

DEPARTMENT OF COMPUTER SCIENCE

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE

POLLACHI - 642001

**24th Board of Studies Meeting in the Department of
Computer Science**

Date: 22.04.2024 Time: 10.00 A.M to 2.00 P.M

Agenda

BoS / CS24.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the Department of Computer Science at Offline Mode
BoS / CS24.2	:	Confirmation of the Minutes of the 23 rd Board of studies in offline mode held on 24.06.2023 and Action taken report of 23 rd meeting of Board of studies
BoS / CS24.3	:	24.3.1 Syllabus of I B.Sc., COMPUTER SCIENCE for semester I to VI under Regulation 2024-2027 Batch.
BoS / CS24.4	:	Suggestion given by BOS Members

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE

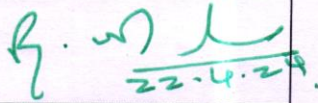
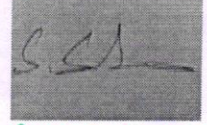
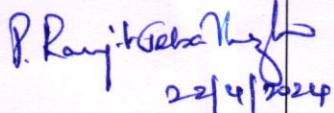
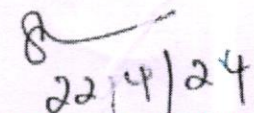
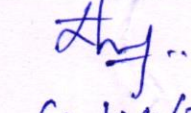
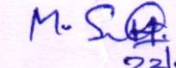
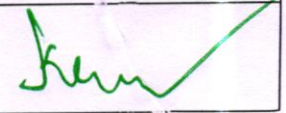
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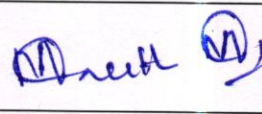
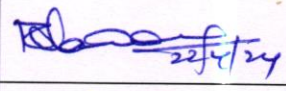
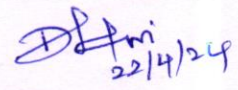
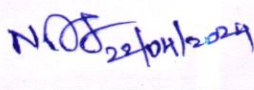
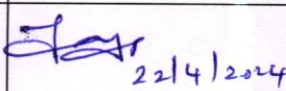
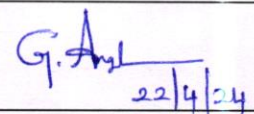
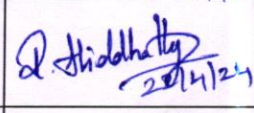
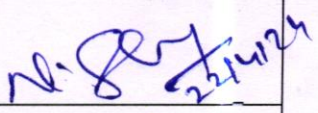
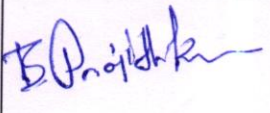
DEPARTMENT OF COMPUTER SCIENCE

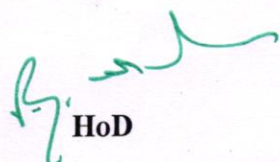
MINUTES OF BOS MEETING

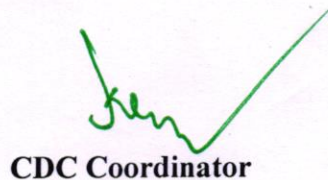
The 24th Meeting of the Board of studies of the Department of Computer Science was held on **22.04.2024** at 10.00 a.m. in Offline mode

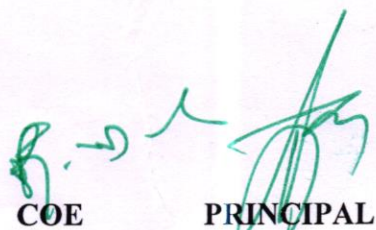
1. The following members were present:

S.No	Name	Signature
1	Dr. R. Manicka chezian Head of the Department of Computer Science – BoS Chairman	 22-4-24
2	Dr. S. Sukumaran Associate Professor. Department of Computer Science, Erode Arts and Science College, Erode - University Nominee	 (ATTENDED ONLINE)
3	Dr. P. RanjitJebaThangaiah Professor and Head, Department of Digital Science, Karunya Institute of Technology and Sciences,Coimbatore - Subject Expert	 22/4/2024
4	Dr. S. Veni Associate Professor, Department of Computer Science, Karpagam Academy for Higher Education, Coimbatore - Subject Expert	 22/4/24 (ATTENDED ONLINE)
5	Mr. L. Thanappan Proprietor Altavista Technology, Pollachi - Industrial Expert	 (22/04/2024)
6	Mr. M. Selvakumar Testing Engineer Nxtgradetech, Bangalore - Alumni Representative	 22/04/24
7	Mr. K. Srinivasan Associate Professor of Computer Science - Internal Member	

8	Dr. Aruchamy Rajini Assistant Professor of Computer Science - Internal Member	
9	Ms. M. Malathi Assistant Professor of Computer Science - Internal Member	
10	Ms. M. Latha Assistant Professor of Computer Science - Internal Member	
11	Dr. R. Nandhakumar Assistant Professor of Computer Science - Internal Member	
12	Ms. M. Dhavapriya Assistant Professor of Computer Science - Internal Member	
13	Dr. S. Sharmila Assistant Professor of Computer Science - Internal Member	
14	Dr. M. Meena Krithika Assistant Professor of Computer Science - Internal Member	
15	Mr. N. Arul Kumar Assistant Professor of Computer Science - Internal Member	
16	Dr. P. Jayapriya Assistant Professor of Computer Science - Internal Member	
17	Ms. G. Angayarkanni Assistant Professor of Computer Science - Internal Member	
18	Dr. R. Shiddharthy Assistant Professor of Computer Science - Internal Member	
19	Mr. N. Sureshbabu Assistant Professor of Computer Science - Internal Member	
20	Mr. B. Prajith Kumar UG Department of Computer Science, Nallamuthu Gounder Mahalingam College, Pollachi – Student Representative	


HoD


CDC Coordinator


COE

PRINCIPAL

Head of the Department
Department of Computer Science,
NGM College, Pollachi - 642 001

K. SRINIVASAN, M.C.A.,
Co-ordinator
Curriculum Development Cell (CDC)
NGM College (Autonomous)
Pollachi - 642 001.

Dr. R. MANICKA CHEZIAN, M.Sc., M.S., Ph.D.
Controller of Examinations
NGM College (Autonomous)

Dr. R. MUTHUKUMARAN,
M.A., M.Phil., B.Ed., Ph.D.
PRINCIPAL
POLLACHI - 642 00 N.G.M. College, Pollachi - 642 001
Coimbatore District

BoS/CS24.1 The Chairman, BoS of the Department of Computer Science welcomed and introduced the members of 24th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS/CS24.2 The minutes of the 23rd Board of Studies meeting held on **24.06.2023** were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the previous Academic council.

Action Taken Report (Enclosed in Annexure 1)

BoS/CS24.3

BoS/CS24.3.1

B.Sc COMPUTER SCIENCE (I to VI SEMESTER)

The following Papers from B.Sc Computer Science were accepted by the experts **without any modification**

Course Code (2023-2026 Batch)	Course Code (2024-2027 Batch)	Course Name
Semester I		
23UCS102	24UCS102	CC II: Digital Computer Fundamentals and Organization (Credit was decreased from 5 to 4)
23UCS1A1	24UCS1A1	GE I – Allied I: Statistical Methods & Linear Algebra
23UCS1A2	24UCS1A2	GE I – Allied I: Advanced Mathematics and Applied Statistics
Semester II		
23UCS205	24UCS205	CC IV: Data Communication and Computer Networks
23UCS2A2	24UCS2A2	GE II – Allied II: Discrete Mathematical Structures
23UCS2S1	24UCS2S1	SEC I: NaanMudhalvan : Business English Communications
Semester III		
23UCS308	24UCS308	CC VI: Operating System Concepts and Linux (Credit was decreased from 5 to 4)
23UCS3A1	24UCS3A1	GE III – Allied III: Computer Based Optimization Techniques
23UCS3A2	24UCS3A2	GE III – Allied III: Resource Management Techniques
23UCS310	24UCS310	CC Lab IV: Programming Lab in Linux
Semester IV		
23UCS411	24UCS411	CC VII: Python Programming
23UCS412	24UCS412	CC VIII: Relational Database Management Systems
23UCS413	24UCS413	CC Lab V: Programming Lab in Python

23UCS414	24UCS414	CC Lab VI: Programming Lab in RDBMS
Semester V		
23UCS516	24UCS516	CC X: Cyber Security
23UCS5E1/ 23UCS5E2/ 23UCS5E3	24UCS5E1/ 24UCS5E2/ 24UCS5E3	DSE I : Data Mining and Warehousing / DSE I: Data Engineering with Google Cloud / DSE I: Mobile Application Development (Credit was decreased from 6 to 5)
23UCS517	24UCS5S1	CC Lab VII: Programming Lab in .NET (Shifted to Part IV as SEC III)
23UCS518	24UCS518	CC Lab VIII: Programming Lab in PHP & MySQL
Semester VI		
23UCS619	24UCS619	Core XI : R Programming
23UCS6E4	24UCS6E4	DSE-II: Artificial Intelligence and Machine learning
23UCS6E6	24UCS6E6	DSE II: MongoDB
23UCS6E7	24UCS6E7	DSE-III: Information Retrieval
23UCS620	24UCS620	CC Lab IX: R Programming Lab
23UCS621	24UCS621	CC Lab X: Programming Lab in Android
23UCS622	24UCS622	Project

The following Papers were **swapped** due to Course load balancing and Curriculum updates

Course Code (2023-2026 Batch)	Course Code (2024-2027 Batch)	Course Name	Reason for Swapping
23UCS307	24UCS204	CC III: Java Programming	Due to the removal of 23UCS101 - C Programming from Semester I
23UCS307	24UCS206	CC Lab II: Programming Lab in Java	Due to the removal of 23UCS103 - CC Lab I: Programming Lab in C
23UCS5S2	24UCS6S2	SEC III: DevOps Foundation	Due to the Curriculum Update

The following courses were revised with **major / minor modifications**

Course Code	Course Name	Reason for modification
24UCS2A1	GE II – Allied II: Vedic and Discrete Mathematics	Suggested by CDC and Subject Expert
24UCS515	CC IX: Open Source Technologies	Suggested by Student Representative
24UCS6E5	Web Development Essentials with Angular, React and Node.js	The syllabi for “ 23UCS6E5 - FrontEnd Development with React” and “23UCS6E9 - Angular and NodeJS” were combined into "Web Development Essentials with Angular, React, and Node.js" to streamline the curriculum and offer a more comprehensive learning experience, as suggested by students for better industry relevance.
24UCS6E8	Java script and JQuery for Web Designing	Shifted the Unit I HTML Concepts from the course 23UCS6E8 - HTML, Javascript and JQuery for Web Designing to 24UCS515 - CC IX: Open Source Technologies

The following **New Courses** were introduced

Course Code	Course Name	Reason for adding New Courses
24UCS101	CC I: C++ Programming	The course "23UCS204 Data Structure using C++" was split into two papers: 1. Data Structure and 2. C++ Programming, to allow for better focus and understanding of each subject separately. The above suggestion is given by Faculty members
24UCS103	CC Lab I: Programming Lab in C++	Feedback from Faculty
24UCS2S2	SEC I: Data Analysis using Excel	Suggested by Subject Expert
24UCS307	CC V: Data Structures	The course "23UCS204 Data Structure using C++" was split into two papers: 1. Data Structure and 2. C++ Programming, to allow for better focus and understanding of each subject separately. The above suggestion is given by Faculty members
24UCS309	CC Lab III: Programming Lab in Data Structures	Feedback from Faculty
24UCS4S1	SEC II: Software Testing using	Suggested by Subject Expert and Alumni

	Selenium	
24UCS517	CC XI: Software Engineering	Suggested by Subject Expert
24UCS6E9	DSE-III: Big Data Analytics	Due to the growing demand for data professionals in the industry. Suggested by Industry Expert
24UCS6S1	SEC IV: Data Visualization using Tableau	Suggested by Subject Expert

These changes have been made effect for the students admitted in 2024-2027 with Semesters I to VI accordingly.

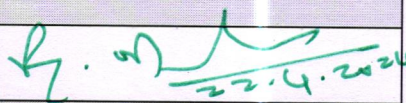
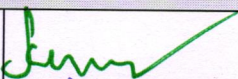
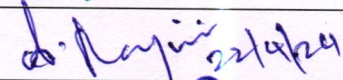
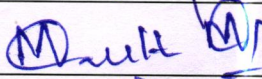
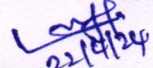
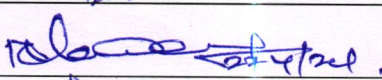
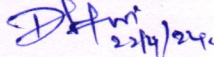
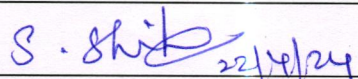
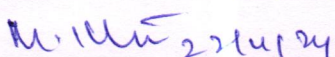
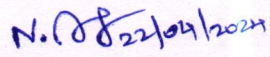
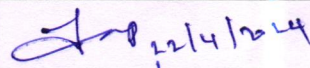
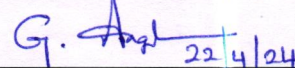
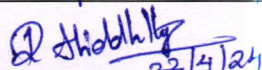
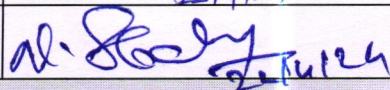
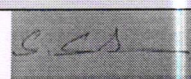
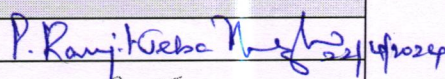
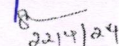
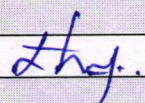
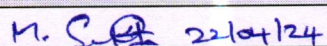
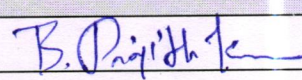
BoS/CT 24.4 SUGGESTIONS GIVEN BY THE BoS MEMBERS

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.

- The course "Python Programming (24UCS411)" has been introduced with the option for students to take the exam in either Tamil or English, to promote and enrich the use of regional languages in the curriculum.
- The Non-Major Elective hours were increased from 1 to 2 for the batch 2024-2027 to provide students with more opportunities to explore diverse subjects and enhance their overall academic experience suggested by CDC.
- The End-Semester Exam (ESE) for AECC I: Environmental Studies(24EVS101) will be conducted in Semester I.

Based on the suggestions given by the members, BOS resolved to recommend the above to the Academic Council for further approval.

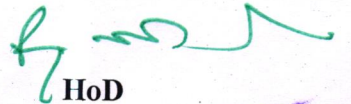
Members Present:

Chairman	
Dr. R. Manicka chezian Head of the Department	 22.4.2024
Internal Members	
Mr. K. Srinivasan Associate Professor	
Dr. Aruchamy Rajini Assistant Professor	 22/4/24
Ms. M. Malathi Assistant Professor	
Ms. M. Latha Assistant Professor	 22/4/24
Dr. R. Nandhakumar Assistant Professor	 22/4/24
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Ms. G. Angayarkanni Assistant Professor	 22/4/24
Dr. R. Shiddharthy Assistant Professor	 22/4/24
Mr. N. Sureshbabu Assistant Professor	 22/4/24
University Nominee	
Dr. S. Sukumaran	
Subject Expert	
Dr. P. RanjitJebaThangaiah	 22/4/2024
Dr. S. Veni	 22/4/24
Industrial Expert	
Mr. L. Thanappan	
Alumni Representative	
Mr. M. Selvakumar	 22/4/24
Student Representative	
Mr. B. Prajith Kumar	

ANNEXURE I

Minutes of the 23th Board of Studies Meeting – Action Taken Report

S.No	Suggestion given by expert members	Action taken
1.	Industry Demand papers were introduced to align the curriculum with current industry needs.	Reviewed and Implemented
2.	Concept-based and real-time lab exercises were added to certain practical papers to enhance hands-on learning.	Implemented
3.	Updated syllabi to include emerging technologies and trends.	Implemented
4.	Additional skill enhancement courses were introduced into the curriculum to further enrich students' skills and capabilities.	Implemented



HoD

Head of the Department
Department of Computer Science,
NGM College, Pollachi - 642 001

**List of Courses having focus on local, national, regional and global developmental needs
offered by the Department of Computer Science**

DEPARTMENT OF COMPUTER SCIENCE						
Programme: Computer Science					Year: 2024	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
24UCS101	CC I: C++ Programming				✓	This course empowers students to contribute to various sectors by creating robust and scalable applications, aligning with the evolving demands of the software industry.
24UCS102	CC II: Digital Computer Fundamentals and Organization				✓	Provides with skills and knowledge to utilize the digital devices of today as well as providing foundations that will empower them to more easily understand and use future technology as well
24UCS1A1	GE I – Allied I: Statistical Methods & Linear Algebra			✓		Provides critical analytical skills through statistical methods and linear algebra, enabling students to interpret complex data and solve diverse mathematical problems, thereby supporting informed decision-making and advancing research across various fields.
24UCS1A2	GE I – Allied I: Advanced Mathematics and Applied Statistics			✓		Statistical analysis gives meaning to the meaningless numbers, thereby breathing life into a lifeless data & to understand and make predictions about such diverse things as glacial movement, seismic events etc.
24UCS103	CC Lab I: Programming Lab in C++				✓	Develops hands-on programming skills in C++ through practical lab sessions, enhancing students' ability to apply theoretical

						knowledge to real-world software development challenges.
24UCS204	CC III: Java Programming				✓	Offers significant advantages over other languages and environments, making it suitable for virtually any programming task. Java is easy to learn since it was designed precisely to be simple to understand and use.
24UCS205	CC IV: Data Communication and Computer Networks				✓	Enable seamless exchange of data between any two points in the world. This exchange of data takes place over a computer network.
24UCS2A1	GE II – Allied II: Vedic and Discrete Mathematics		✓			Equips students with essential mathematical concepts from Vedic and discrete mathematics, fostering problem-solving skills and logical reasoning applicable to diverse computational and theoretical challenges.
24UCS2A2	GE II – Allied II: Discrete Mathematical Structures		✓			Provides essential mathematical foundations for analyzing and solving complex problems in computer science, supporting logical reasoning and algorithm design.
24UCS206	CC Lab II: Programming Lab in Java		✓			Offers significant advantages over other languages and environments, making it suitable for virtually any programming task. Java is easy to learn since it was designed precisely to be simple to understand and use.
24UCS2S1	SEC I: Business English Communications				✓	Improve your ability to interact with English-speaking countries or companies.
24UCS2S2	SEC I: Data Analysis using Excel				✓	Enhances data analysis skills by leveraging Excel's powerful tools, enabling students to efficiently organize, analyze, and visualize data for informed decision-making.

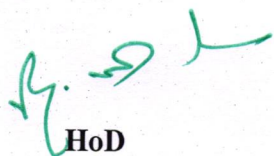
24UCS307	CC V: Data Structures				✓	Offers significant advantages over other languages and environments, making it suitable for virtually any programming task. Java is easy to learn since it was designed precisely to be simple to understand and use.
24UCS308	CC VI: Operating System Concepts and Linux				✓	An operating system provides the interface between the users of a computer and that computer's hardware & manage several services, including process scheduling, application scheduling, basic peripheral devices and file systems.
24UCS3A1 / 24UCS3A2	GE III – Allied III: Computer Based Optimization Techniques / Resource Management Techniques		✓			Improve the performance of a system, process or model, and can also help to reduce costs, increase efficiency and improve the quality of the results
24UCS309	CC Lab III: Programming Lab in Data Structures				✓	Provides practical experience in implementing and manipulating data structures, reinforcing theoretical concepts and improving problem-solving skills essential for effective software development.
24UCS310	CC Lab IV: Programming Lab in Linux				✓	Linux programming creates applications, interfaces, programs and software. Often, Linux code is used on desktops, real-time programs and embedded systems.
24UCS411	CC VII: Python Programming (Regional Language)				✓	Earning Potential. Python is the second-highest paid computer language, according to Indeed. Ease of Comprehension. One of the top benefits of Python is that it is easy to learn and fun to use.
24UCS412	CC VIII: Relational Database		✓			RDBMS can be beneficial to most organizations; the systematic view of raw data helps companies better

	Management Systems					understand and execute the information while enhancing the decision-making process.
24UCS4A1 / 24UCS4A2	GE IV – Allied IV: Accountancy for Decision Making / Financial Accounting	✓				Keeps a systematic record of the organization's financial information. Up-to-date records help users compare current financial information to historical data.
24UCS413	CC Lab V: Programming Lab in Python				✓	Earning Potential. Python is the second-highest paid computer language, according to Indeed. Ease of Comprehension. One of the top benefits of Python is that it is easy to learn and fun to use.
24UCS414	CC Lab VI: Programming Lab in RDBMS		✓			RDBMS can be beneficial to most organizations; the systematic view of raw data helps companies better understand and execute the information while enhancing the decision-making process.
24UCS4S1	SEC II: Software Testing using Selenium		✓			Equips students with skills in automated software testing using Selenium, enhancing their ability to ensure software quality and reliability through efficient and scalable testing practices.
24UCS4S2	SEC II: Aptitude for Placements				✓	Aptitude tests are widely used by employers as a tool to evaluate candidates' suitability for a job or a training program.
24UCS515	CC IX: Open Source Technologies				✓	Lower starting costs, faster project starts, faster iteration, more-flexible software development processes, robust community-driven support, and easier license management, without being contractually locked into work with a single vendor
24UCS516	CC X: Cyber Security				✓	Cyber Security can help to prevent data breaches, identity theft, and other types of cybercrime. Organizations must have strong cyber security measures to protect their data and customers.

24UCS517	CC XI: Software Engineering					Provides a comprehensive understanding of software development processes and methodologies, enabling students to design, develop, and manage high-quality software systems effectively.
24UCS5E1	DSE -I: Data Mining and Warehousing		✓			Data mining attempts to depict meaningful patterns through a dependency on the data that is compiled in the data warehouse.
24UCS5E2	DSE -I: Data Engineering with Google Cloud				✓	Google Cloud Platform enables data engineers to create end-to-end data pipelines right from storing and processing data and workflow orchestration to presenting data through visualization dashboards.
24UCS5E3	DSE -I: Mobile Application Development				✓	Process of making software for smartphones, tablets and digital assistants, most commonly for the Android and iOS operating systems.
24UCS5S1	SEC III: Programming Lab in .NET				✓	Open-source platform for building desktop, web, and mobile applications that can run natively on any operating system.
24UCS518	CC Lab VIII: Programming Lab in PHP & MySQL				✓	Open-source server-side programming languages used to create dynamic websites. They provide flexibility, as they can be used and manipulated on any operating system.
24UCS5AL	ALC – I: Cloud Computing		✓			Cloud infrastructure involves the hardware and software components required for proper implementation of a cloud computing model.
24UCS619	Core XI: R Programming				✓	R offers a wide variety of statistics-related libraries and provides a favorable environment for statistical computing and design.
24UCS6E4	DSE–II: Artificial Intelligence and Machine Learning				✓	Improve data integrity and use AI to reduce human error—a combination that leads to better decisions based on better data.
24UCS6E5	Web Development Essentials with				✓	React lets you build rich user-interfaces easily. Quality of user-

	Angular, React and Node.js					interfaces is important because a poorly designed user-interface is generally less user-friendly and the users will not like a poorly designed UI. Angular enables developers to create dynamic web applications that are based on model-view controller architectural pattern and use HTML as a template language. NodeJS, on the programmers to build scalable server-side applications by using JavaScript as a server-side programming language.
24UCS6E6	DSE-II: MongoDB				✓	When an application needs high availability of data, flexibility of data storage, ability to scale-out quickly or the ability to support real-time analytics and big data needs.
24UCS6E7	DSE-III: Information Retrieval				✓	Enable users to find relevant information from a stored and organized collection of documents.
24UCS6E8	DSE-III: Javascript and JQuery for Web Designing				✓	JavaScript and jQuery are vital tools for modern web development, with JavaScript enabling interactive web pages and jQuery simplifying JavaScript tasks.
24UCS6E9	DSE-III: Big Data Analytics				✓	Equips students with advanced techniques for analyzing and interpreting large datasets, enabling them to extract valuable insights and drive data-informed decisions across various industries.
24UCS620	CC Lab IX: R Programming Lab				✓	R offers a wide variety of statistics-related libraries and provides a favorable environment for statistical computing and design.
24UCS621	CC Lab X: Programming Lab in Android				✓	Learn the fundamentals of developing Android Applications, from project creation to installation on a physical device.
24UCS6S1	SEC IV: Data Visualization using Tableau				✓	Students to create compelling and interactive visualizations using Tableau, enhancing their ability to

						present data insights clearly and effectively for informed decision-making.
24UCS6S2	SEC IV: DevOps Foundation				✓	Increases an organization's ability to deliver applications and services at high velocity: evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes.
24UCS622	Project				✓	The purpose of a project explains the reason for its existence to all of the project stakeholders from board members to the team delivering the project.



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**List of Courses having focus on Employability/ Entrepreneurship/ Skill development
offered by the Computer Science**

Computer Science						
Programme: B.Sc Computer Science					Year: 2024 – 2025	
Course Code	Course Title	Employability (EM) / Entrepreneurship (EN) / Skill Development (SD)			Focus	Year of Introduction
		EM	EN	SD		
24UCS101	CC I: C++ Programming	✓			Focusing on expanding programming Knowledge	
24UCS102	CC II: Digital Computer Fundamentals and Organization			✓	Helps students to know how exactly each instruction is executed at the micro level.	
24UCS1A1/ 24UCS1A2	GE I – Allied I: Mathematics - Statistical Methods & Linear Algebra / Advanced Mathematics and Applied Statistics			✓	Statistics may be used to study the vast amounts of data we have about these systems and look for patterns.	
24UCS103	CC Lab I: Programming Lab in C++	✓			Focusing on expanding programming Knowledge	
24UCS204	CC III: Java Programming	✓			Java is versatile and can be used in various types of applications, including desktop, mobile, and web apps.	
24UCS205	CC IV: Data Communication and Computer Networks	✓			It acts as basis of communication in Information Technology (IT). It is system of connected computing devices and shares information and	

					resources between them.	
24UCS2A1 / 24UCS2A2	GE II – Allied II: Mathematics II: Vedic and Discrete Mathematics / Discrete Mathematical Structures			✓	Able to generalize from a single instance of a problem to an entire class of problems, and to identify and abstract patterns from data.	2024
24UCS206	CC Lab II: Programming Lab in Java				Java is versatile and can be used in various types of applications, including desktop, mobile, and web apps.	
24UCS2S1	SEC I: Naan Mudhalvan : Business English Communications	✓			Communication enhances the socialization, a vital aspect of employability enhancement.	
24UCS2S2	SEC I: Naan Mudhalvan : Data Analysis using Excel			✓	Equips students with practical skills in data analysis using Excel, enhancing their ability to interpret and manage data effectively for various analytical and decision-making tasks.	2024
24UCS204	CC III: Data Structures	✓			Using appropriate data structures can help programmers save a good amount of time while performing operations such as storage, retrieval, or processing of data.	2024
24UCS308	CC VI: Operating System Concepts and Linux			✓	Helps to know how to manage the computer's memory and processes, as well as all of its software and hardware.	

24UCS3A1 / 24UCS3A2	GE III – Allied III: Computer Based Optimization Techniques / Resource Management Techniques			✓	Develops the concept of optimization in individual to achieve designed goals in engineering.	
24UCS309	CC Lab II: Programming Lab in Data Structures	✓			Using appropriate data structures can help programmers save a good amount of time while performing operations such as storage, retrieval, or processing of data.	2024
24UCS310	CC Lab IV: Programming Lab in Linux	✓			Learning how to navigate the basics of different operating systems demonstrates to employers that you can maneuver any operating system to solve a business problem.	
24UCS411	CC VII: Python Programming	✓			Learning to code in Python requires breaking down complex problems and finding solutions with code. This can help to develop important real-world problem solving and critical thinking skills.	
24UCS412	CC VIII: Relational Database Management Systems			✓	Provide an environment that is both convenient and efficient for users to retrieve and store information.	
24UCS4A1 / 24UCS4A2	GE IV – Allied IV: Accountancy for Decision Making / Financial Accounting			✓	Accounting helps to prepare financial statements that help company leaders and investors to make	

					informed business decisions.	
24UCS413	CC Lab V: Programming Lab in Python	✓			Learning to code in Python requires breaking down complex problems and finding solutions with code. This can help to develop important real-world problem solving and critical thinking skills.	
24UCS414	CC Lab VI: Programming Lab in RDBMS			✓	Provide an environment that is both convenient and efficient for users to retrieve and store information.	
24UCS4S1	SEC II: Naan Mudhalvan: Software Testing using Selenium			✓	Provides hands-on experience in automated software testing using Selenium, improving students' skills in ensuring software quality and reliability through efficient testing practices.	2024
24UCS4S2	SEC II: Naan Mudhalvan: Aptitude for Placements	✓			Aptitude tests help students to assess your strengths and weaknesses and help them understand if you would be a good fit for their organization or not.	
24UCS515	CC IX: Open Source Technologies		✓		Helps to improve their coding skills, gain experience working with others, and build a portfolio of work that demonstrates their abilities.	

24UCS516	CC X: Cyber Security		✓		Solid foundation in the principles of cyber security, in addition to an overview of security across a variety of platforms, programming and development, digital forensic investigation etc.	
24UCS517	CC XI: Software Engineering	✓			Equips students with essential software development and project management skills, enhancing their employability in designing and managing complex software systems.	2024
24UCS5E1	DSE -I: Data Mining and Warehousing	✓			Data mining enable enterprises to predict future trends and make informed business decisions.	
24UCS5E2	DSE -I: Data Engineering with Google Cloud		✓		Capable of using Big data / ML problems using Google Cloud Platform products and services.	
24UCS5E3	DSE -I: Mobile Application Development		✓		Programming language proficiency demonstrates your ability to use the languages to build functional mobile applications.	
24UCS5S1	CC Lab VII: Programming Lab in .NET	✓			.NET facilitates rapid development and connections between client-side development and backend development	
24UCS518	CC Lab VIII: Programming Lab in PHP & MySQL		✓		Helps to improve their coding skills, gain experience	

					working with others, and build a portfolio of work that demonstrates their abilities.	
24UCS5AL	ALC – I: Cloud Computing		✓		Helps to learn how it is used as a way of virtualizing a company's IT infrastructure, allowing employees to connect to their data from any location.	
24UCS619	Core XI: R Programming			✓	R helps Data Analysts and Data Scientists perform many data-related tasks, such as data storage and data analysis, and can be used to create customized dashboards and data visualizations.	
24UCS6E4	DSE–II: Artificial Intelligence and Machine Learning	✓			AI-powered tools can be used for analyzing, reasoning and learning	
24UCS6E5	DSE–II: Web Development Essentials with Angular, React and Node.js		✓		Focus on fundamental web technologies like HTML, CSS, and JavaScript, leading to an in-depth exploration of React and its functionalities for building dynamic user interfaces.	2024
24UCS6E6	DSE–II: MongoDB		✓		Helps to know the foundational steps of creating an effective data model in MongoDB.	
24UCS6E7	DSE–III: Information Retrieval			✓	Describe hands-on experience store, and	

					retrieve information from www using semantic approaches.	
24UCS6E8	DSE-III: Javascript and JQuery for Web Designing			✓	Understanding how the styles influence the display of a web page.	2024
24UCS6E9	DSE-III: Big Data Analytics			✓	Helps to build scalable server-side applications by using JavaScript as a server-side programming language.	2024
24UCS620	CC Lab IX: R Programming Lab			✓	R helps Data Analysts and Data Scientists perform many data-related tasks, such as data storage and data analysis, and can be used to create customized dashboards and data visualizations	
24UCS621	CC Lab X: Programming Lab in Android		✓		Helps the learners acquire a fundamental understanding of Android programming and its various components in detail.	
24UCS622	Project		✓		Project - based learning is an opportunity for students to critique and revise their approach when they encounter obstacles.	
24UCS5S1	SEC III: Data Visualization using Tableau			✓	Develops skills in creating interactive and insightful visualizations with Tableau, enhancing	2024

					data presentation and analysis capabilities.	
24UCS5S2	SEC III: DevOps Foundation	✓			Increases an organization's ability to deliver applications and services at high velocity	



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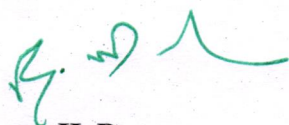
Percentage of Revision of B.Sc., Computer Science Syllabus under Regulation 2024

COMPUTER SCIENCE							
S.No	Course Code	Course Title	Change Details	% of Changes	Content Deleted	Content Updated	Reason for Change
1	24UCS101	CC I: C++ Programming	-	100%	-	-	Feedback from Faculty
2	24UCS103	CC Lab I: Programming Lab in C++	-	100%	-	-	Feedback from Faculty
3	24UCS2A1	GE II – Allied II: Vedic and Discrete Mathematics	Unit I & II – Full Change Unit III & IV – Half Change	40%	Formal languages: Basic definitions - phase structure grammar - types of phase structure grammar - Worked examples Fuzzy Sets: Fuzzy sets – Crisp Sets – Overview of Operations on fuzzy sets – Fuzzy complement – Fuzzy union – Fuzzy Intersection – Aggregation operations.	Vedic Mathematics - What is Vedic Mathematics? – Use of Vedic Mathematics – Addition - Vedic Method for Addition - Completion of a base number in the multiple of 10- pair of numbers doesn't form a base (multiple of 10) and one more than the previous one – Subtraction – Nikhilam Navatashcaramam Dashatah (All from 9 and last from 10)- Digit Separator Method for Subtraction – Square – Cube. Multiplication - Vedic Multiplication – All from 9 and last from 10-to proportionately - one less than the previous – the sum of unit and ten's digit at multiplicand and multiplier is 100 - Sum of left two digits is equal to 10 - process of vertical and cross-wise multiplication.	Suggested by CDC and Subject Expert

						Division – Introduction – Nikhilam(All from nine and last from 10) - Transpose and Apply –Division by UrdhvaTiryag and Dhwajanka(straight division) method	
5	24UCS2S2	SEC I: Data Analysis using Excel	-	100%	-	-	Suggested by CDC and Subject Expert
6	24UCS307	CC V: Data Structures	-	100%	-	-	Suggested by Subject Expert
7	24UCS309	CC Lab III: Programming Lab in Data Structures	-	100%	-	-	Suggested by Subject Expert
8	24UCS4S1	SEC II: Naan Mudhalvan: Software Testing using Selenium	-	100%	-	-	Suggested by Subject Expert
9	24UCS515	CC IX: Open Source Technologies	Unit I & II – Newly Added	40%	Optimizing and Tuning MySQL: Building an Optimized Platform, Benchmarking Your Database Server- MySQL Startup Options, Optimizing Your Table Structure- Optimizing Your Queries-Using the FLUSH Command- Using the SHOW Command. Working with Arrays: Arrays:- Creating Arrays- Some Array-Related Constructs and Functions	HTML: Introduction- SGML-DTD-DTD Elements-Attributes- Outlines of and HTML document- HEADSECTION- Prologue-Link-Basis- Meta-Script-Style- BODYSECTION- Headers-paragraphs- Text Formatting- Linking-Embedding Images-Lists-Tables- Frames-Other Special Tags and Characters- HTML Forms. Dynamic HTML (DHTML): Introduction- Cascading Style Sheet (CSS)-Coding CSS. Properties of Tags-Property Values-Other Style Properties-Inline Style Sheets- Embedded Style	Suggested by CDC and Subject Expert

						Sheets-External Style Sheets-Grouping- Inheritance.	
10	24UCS517	CC XI: Software Engineering	-	100%	-	-	Suggested by CDC and Subject Expert
11	24UCS6E5	Web Development Essentials with Angular, React and Node.js	Combined the Two Courses 23UCS6E5 - FrontEnd Development with React and 23UCS6E9 - Angular and NodeJS 50% reduction made in two Courses	100%	Database Connectivity Promises, Express.js, Database Connectivity – Connecting to RDBMS and NoSQL database, Performing CRUD operations Dependency Injection, Services ,Routing and Navigation What is dependency injection?, Using dependency injection, Angular JS service – Understanding services , Using built-in service, Creating custom service, Injecting dependency in service, Routing – What is Routing?, Routing using ngRoute and UIRouter, ngView Directive, Configuring \$routeProvider , \$stateProvider, Animating Angular App	-	Suggested by CDC and Subject Expert
12	24UCS6E8	Java script and JQuery for Web Designing	Removed Unit I & II		HTML : Introduction – Getting started – Creating and saving an HTML document – Document Layout of HTML Page – HTML elements – Some other formatting Styles –	JavaScript Operators: Understanding the Operator Types - Understanding Arithmetic Operators - Understanding Assignment Operators - Understanding Comparison	Suggested by CDC and Subject Expert

					Hypertext Links.CSS: CSS syntax and Style-Class Selectors-Id – Selectors-Cascading-Style attribute-Style Container-CSS Properties-Color-Font-Text-Border-Element Box-Padding Property-Margin Property. HTML Tables and CSS Layout: Table Elements-Formatting a Data Table- CSS Pseudo class Selectors- thead and tbody elements-Cell spanning-Web Accessibility – CSS Display properties with Table values-Links and Images: Introduction- a Element-Relative URLs-index.html file-webdesign-Navigation within a Webpage- CSS for Links-img element.	Operators - Understanding Order of Operations Defining Conditional Statements - What Is a Conditional Statement? Why Conditional Statements Are Useful - Using Conditional Statements - Using if/else Statements - Using the switch Statement -Using the Conditional Operator - User Input from a Prompt. Objects: Defining Objects - Creating Objects – Naming - Single Objects - Object Structures - Constructor Functions - Using Prototypes - The class Keyword - Helpful Statements for Objects - The for- in Loop - The with Statement - Understanding Predefined JavaScript Objects - The Navigator Object - The History Object	
	24UCS6E9	Big Data Analytics	-	100%	-	-	Suggested by Subject Expert
	24UCS6S1	SEC IV: Data Visualization using Tableau	-	100%	-	-	Suggested by Faculty



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