REALITY AND VIRTUAL REALITY	3	-	-	-	03	*	***
10		MOOC	3	-	-	-	03	*	***

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

VIII SEM - COMPUTER SCIENCE & ENGINEERING

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					PREREQUISITE	
					L	T	P	S/P	C	SEM	COURSE CODE
1	103		PROFESSIONAL ELECTIVE – 6/ MOOC WITH BLENDED LEARNING	CR	3	-	-	-	3	*	AS INDICATED IN ELECTIVE LIST
2	103		PROJECT PHASE – II	CR	-	-	-	12	6	*	***
3	103		INTERNSHIP		-	-	-	6	3		
					03	-	-	12	12		

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits

VIII SEM-PROFESSIONAL ELECTIVE – VI

SL	COURSE CODE	COURSE TITLE	SCHEME OF TEACHING					PREREQUISITE	
			L	T	P	S/P	C	SEM	COURSE CODE
1		PARALLEL COMPUTING	3	-	-	-	3	*	***
2		SOCIAL NETWORKS AND ANALYTICS	3	-	-	-	3	*	***
3		COMPUTER VISION	3	-	-	-	3	*	***
4		MOOC WITH BLENDED LEARNING	3	-	-	-	3	*	***

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS

OPEN ELECTIVES LIST - B.TECH PROGRAMME – 2021-22 Batch

SL.No	COURSE CODE	COURSE TITLE	OFFERING DEPARTMENT
		ARTIFICIAL INTELLIGENCE	CSE
		DATA STRUCTURES & ALGORITHMS	CSE
		WEB TECHNOLOGIES	CSE
		SOCIAL NETWORKS & ANALYTICS	CSE
		MANAGEMENT INFORMATION SYSTEM	CSE
		FUNDAMENTALS OF CLOUD COMPUTING	CSE
		MACHINE LEARNING WITH PYTHON	CSE
		BUSINESS INTELLIGENCE	CSE
		FOUNDATIONS OF DATA SCIENCE	CSE
		INTERNET OF THINGS	CSE

Signature 12/8/23

Chairperson
Dept. of Computer Science and Engineering
School of Engineering
DAYANANDA SAGAR UNIVERSITY
Devarakaggalahalli, Harohalli,
Kanakapura Road, Ramanagara District, K.

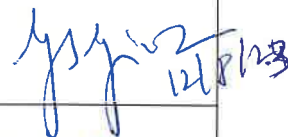


DAYANANDA SAGAR UNIVERSITY

Minutes OF BOS MEETING

- School : School of Engineering
- College : Dayananda Sagar University
- Program/Department : Computer Science & Engineering
- Mode of BOS Held : Online
- Date : 12th August 2023
- Venue : Block B, DSU
- Time : 9:30 AM

• Members Present :

SL. No	Name	Designation & Affiliation	Signature
1	Dr.Girisha G S	Professor & Chairman, Dept of CS&E Dayananda sagar University	 12/8/23
2	Dr. Ramaswamy Govindarajan	Professor, Dept of Computer Science & Automation and Super Computing Education and Research Center, IISc, Bangalore Ph No: 9480051754 Email Id: govind@iisc.ac.in	https://meet.google.com/izz-agxc-egy
3	Mr. Raju Hiremath	Associate Vice President, Mphasis Ltd, Ph.NO: 9845041538 Email: raju.hiremath@mphasis.com	https://meet.google.com/izz-agxc-egy
4	Dr. M K Banga	Professor & Dean, Research, Dayananda Sagar University	 12/8/23
5	Dr. Basavaraj Hiremath	Professor, Dept of CS&E Dayananda sagar University Ph.No: 9886496530 Email: Basavaraj-cse@dsu.edu.in	 12/8/23
6	Dr. Jayita Saha	Assistant Professor, Dept of CS&E Dayananda sagar University Ph.No: 9432956787 Email: jayita-cse@dsu.edu.in	 12/8/23
7	Mr. Rohan Vijapur	Team Lead, Bimaplan Ph.No: 8951825819 Email: rvijapur6@gmail.com	https://meet.google.com/izz-agxc-egy
8	Dr. Arunkumar Gopu	Associate Professor, Dept of CS&E Dayananda sagar University Ph.No: 9952254714 Email: arunkumarg-cse@dsu.edu.in	 12/8/23

- Members Absent:

SL. No	Name	Designation & Affiliation
1	Dr. RishiKesh K Joshi	Professor, Dept of CS&E IIT, Mumbai Ph No: 9323799961
2	Dr. Sudarshan Iyengar	Associate Professor, Head of Dept. CS&E, IIT, Raipur Ph NO: 9023978851
3	Mr. Girish N Patil	General Manager, Digital Experiences of Data, ITC Infotech Pvt Ltd, Ph.No 9980039808 Email: girish@gmail.com

• Agenda

SL. No	Particulars
1	Stakeholder feedback on curriculum : VC, student, faculty, alumni, Employer
2	Deliberations on the 2023-24 CBCS scheme for 1st & 2nd semester of BTech. CS&E as per NEP 2020
3	Discussion on syllabi of 1st Sem & 2nd sem (2023-24 CBCS scheme) as per NEP 2020 and approving the same
4	Deliberations on the 2022-23 CBCS scheme for 3rd to 8th semester of BTech. CS&E as per NEP 2020
5	Discussion on syllabi of 3rd Sem & 4th sem (2022-23 scheme) as per NEP 2020 for and approving the same
6	Deliberations on the 2021-22 CBCS scheme for 5rd to 8th semester of BTech. CS&E
7	Discussion on syllabi of 5th Sem & 6th sem (2021-22 CBCS scheme) and approving the same
9	Deliberations on the 2020 CBCS scheme 7th & 8th semester of BTech. CS&E
9	Discussion on syllabi of 7th & 8th Sem (2020 CBCS scheme) of BTech. CS&E, and approving the same
10	Deliberations on MTech-CS&E (2023 CBCS scheme) for 1st to 4th semester
11	Discussion on syllabi of 1st semester & 2nd semester MTech (2023 CBCS scheme) and approving the same
12	Deliberations on the CBCS scheme & syllabus of additional 20 credits programmes and finalization • Honors • Minor in CS&E
13	
	Overall suggestions and directions, Concluding remarks (Decisions/Resolutions/Recommendations)

• Discussions on Agenda

Agenda	Discussions Brief
1	Stakeholder feedback on curriculum : VC, student, faculty, alumni, Employer From Faculties and Students 1. New courses such as 5G networks, AR/VR, ADAS needed. 2. Faculty members were satisfied with the curriculum. 3. Include more practical implementation in theoretical subjects. From VC Sir 1. Adopting 7Cs in Teaching learning 2. Each course -3 credits(Two-hour Lecture + One hour skill component) 3. Provide opportunity for internships in industry and research institutes during last year From Dean & Pro-VC sir 1. unique and meaningful curriculum 2. Emphasis on well-balanced mix of hardware, software From Employers Include some course including marketing, human resource,

DAYANANDA SAGAR UNIVERSITY

Main Campus, Devarakaggalahalli, Harohalli,
Kanakapura Road, Ramanagara District, 562112

SCHOOL OF ENGINEERING



SCHEME & SYLLABUS FOR MASTER OF TECHNOLOGY (M. Tech) – 2023-2024

COMPUTER SCIENCE & ENGINEERING

(With Effect from 2023-24)

I SEMESTER

#	Program Code	Course Code	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	202	23CSE5101	Mathematics For Computer Science	CSE	3	2	-	-	3	60	40	100	5
2		23CSE5102	Advances in Algorithm	CSE	3	-	4	-	3	60	40	100	5
3		23CSE5103	Advances in Data Base Management System	CSE	3	-	4	-	3	60	40	100	5
4		23CSE51XX	Professional Elective – I	CSE	3	-	2	-	3	60	40	100	4
5		23CSE51XX	Professional Elective – II	CSE	3	-	2	-	3	60	40	100	4
6		23CSE5104	Soft Skills and Personality Development	CSE	1	-	-	-	2	60	-	60	1
			Total		16	2	12	-	17	360	200	560	24

II SEMESTER

#	Program Code	Course Code	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	202	23CSE5201	Artificial Intelligence	CSE	3	-	4	-	3	60	40	100	5
2		23CSE5202	Agile Project Management & DevOps	CSE	3	1	2	-	3	60	40	100	5
3		23CSE5203	Advances in Operating Systems	CSE	3	-	4	-	3	60	40	100	5
4		23CSE52XX	Professional Elective – III	CSE	3	-	2	-	3	60	40	100	4
5		23CSE52XX	Professional Elective – IV	CSE	3	-	2	-	3	60	40	100	4
6		23CSE5204	Research Methodology	CSE	1	-	-	-	2	60	-	60	1
			Total		16	1	14	-	17	360	200	560	24

III SEMESTER

#	Program Code	Course Code	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	202	23CSE63XX	Professional Elective – V	CSE	3	-	2	-	3	60	40	100	4
2		23CSE6301	Internship	-	-	-	-	24	3	100	-	100	12
			Total		3	-	2	24	6	160	40	100	16

IV SEMESTER

#	Program Code	Course Code	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	202	23CSE64XX	Professional Elective – VI	CSE	3	-	2	-	3	60	40	100	4
2		23CSE6401	Dissertation / Research Project	-	-	-	-	24	3	60	40	100	12
			Total		3	-	2	24	6	120	80	200	16

S. N	Domain Clusters	PROFESSIONAL ELECTIVE COURSES											
		PEC-I		PEC-II		PEC-III		PEC-IV		PEC-V		PEC-VI	
		Semester 1				Semester 2				Semester 3		Semester 4	
		Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name
1	Core CSE	23CSE5105	Data Structures	23CSE5106	Computer Networks	23CSE5205	Digital Image Processing and Forensics Science	23CSE5206	Social Network Analysis	23CSE6302	Machine Learning	23CSE6402	Deep Learning
										23CSE6303	MOOC	23CSE6403	MOOC
2	Computational & Data Science	23CSE5107	Data Science	23CSE5108	Data Warehouse & Data Mining	23CSE5207	Big Data Analytics	23CSE5208	Business intelligence	23CSE6304	Natural Language Processing	23CSE6404	Text and Speech Analytics
										23CSE6305	MOOC	23CSE6405	MOOC
3	Cloud Computing	23CSE5109	Cloud Computing & Virtualization	23CSE5110	Web Technology and Cloud Application Development	23CSE5209	Cloud Infrastructure Management	23CSE5210	Distributed Systems	23CSE6306	Wireless Network Security	23CSE6406	AWS Cloud Essentials
										23CSE6307	MOOC	23CSE6407	MOOC
4	Networks and Cyber Security	23CSE5111	Cryptography	23CSE5112	Steganography and Digital Watermarking	23CSE5211	Cyber Security and Privacy	23CSE5212	Blockchain Technologies	23CSE6308	Wireless Networks & 5G	23CSE6408	Intrusion Detection Systems and Firewall
										23CSE6309	MOOC	23CSE6409	MOOC