Programme Specific Outcome: B.Sc. Honours (Computer Science) and Minor Computer (under CCFUP, 2023)

The purpose of the undergraduate of computer science is to provide key knowledge base and laboratory resource to prepare students for careers as professionals in the field of Computer Science.

Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.

Purpose of undergraduate computer science programmed to prepare for higher studies and highly professional.

Students will be able to clearly communicate the results of scientific work in oral, written and electronic formats.

Finally, they will be sufficiently trained to get employment in IT Sector, Govt. sector, or any other field.

Course Outcome: B.Sc. Honours (Computer Science)

Course Code	Course Name	Course Outcome
COSHMJ-101	**MJ 101**	After completion of the course the student will be able to Develop efficient algorithms for solving a problem. Use the various constructs of a programming language viz. conditional, iteration and recursion. Implement the algorithms in "C" language. Use simple data structures like arrays, stacks and linked list in solving problems. Handling File in "C".
COSSEC01	**SEC 1P** **Office Automation**	The Office Automation course provides students with the knowledge and skills to streamline and optimize office tasks through the effective use of software tools and digital solutions. Students learn to use key applications like word processors, spreadsheets, presentation software, and databases to create, manage, and share documents efficiently. They also gain experience in automating repetitive tasks, handling data analysis, and implementing basic workflow systems, which increase productivity and accuracy in a professional setting. By the end of the course, students are equipped to manage office operations more effectively and support digital transformation in the workplace.
COSMI01	**MI – 1: Computer Fundamental**	After completion of the course, student will be able to learn about the: Definition of Computer, Characteristics of computer, Generation of computer, Classification of computer (Micro, Mini, Mainframe, Super), Application of computer, Basic concept about Software and Hardware, Bit, Byte, Word, Nibble, Computer Languages (Low, High and Assembly level language).Basic organization of digital computers (CPU, CU, ALU, Register set, Communication pathway, I/O devices, Memory module), CPU: Basic explanation of CU, ALU & Register set as well as all over CPU. Definition, Positional and Non Positional number system, Binary, Decimal, Octal, Hexadecimal number system. Definition of data communication, Characteristics of data communication, Component of data communication, mode of data communication, Media of data communication. Definition of OS, Function of OS, Need of OS, Classification of OS (CUI & GUI, Single user, Multi User), Concept of Multi Programming, Multi-Tasking and Multi Processing, Booting Process, Basic concept of Assembler, Loader, Linker, Interpreter.
MDC01	**MDC-01T: Basics of information technology (IT)**	After completion of the course, student will be able to learn about the: Definition, Characteristics of computer, Evolution of computer, Block diagram of a computer, Generation of computer, classification of computer, Application of computer, Capabilities and limitations of computer. Roll of I/O devices in a computer system, Input units: Keyboard, terminals and its types, Pointing devices, Scanners and its types, Voice Recognition Systems, Vision Input System, Touch Screen, Output Units: Monitors and its types, Printers. They able to know classification of software, High level language, low level language etc. They will familiar with different types of Operating system and their

		functionalities. They able to know business data processing methods and technique. They will be familiar with computer network, different medium, topologies, protocols etc.
COSHMJ102	**MJ-2: Digital Logic Design**	After completion of the course, student will be able to learn about the: Positional number systems, Binary, Octal, Decimal and Hexadecimal number systems, conversion of a number in one system to the other, representation of sign- magnitude numbers, 1's complement and 2's complement representation techniques, merits of 2's complement representation scheme, various binary codes- BCD, Excess-3, Gray, ASCII, EBCDIC, Parity bits, Binary arithmetic- addition, subtraction, multiplication and division of unsigned binary numbers. Definition of Switching Algebra, Basic properties of Switching Algebra, Huntington's Postulates, Basic Logic gates: (OR, AND, NOT), Universal Logic Gates: (NAND & NOR), Special Logic Gates: (EX-OR & EX-NOR), Boolean expressions, De-Morgan's theorem, Boolean expressions simplification- Algebraic technique, Karnaugh map technique. They will able to know Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexer, Demultiplexer, Encoder, Decoder, Seven Segment Display, BCD Adder, Comparator, Parity generator, Code converters, Priority encoders. Latch, RS, D, JK, T Flip-Flops, Race around condition, Master Slave JK FF, Registers: SISO, SIPO, PISO, PIPO, Universal Shift Register, Counter: Asynchronous Counter, Synchronous Counter.
COSSEC02	**SEC 2P** **Web Applications**	The Web Application course equips students with the skills to design, develop, and deploy full-stack web applications by mastering front-end and back-end development. Students learn core web technologies, including HTML, CSS, JavaScript, and server-side programming with frameworks and databases. They gain practical experience in building responsive user interfaces, implementing RESTful APIs, managing databases, and following security best practices. Additionally, students develop skills in testing, debugging, deployment, and version control, preparing them to build secure, scalable, and functional web applications that meet user needs and industry standards.
COSMI02	**MI-2T:** **Introduction to Programming**	After completion of the course the student will be able to Develop efficient algorithms for solving a problem. Use the various constructs of a programming language viz. conditional, iteration and recursion. Implement the algorithms in "C" language. Use simple data structures like arrays, stacks and linked list in solving problems. Handling File in "C".
MDC02	**MDC-02T: Digital Technologies**	i) After completion of the course, student will be able to learn about the: evolution of Digital systems, Role and significance of Digital Technology, Information & Communication technology & tools, Computer system & it's working, Software and its types, Operating Systems: types & functions. They will familiar with principles, model & transmission media, Computer and networks, Internet: concept and applications, WWW, Web Browsers, Search engines, Messaging,

		e-mail, social networking. They will able to know digital marketing, types digital marketing, e-governance, Digital financial tools such as ewallets, neft, rtgs etc. They will gain knowledge on recent trends of computer science such as AI, Blockchain, IoT, virtual realities etc.