KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

KOTHAPETA, VIJAYAWADA – 520001

PROGRAMME OUTCOMES & SPECIFIC OUTCOMES

(ACADEMIC YEAR - 2023-2024)

Programme outcomes

Name of the Programme	Programme Outcome
B.Sc. Single Major Honours Programmes	**PO1. In-Depth Knowledge and Understanding:** - Acquire a comprehensive understanding of the fundamental principles, theories, and concepts in the chosen major. - Develop expertise in advanced topics and current research trends within the major discipline. **PO 2. Practical and Laboratory Skills:** - Gain proficiency in laboratory techniques, experimental procedures, and the use of relevant scientific instruments and tools. - Develop the ability to design and conduct experiments, collect and analyze data, and interpret results. **PO 3. Critical Thinking and Problem-Solving:** - Enhance critical thinking and analytical skills to identify, define, and solve complex problems related to the major field of study. - Apply theoretical knowledge to practical situations and develop innovative solutions to real-world challenges. **PO 4. Research:** - Foster a research-oriented mindset and engage in independent and collaborative research projects. - Develop skills in literature review, hypothesis formulation, experimental design, data analysis, and scientific writing. **PO 5. Communication Skills:** - Develop effective written and oral communication skills to present scientific information clearly and concisely. - Learn to write research papers, technical reports, and make presentations on scientific topics to diverse audiences. **PO 6. Ethical and Professional Responsibility:** - Understand and adhere to ethical principles and professional standards in scientific research and practice. - Promote responsible conduct, integrity, and accountability in all scientific endeavors. **PO 7. Interdisciplinary and Integrative Learning:** - Appreciate the interdisciplinary nature of science and its connections with other fields of study. - Develop the ability to integrate knowledge from different disciplines to address complex problems and create holistic solutions. **PO 8. Technological Proficiency:** - Develop proficiency in using modern technology, software, and digital tools relevant to the major discipline.

	- Learn to leverage technology for data analysis, modeling, simulation, and problem-solving. **PO 9. Environmental and Social Responsibility:** - Understand the impact of scientific practices on the environment and society. - Promote sustainable practices and contribute to addressing societal challenges through scientific knowledge and innovation. **PO 10. Career and Employability Skills:** - Prepare for diverse career opportunities in academia, industry, research institutions, government, and non-governmental organizations. - Develop skills in project management, critical thinking, communication, and entrepreneurship to excel in professional settings. **PO 11. Adaptability and Innovation:** - Foster adaptability to changing scientific landscapes and emerging technologies. - Encourage innovation and creativity in developing new theories, methods, and applications in the major field of study.
B.Com.	**PO 1: Foundational Business Knowledge** Demonstrate a solid understanding of core business disciplines such as accounting, finance, marketing, management, and economics. **PO 2: Critical Thinking and Problem-Solving** Develop critical thinking skills to analyze business problems, make informed decisions, and propose effective solutions. **PO 3: Quantitative and Analytical Skills** Acquire proficiency in quantitative analysis, data interpretation, and financial analysis. **PO 4: Communication Skills** Enhance written and oral communication skills for effective business communication, including reports, presentations, and negotiations. **PO 5: Financial Literacy** Understand financial concepts, financial markets, and financial management principles. **PO 6: Ethical and Social Responsibility** Recognize the ethical dimensions of business decisions and demonstrate social responsibility in business practices. **PO 7: Entrepreneurial Mind-set** Cultivate an entrepreneurial spirit, exploring opportunities for innovation and business creation. **PO 8: Professional Development and Leadership Skills** Prepare for career advancement through resume building, interview skills, and job search strategies. **PO 9: Self-directed and Life-long Learning** Identify career enhancement opportunities and engage in future academic endeavours. Display skills sets in pursuit of continuous learning and adapt to the changing professional and social needs.
	PO 1: Technical Proficiency

B.Voc.	Graduates will demonstrate a high level of technical competency in their chosen field, including hands-on skills, tools, and equipment operation. **PO 2: Industry-Relevant Skills** Acquire industry-specific skills and knowledge that are directly applicable to the workplace, ensuring immediate job readiness. **PO 3: Problem-Solving Abilities** Develop problem-solving skills to address real-world challenges and troubleshoot issues in the field. **PO 4: Entrepreneurial Mindset** Cultivate an entrepreneurial spirit and the ability to identify opportunities for innovation and business development within the field. **PO 5: Project Management** Acquire basic project management skills to plan, execute, and monitor projects within the field. **PO 6: Technological Proficiency** Stay up-to-date with technological advancements and use relevant tools and software in the field. **PO 7: Research and Innovation** Foster a culture of research and innovation, continuously seeking improvements and new solutions. **PO 8: Career Development** Prepare for career advancement through resume building, interviewskills, and job search strategies specific to the industry.
M.Sc.	**PO 1: Advanced Knowledge** Graduates will have an advanced understanding of the core concepts, theories, and principles relevant to their field of study. **PO 2: Research Skills** Graduates will be proficient in conducting independent research, including the ability to design experiments, gather data, and analyse results. **PO 3: Critical Thinking** Graduates will demonstrate critical thinking skills by evaluating and synthesizing existing literature and research in their field. **PO 4: Problem-Solving** Graduates will have the ability to identify complex problems, propose solutions, and make informed decisions based on evidence and analysis. **PO 5: Interdisciplinary Perspective** Graduates will be able to integrate knowledge and methods from different disciplines, fostering interdisciplinary approaches to problem solving. **PO 6: Technology Proficiency** Graduates will be proficient in using relevant technologies and tools required for their field of study, including software and laboratory equipment. **PO 7: Innovation and Creativity**

	Graduates will demonstrate innovation and creativity in their research and problem-solving processes, contributing to advancements in their field. **PO 8: Professional Development** Graduates will be committed to lifelong learning and professional development, staying updated with current trends, technologies, and research in their discipline. **PO 9: Application of Knowledge** Graduates will apply their advanced knowledge and research skills to address real-world challenge.

Programme Specific outcomes

Name of the Programme	Programme Outcome
B.Sc Honours (Computer Science)	**PSO1:** Develop the ability to design, analyze, and optimize algorithms for solving complex computational problems. **PSO2:** Acquire skills in software development methodologies, including agile, waterfall, and DevOps. **PSO3:** Gain experience in working with relational and non-relational database management systems (DBMS) such as MySQL, MongoDB, and PostgreSQL. **PSO4:** Gain a deep understanding of artificial intelligence (AI) and machine learning (ML) principles and techniques. **PSO5:** Acquire skills in data collection, preprocessing, analysis, and visualization. **PSO6:** Understand the fundamental concepts of cybersecurity, including network security, cryptography, and ethical hacking. **PSO7:**Gain a thorough understanding of computer networking principles, protocols, and architectures. **PSO8:** Gain practical experience with operating systems such as Linux, Windows, and macOS. **PSO9:** Learn the principles of cloud computing and gain experience with cloud platforms such as AWS, Azure, and Google Cloud. **PSO10.** Gain experience in developing parallel and distributed applications using tools such as MPI and Hadoop. **PSO11:** Engage in project-based learning to apply theoretical knowledge to real-world problems.
B.Sc. Honours (Chemistry)	**PSO1:** Gain in-depth understanding of core chemistry areas including organic, inorganic, physical, and analytical chemistry. **PSO2:** Master advanced topics such as coordination chemistry, quantum chemistry, and molecular spectroscopy. **PSO3:** Develop proficiency in essential laboratory techniques, including titration, chromatography, spectroscopy, and electrochemical methods. **PSO4:** Learn to design and execute multi-step synthetic pathways for the preparation of organic and inorganic compounds. **PSO5:** Develop the ability to analyze and characterize chemical

	compounds using techniques such as NMR, IR, UV-Vis, and mass spectrometry. **PSO6:** Gain knowledge of computational methods and software used in modeling molecular structures, reactions, and properties. **PSO7:** Master the use of advanced analytical techniques such as X-ray diffraction, electron microscopy, and nuclear magnetic resonance (NMR). Apply these techniques to solve complex chemical problems and conduct high-level research. **PSO8:** Encourage innovation and creativity in developing new chemical processes, materials, and technologies. **PSO9:** Gain knowledge of business fundamentals and entrepreneurship to translate scientific discoveries into commercial opportunities.
B.Sc. Honours (Mathematics)	**PSO1:** Acquire a deep understanding of fundamental mathematical concepts, theories, and principles in areas such as calculus, algebra, geometry, and differential equations. **PSO2:** Gain proficiency in advanced mathematical topics such as real analysis, complex analysis, abstract algebra, topology, and number theory. **PSO3:** Develop strong analytical and logical reasoning skills to solve complex mathematical problems. **PSO4:** Acquire skills in using computational tools and software such as MATLAB, Mathematica, and Python for mathematical modeling and problem-solving. **PSO5:** Develop the ability to implement algorithms and perform numerical computations to support theoretical and applied research. **PSO6:** Gain knowledge of probability theory and statistical methods for data analysis and inference. **PSO7:** Develop the ability to analyze and interpret data using statistical tools and techniques, and apply these skills to real-world problems. **PSO8:** Understand the interdisciplinary nature of mathematics and its applications in fields such as physics, computer science, engineering, biology, finance, and economics. **PSO9:** Develop the ability to integrate mathematical knowledge with other disciplines to solve multifaceted problems. **PSO10:** Gain specialized knowledge in advanced mathematical areas such as functional analysis, partial differential equations, and mathematical physics.
B.Sc. Honours (Statistics)	**PSO1:** Acquire a strong foundation in statistical theory, including probability theory, statistical inference, regression analysis, and multivariate analysis. **PSO2:** Develop proficiency in mathematical techniques used in statistics, including calculus, linear algebra, and numerical methods. **PSO3:** Acquire skills in programming languages such as R, Python, SAS, and/or MATLAB for statistical computing, data analysis, and simulations. **PSO4:** Gain expertise in designing surveys, experiments, and observational studies to collect data. **PSO5:** Learn to formulate and fit statistical models to data, including

	parametric and nonparametric models. **PSO6:** Acquire practical experience with statistical software packages such as SPSS, Stata, JMP, or others commonly used in statistical analysis and data management. **PSO7:** Learn principles of quality control, statistical process control (SPC), and Six Sigma methodologies. **PSO8:** Apply statistical tools to monitor and improve processes, enhance product quality, and optimize resource utilization.
B.Sc. Honours (Electronics)	**PSO1:** Acquire a solid understanding of fundamental concepts in electronics, including circuit theory, semiconductor devices, analog and digital electronics, and electromagnetic theory. **PSO2:** Develop proficiency in designing electronic circuits and systems to meet specified requirements. **PSO3:** Gain skills in using computer-aided design (CAD) tools and simulation software for circuit analysis, modeling, and optimization. **PSO4:** Acquire hands-on experience in electronics laboratory work, including assembly, testing, troubleshooting, and maintenance of electronic circuits and systems. **PSO5:** Gain knowledge of digital logic design, microprocessor architecture, and programming languages such as Assembly and C for microcontroller-based systems. **PSO6:** Understand the design principles of analog electronic circuits, including amplifiers, filters, and power supplies. **PSO7:** Acquire knowledge of signal processing techniques for analyzing and manipulating signals in both analog and digital domains. **PSO8:** Learn about electronic manufacturing processes, including PCB design, fabrication, assembly, and testing. **PSO9:** Understand the role of electronics in addressing global challenges such as sustainable development, energy efficiency, and healthcare technology.
B.Sc. Honours (Biotechnology)	**PSO1:** Acquire a strong foundation in basic biological sciences including molecular biology, genetics, microbiology, and biochemistry. **PSO2:** Develop proficiency in laboratory techniques essential for biotechnological research and applications, including DNA isolation, PCR, gel electrophoresis, and protein purification. **PSO3:** Gain hands-on experience in handling biological materials safely and effectively. **PSO4:** Develop skills in using bioinformatics software and databases to analyze biological data and predict molecular structures. **PSO5:** Gain expertise in optimizing biotechnological processes for the production of biofuels, pharmaceuticals, enzymes, and other bioproducts. **PSO6:** Acquire skills in culturing mammalian cells, maintaining cell lines, and developing tissue constructs for medical and research applications. **PSO7:** Explore biotechnological applications in medicine, including drug discovery, vaccine development, personalized medicine, and diagnostic techniques. **PSO8:** Foster innovation and creativity in developing new biotechnological products, processes, and applications.

B.Sc. Honours (Artificial Intellegence)	**PSO1:** Acquire a solid understanding of foundational concepts, principles, and techniques in artificial intelligence (AI), including machine learning, neural networks, natural language processing, and robotics. **PSO2:** Develop proficiency in machine learning algorithms, statistical methods, and data analysis techniques for pattern recognition, classification, regression, clustering, and anomaly detection. **PSO3:** Gain skills in programming languages commonly used in AI applications such as Python, R, Java, and C++. **PSO4**: Design and develop robotic systems capable of perception, decision-making, and interaction with the environment. **PSO5:** Explore techniques for NLP, speech recognition, and language understanding, including sentiment analysis, text generation, and dialogue systems. **PSO6:** Apply AI techniques to various domains such as healthcare, finance, cybersecurity, autonomous vehicles, smart cities, and entertainment. **PSO7:** Gain knowledge of advanced AI methodologies and emerging trends, such as deep learning, reinforcement learning, generative models, and AI ethics. **PSO8:** Develop project management skills to lead AI initiatives, including planning, resource allocation, risk management, and team coordination.
B.Sc. Honours (Data Science)	**PSO1:** Acquire a solid understanding of foundational concepts, theories, and methodologies in data science, including statistics, machine learning, data mining, and big data technologies. **PSO2:** Develop skills in collecting, cleaning, and preprocessing data from various sources, including databases, APIs, and web scraping. **PSO3:** Gain proficiency in statistical methods for data analysis, hypothesis testing, and inference. **PSO4:** Apply machine learning algorithms for supervised and unsupervised learning tasks such as classification, regression, clustering, and anomaly detection. **PSO5:** Use data visualization tools and techniques to explore, analyze, and present data insights effectively. **PSO6:** Understand big data technologies and platforms such as Hadoop, Spark, and NoSQL databases. **PSO7:** Explore techniques for NLP, text mining, sentiment analysis, and information retrieval. **PSO8:** Develop applications for text classification, topic modeling, and sentiment analysis using textual data. **PSO9:** Promote ethical data practices and compliance with regulations such as GDPR and CCPA. **PSO10:** Apply data science techniques to extract actionable insights and support decision-making processes in business and organizations.
B.Sc. Honours (Physics)	**PSO1:** Acquire a thorough understanding of core physics concepts, principles, and theories, including classical mechanics, electromagnetism, thermodynamics, quantum mechanics, and statistical physics. **PSO2:** Develop proficiency in mathematical methods and computational techniques used in solving physical problems.

	PSO3: Obtain hands-on experience in designing, conducting, and analyzing experiments in various areas of physics. **PSO4:** Learn to use laboratory instruments and techniques, including spectroscopy, microscopy, and electronics. **PSO5:** Apply theoretical and experimental techniques to develop solutions and make predictions based on physical laws. **PSO6:** Gain knowledge of modern physics topics such as condensed matter physics, nuclear physics, particle physics, and astrophysics. **PSO7:** Develop research skills through independent and collaborative research projects.
B.Sc. Honours (Microbiology)	**PSO1:** Acquire a solid understanding of the fundamental concepts, principles, and theories of microbiology, including microbial physiology, genetics, ecology, and evolution. **PSO2:** Gain knowledge of the diversity of microorganisms, including bacteria, viruses, fungi, protozoa, and algae. - Understand microbial classification, taxonomy, and phylogenetics. **PSO3:** Develop proficiency in microbiological laboratory techniques, including aseptic techniques, culturing, staining, and microscopy. **PSO4:** Study the genetic mechanisms of microorganisms, including DNA replication, transcription, translation, and gene regulation. **PSO5:** Apply molecular biology techniques such as PCR, gel electrophoresis, and recombinant DNA technology in microbiological research. **PSO6:** Understand the mechanisms of microbial pathogenesis, host-pathogen interactions, and immune responses. **PSO7:** Explore the roles of microorganisms in the environment, including nutrient cycling, biodegradation, and bioremediation. **PSO8:** Gain knowledge of medically important microorganisms, infectious diseases, and antimicrobial agents. **PSO9:** Develop skills in bioinformatics tools and techniques for analyzing microbial genomes, metagenomics, and microbial community data. **PSO10:** Understand the metabolic pathways and physiological processes of microorganisms, including respiration, fermentation, and biosynthesis and study the regulatory mechanisms of microbial metabolism and their ecological significance.
B.Sc. Honours (IoT)	**PSO1:** Acquire a thorough understanding of the core concepts, principles, and technologies underlying the Internet of Things, including sensors, actuators, communication protocols, and data processing. **PSO2:** Develop skills in designing and developing IoT systems, including hardware and software components. **PSO3:** Learn to integrate sensors, microcontrollers, and communication modules to build functional IoT devices. **PSO4:** Gain knowledge of networking fundamentals and communication protocols used in IoT, such as MQTT, CoAP, HTTP, and LoRaWAN. **PSO5:** Understand wireless communication technologies like Wi-Fi, Bluetooth, Zigbee, and cellular networks. **PSO6:** Develop proficiency in collecting, storing, and analyzing data from

	IoT devices. **PSO7:** Study the security challenges and privacy concerns associated with IoT devices and networks. **PSO8:** Understand the standards and protocols governing IoT systems, including IEEE, IETF, and ISO standards. **PSO9:** Explore the design, operation, and applications of smart sensors and actuators in IoT.
BA Honours (Political Science)	**PSO1:** Acquire a deep understanding of key political concepts, theories, ideologies, and paradigms. **PSO2:** Analyze and critically evaluate political ideas and their historical development. **PSO3:** Understand the dynamics of political processes including policymaking, political behavior, and public opinion. **PSO4:** Study political systems, institutions, and practices across different countries and regions. **PSO5:** Develop skills in qualitative and quantitative research methods used in political science. **PSO6:** Learn to conduct political analysis, including data collection, interpretation, and presentation of findings. **PSO7:** Study the formulation, implementation, and evaluation of public policies at local, national, and international levels. **PSO8:** Understand the role of media and communication in political processes, public opinion formation, and political campaigns. PSO9: Analyze media bias, propaganda, and the impact of new media technologies on political discourse. **PSO9:** Study theories and practices of leadership, governance, and political leadership styles. **PSO10:** Analyze global political trends, issues, and developments from a comparative perspective.
B.Com. Honours (General)	**PSO1:** Demonstrate a foundational understanding of core business concepts, including accounting, economics, finance, marketing, management, and business law. **PSO2:** Develop proficiency in financial accounting principles, including the preparation and interpretation of financial statements and apply accounting techniques to record, analyze, and report financial transactions. **PSO3:** Understand basic economic theories and concepts, including supply and demand, market structures, and macroeconomic factors affecting businesses and industries. **PSO4:** Analyze financial data to make informed decisions related to budgeting, investment, and financial planning and understand financial markets, instruments, and investment strategies. **PSO5:** Gain knowledge of marketing principles, consumer behavior, and market research and develop the ability to create marketing strategies and plans. **PSO6:** Learn the fundamentals of management, including leadership, organizational behavior, and human resource management. **PSO7:** Acquire basic IT skills necessary for business, including the use of

	spread sheets, databases, and business software. **PSO8:** Cultivate an entrepreneurial spirit by exploring opportunities for innovation and creativity in business.
B.Com. Honours (Tax Procedures and Practice)	**PSO1:** Demonstrate a comprehensive understanding of tax laws, regulations, and principles, including income tax, sales tax, value-added tax (VAT), and corporate tax. **PSO2:** Develop the ability to prepare and file various tax returns accurately and in compliance with tax laws and regulations. **PSO3:** Analyze financial and business situations to develop tax-efficient strategies for individuals and organizations. **PSO4:** Apply tax principles to business transactions, including mergers and acquisitions, capital gains, and international taxation. **PSO5:** Calculate and advise individuals on their personal tax liabilities, deductions, and credits. **PSO6:** Conduct tax research to stay updated on changes in tax laws and regulations. **PSO7:** Identify potential tax-related risks and liabilities for individuals and businesses. **PSO8:** Understand the principles of international taxation, including transfer pricing, double taxation treaties, and cross-border tax planning.
B.Com. Honours (Logistics)	**PSO1:** Acquire a thorough understanding of the core concepts, principles, and practices of logistics and supply chain management, including procurement, transportation, warehousing, inventory management, and distribution. **PSO2:** Develop skills in designing and optimizing supply chain networks to enhance efficiency, reduce costs, and improve service levels. **PSO3:** Gain knowledge of inventory control methods, demand forecasting, and warehouse operations. **PSO4:** Understand techniques for managing stock levels, order fulfilment, and warehouse layout optimization. **PSO5:** Gain knowledge of global logistics, international trade regulations, and customs procedures. **PSO6:** Understand the challenges and opportunities in managing cross-border supply chains and international logistics operations. **PSO7:** Develop proficiency in using logistics information systems (LIS) and technology solutions such as ERP, WMS, TMS, and RFID. **PSO8:** Gain knowledge of financial principles and practices relevant to logistics management, including cost analysis, budgeting, and financial performance measurement. **PSO9:** Understand the global and societal implications of logistics practices, including their impact on economy, environment, and communities.
B.Com. Honours (Computer Applications)	**PSO1:** Demonstrate a comprehensive understanding of core business concepts, including accounting, economics, finance, marketing, and management. **PSO2:** Develop proficiency in using various computer applications and software commonly used in business environments, including Microsoft Office Suite (Word, Excel, PowerPoint, etc.).

	PSO3: Learn programming languages and principles, such as Java, Python, C++, or others as specified by the program and develop the ability to design and create software applications for business purposes. **PSO4:** Understand database concepts and gain proficiency in using database management systems (DBMS) for data storage, retrieval, and analysis. **PSO5:** Learn web development technologies, including HTML, CSS, JavaScript, and web frameworks and develop the ability to create and maintain business websites and web applications. **PSO6:** Apply analytical skills to assess business needs and propose IT solutions that enhance efficiency and effectiveness and conduct business process analysis and redesign using IT tools and methodologies. **PSO7:** Utilize data analytics tools and techniques to analyze business data and provide insights for decision-making and create reports and dashboards for monitoring and improving business performance. **PSO8:** Understand e-commerce principles and strategies for online business transactions and learn digital marketing techniques and tools for promoting products and services online. **PSO9:** Cultivate an entrepreneurial spirit and explore opportunities for using technology to create and innovate within a business context.
BBA Honours	**PSO1:** Demonstrate a strong foundation in core business disciplines, including accounting, finance, marketing, management, economics, and business law. **PSO2:** Develop critical thinking skills to analyze complex business problems and propose effective solutions and apply problem-solving techniques to realworld business scenarios. **PSO3:** Utilize quantitative tools and analytical methods to analyze business data and make data-driven decisions. **PSO4:** Develop leadership skills and an understanding of management principles and learn how to manage teams, projects, and resources effectively. **PSO5:** Cultivate an entrepreneurial spirit and explore opportunities for innovation and creativity in business and understand the processes of business start-up and entrepreneurship. **PSO6:** Recognize the global nature of business and understand the impact of international markets and cultures and explore international business strategies and global business operations.
BBA Honours (Business Analytics)	**PSO1:** Acquire a thorough understanding of core business concepts, principles, and practices, with a focus on the application of analytics in decision-making processes. **PSO2:** Develop skills in collecting, storing, and managing data from various business operations and sources. **PSO3:** Gain proficiency in statistical methods and tools for analyzing business data. **PSO4:** Use data visualization tools such as Tableau, Power BI, and Excel to create informative and visually appealing dashboards, charts, and graphs. **PSO5:** Develop the ability to present data insights and analytics findings

	clearly and compellingly to stakeholders. **PSO6:** Understand the role of business intelligence (BI) systems in supporting decision-making processes. **PSO7:** Develop skills in using customer relationship management (CRM) systems and marketing analytics tools. **PSO8:** Understand the application of analytics in optimizing supply chain and operations management.
BCA	**PSO1:** Demonstrate proficiency in programming languages such as Java, C++, Python, or others as specified by the program and develop the ability to design, code, test, and debug software applications. **PSO2:** Create software applications for various platforms, including desktop, web, and mobile and understand software development methodologies and best practices. **PSO3:** Design and implement database systems using database management systems (DBMS) such as MySQL, Oracle, or SQL Server. **PSO4:** Develop dynamic and interactive websites using web technologies like HTML, CSS, JavaScript, and web frameworks and understand front-end and back-end development. **PSO5:** Gain knowledge of operating system principles and concepts and perform system administration tasks on different operating systems. **PSO6:** Understand cybersecurity threats and best practices for securing computer systems and networks and Learn about ethical hacking and security testing. **PSO7:** Develop mobile applications for iOS and Android platforms and Understand mobile app design, user experience (UX), and best practices. **PSO8:** Understand the ethical and legal aspects of software development, including intellectual property rights and data privacy regulations.
B.Voc. (WT&SD)	**PSO1:** Demonstrate proficiency in web development technologies, including HTML, CSS, JavaScript, and popular web frameworks and Develop the ability to create responsive and interactive web applications and websites. **PSO2:** Learn server-side programming languages and frameworks and Build server-side applications, RESTful APIs, and integrate them with frontend technologies. **PSO3:** Design, create, and manage databases using database management systems (DBMS) such as MySQL, PostgreSQL, or MongoDB, and Perform database operations, optimization, and administration. **PSO4:** Acquire full-stack development skills, encompassing both frontend and backend development and create end-to-end web applications and deploy them effectively. **PSO5:** Understand web security principles and best practices and Implement security measures to protect web applications from common vulnerabilities. **PSO6:** Develop skills in web design, focusing on creating visually appealing and user-friendly interfaces and Conduct usability testing and improve user experiences. **PSO7:** Learn to use version control systems such as Git for code

	collaboration and management. **PSO8:** Develop problem-solving skills to identify, troubleshoot, and debug software issues and analyze and resolve technical problems efficiently.
MBA	**PSO1:** Develop effective leadership skills to inspire and guide teams in achieving organizational goals and learn management techniques for planning, organizing, and controlling resources and operations. **PSO2:** Enhance strategic thinking abilities to analyze complex business situations and make informed decisions and evaluate alternative strategies and their impact on the organization. **PSO3:** Gain a solid understanding of core business functions, including finance, marketing, operations, human resources, and information technology. **PSO4:** Recognize the global nature of business and understand the implications of international markets, trade, and cultural diversity. **PSO5:** Cultivate an entrepreneurial spirit and explore opportunities for innovation and entrepreneurship within organizations or start-ups. **PSO6:** Enhance communication skills and public speaking skills to effectively convey ideas, negotiate, and influence others in diverse business contexts. **PSO7:** Develop marketing strategies, including product development, pricing, promotion, and distribution, manage and enhance brand equity and customer relationships. **PSO8:** Learn human resource management principles, including recruitment, training, compensation, and performance evaluation. **PSO9:** Understand corporate governance principles and their importance in ethical decision-making within organizations.
MCA	**PSO1:** Demonstrate proficiency in programming languages such as Java, C++, Python, or others as specified by the program and Develop the ability to design, code, test, and debug complex software applications. **PSO2:** Create software applications for various platforms, including desktop, web, mobile, and cloud-based systems and Understand software development methodologies and best practices. **PSO3:** Design and implement advanced database systems using database management systems (DBMS) such as Oracle, MySQL, SQL Server, or NoSQL databases - Perform database optimization, tuning, and administration. **PSO4:** Develop web applications and mobile apps for iOS and Android platforms using relevant technologies and frameworks. **PSO5:** Gain in-depth knowledge of operating system concepts, kernel architecture, and system software development. **PSO6:** Master advanced data structures and algorithms to solve complex computational problems efficiently - Analyze algorithmic complexity and optimization.

	PSO7: Understand computer network protocols, architectures, and security principles and design and secure networked systems and applications. **PSO8:** learn and Apply AI and ML in various applications, including data analysis and predictive modeling. **PSO9:** Explore cloud computing platforms and distributed system architectures - Deploy and manage applications in cloud environments. **PSO10:** Conduct research in computer science and contribute to the development of new technologies and solutions and Publish research findings in relevant journals and conferences.
M.Sc. (OCH)	**PSO1:** Demonstrate a comprehensive understanding of the principles and theories of organic chemistry, including reaction mechanisms, stereochemistry, and chemical synthesis. **PSO2:** Develop advanced laboratory techniques for organic synthesis, purification, and characterization of organic compounds. **PSO3:** Gain proficiency in using advanced analytical instruments such as nuclear magnetic resonance (NMR) spectroscopy, mass spectrometry (MS), and infrared (IR) spectroscopy for compound analysis. **PSO4:** Design and execute complex organic syntheses, including multi-step reactions and the synthesis of natural products. **PSO5:** Interpret spectroscopic data to determine the structure, configuration, and purity of organic compounds - Identify functional groups and analyse chemical spectra. **PSO6:** Understand reaction mechanisms and reaction kinetics for various organic transformations and apply mechanistic understanding to predict and explain chemical reactivity. **PSO7:** Explore specialized areas of organic chemistry, such as organometallic chemistry, heterocyclic chemistry, natural product chemistry, and polymer chemistry. **PSO8:** Develop research skills for planning, executing, and documenting experimental work.
M.Sc. (ACH)	**PSO1:** Demonstrate a comprehensive understanding of the principles and theories of analytical chemistry, including various analytical techniques and methods. **PSO2:** Develop advanced laboratory techniques for sample preparation, chemical analysis, and data interpretation. **PSO3:** Gain expertise in using a wide range of analytical instruments, such as chromatography (HPLC, GC), mass spectrometry (MS), spectroscopy (NMR, IR, UV-Vis), and electrochemical methods. **PSO4:** Design and optimize analytical methods for the qualitative and quantitative analysis of chemical compounds and materials - Validate methods for accuracy, precision, and reliability. **PSO5:** Interpret spectroscopic data from various instruments to identify chemical species and characterize compounds - Analyze spectra for

	structural information and quantification. **PSO6:** Apply chromatographic techniques to separate, isolate, and quantify components of complex mixtures - Optimize chromatographic conditions and troubleshoot separations. **PSO7:** Implement quality control procedures to ensure the reliability and accuracy of analytical results - Comply with relevant quality standards and regulations. **PSO8:** Conduct independent research or participate in research projects under the guidance of faculty members and Present research findings in a thesis or dissertation.
M.Sc (Data Science)	**PSO1:** Understand and apply advanced concepts in statistics, mathematics, and computer science. **PSO2:** Analyze large datasets using various data mining and machine learning techniques. **PSO3:** Interpret data to provide actionable insights and support decision-making processes. **PSO4:** Utilize programming languages such as Python, R, SQL, and tools like Hadoop, Spark, and TensorFlow. **PSO5:** Employ software for data visualization, such as Tableau, Power BI, and Matplotlib. **PSO6:** Gain deep insights into data structures, algorithms, and data management techniques. **PSO7:** Recognize and address ethical issues related to data privacy, security, and ownership.