

Course Outcomes of BCA (Regular) with Research**Subject: UGP in Computer Applications**

Semester	Course Category	Paper Code and Course Name	Outcomes
1st	Regular	CAC241101 Computer Fundamental and ICT Hardware	<p>Under this course student will:</p> <p>CO1: Understand and describe the function and purpose of key hardware components such as the CPU, RAM, motherboard, power supply, input devices, output devices, storage devices, and peripherals.</p> <p>CO2: Understand how computer hardware interacts with software to execute processes and operations.</p> <p>CO3: Comprehend how the central processing unit (CPU) processes instructions, how memory works, and how different input/output devices function.</p> <p>CO4: Classify hardware into primary, secondary, and tertiary categories.</p> <p>CO5: Differentiate between volatile and non-volatile memory.</p> <p>CO6: Be capable of installing essential hardware components like RAM, hard drives, optical drives, and graphics cards in a computer system.</p> <p>CO7: Understand the necessary steps for configuring peripherals such as printers, scanners, and network cards.</p> <p>CO8: Identify common hardware malfunctions and apply troubleshooting techniques.</p> <p>CO9: Diagnose hardware issues, such as system boot failures, memory errors, and hardware device not being recognized.</p> <p>CO10: Comprehend how processor speed, RAM capacity, and storage types affect overall system performance.</p>

			<p>CO11: Discuss hardware upgrades and how they can improve computing efficiency.</p> <p>CO12: Keep updated on evolving technologies in hardware such as solid-state drives (SSDs), GPU advancements, and edge computing devices.</p> <p>CO13: Understand safety measures when handling hardware components.</p> <p>CO14: Learn about the environmental impact of hardware production, use, and disposal (e.g., e-waste).</p> <p>CO15: Study the various input devices (keyboards, mice, touchscreens, etc.) and output devices (monitors, printers, speakers, etc.) and how they work with a computer system.</p> <p>CO16: Understand the role of hardware used in computer networking, including routers, switches, modems, and network cables.</p>
1 st	Regular	<p>CASE241102 Introduction to C programming</p>	<p>Under this course student will:</p> <p>CO1: Develop a clear understanding of basic programming concepts like variables, data types, operators, and expressions.</p> <p>CO2: Learn how to write simple programs using basic control structures such as loops (for, while), conditionals (if, switch), and functions.</p> <p>CO3: Develop the ability to design, implement, and test algorithms to solve computational problems.</p> <p>CO4: Learn to break down problems into smaller, manageable tasks and translate them into C code using systematic approaches.</p> <p>CO5: Gain proficiency in handling input and output operations in C, including using standard input/output functions like scanf and printf.</p>

CO6: Learn file handling techniques for reading from and writing to files.

CO7: Understand the concept of functions and how to use them to divide a program into reusable and maintainable modules.

CO8: Learn about function parameters, return types, recursion, and the scope of variables.

CO9: Develop an understanding of pointers, memory addressing, and dynamic memory allocation using malloc and free.

CO10: Learn how pointers can be used in arrays, structures, and functions to pass large data efficiently.

CO11: Gain a solid grasp of arrays, both one-dimensional and multi-dimensional, and how they are used for storing and accessing data.

CO12: Learn to handle strings in C, and perform operations like concatenation, comparison, and manipulation.

CO13: Learn basic data structures like arrays, structures, and unions.

CO14: Understand how to define and use structures to group related data together.

CO15: Learn basic debugging techniques to identify and fix errors in C programs.

CO16: Understand common runtime errors and logical errors in C programming and how to handle them.

CO17: Apply learned C programming concepts to real-world applications such as simple algorithms, mathematical calculations, and small projects.

			<p>CO18: Develop an appreciation for the efficiency of C in system-level programming.</p> <p>CO19: Recognize the importance of C as the foundation for learning other programming languages.</p> <p>CO20: Gain familiarity with the structure and syntax of C, which will make it easier to transition into more complex programming languages.</p>
1 st	Regular	<p>CAVA241106 Environmental Science and sustainability</p>	<p>Under this course student will:</p> <p>CO1: Develop the ability to identify and analyze key environmental problems such as climate change, deforestation, water scarcity, air pollution, and loss of biodiversity.</p> <p>CO2: Understand the science behind these issues and the factors that contribute to environmental degradation.</p> <p>CO3: Understand the impact of human activities on the environment, including urbanization, industrialization, agriculture, and waste generation.</p> <p>CO4: Evaluate how human lifestyle choices and consumption patterns affect ecosystems, the atmosphere, and natural resources.</p> <p>CO5: Learn about sustainable practices in energy use, waste management, water conservation, agriculture, and industry.</p> <p>CO6: Develop an understanding of the importance of sustainable development in balancing economic, social, and environmental factors for the long-term health of the planet.</p> <p>CO7: Gain knowledge of environmental policies, regulations, and global frameworks aimed at addressing environmental challenges (e.g., the Paris Agreement, SDGs).</p> <p>CO8: Examine ethical principles related to environmental conservation and sustainability, including intergenerational equity and the rights of future generations.</p>

			<p>CO9: Develop the ability to communicate complex environmental issues to various stakeholders (e.g., communities, policymakers, businesses).</p> <p>CO10: Gain skills in environmental advocacy, education, and raising public awareness about the importance of sustainability and conservation.</p> <p>CO11: Explore technological advancements and innovations that can aid in environmental conservation and sustainability, such as renewable energy technologies, green building practices, and waste-to-energy solutions.</p> <p>CO12: Understand the role of science and technology in solving environmental problems while balancing innovation with environmental impact.</p> <p>CO13: Learn about the sustainable management of natural resources, including forests, oceans, minerals, water, and soil.</p> <p>CO14: Gain an understanding of conservation strategies that can help preserve resources for future generations.</p> <p>CO15: Investigate global environmental challenges, including the effects of climate change, biodiversity loss, and global resource depletion.</p> <p>CO16: Explore case studies of countries and regions facing specific environmental challenges and how they address them.</p> <p>CO17: Understand the importance of individual responsibility and collective action in creating a sustainable future.</p> <p>CO18: Learn how community-based initiatives and grassroots movements contribute to environmental protection and sustainable living.</p> <p>CO19: Learn to identify and evaluate solutions to environmental problems and develop actionable plans for sustainable development.</p>
1 st	Regular	CAMD241105 Indian Knowledge System	<p>Under this course student will:</p> <p>CO1: Develop a comprehensive understanding of the evolution of knowledge in ancient India across various</p>

domains, including science, mathematics, philosophy, literature, and arts.

CO2: Gain insights into the contributions of key ancient scholars, such as Aryabhata, Panini, Chanakya, and Patanjali, in shaping different fields of knowledge.

CO3: Understand the diverse schools of Indian philosophy, including Vedanta, Sankhya, Yoga, Nyaya, and Mimamsa, and their influence on both ancient and modern thinking.

CO4: Learn about the holistic and interconnected worldview that emphasizes the relationship between human beings, nature, and the universe.

CO5: Study major ancient Indian texts such as the Vedas, Upanishads, Bhagavad Gita, Ramayana, Mahabharata, and Puranas, understanding their philosophical, moral, and scientific significance.

CO6: Understand the profound impact of Indian contributions to fields such as mathematics (e.g., the concept of zero, algebra), astronomy, metallurgy, and medicine (e.g., Ayurveda).

CO7: Study traditional Indian arts, including visual arts, music, dance, and architecture, and their connection to the cultural and spiritual life of India.

CO8: Explore aesthetic theories in Indian literature and arts, with a focus on rasa (emotion) and dhvani (suggestion), and their role in enriching Indian culture.

CO9: Understand how Indian knowledge systems have historically influenced social structures, education, governance, and ethical values in society.

CO10: Examine the role of knowledge in shaping concepts like dharma (righteousness), karma (action), and moksha (liberation) in Indian thought.

CO11: Learn how traditional Indian knowledge systems promote sustainability, environmental consciousness, and respect for nature, as seen in practices like organic farming, water conservation, and forest management.

CO12: Understand the significance of ecological balance and the relationship between human beings and the environment in Indian philosophy.

			<p>CO13: Encourage critical thinking about the relevance of Indian knowledge systems in the modern world, particularly in the context of global challenges such as climate change, mental health, and ethical dilemmas.</p> <p>CO14: Understand the interconnectedness of various fields of knowledge in the Indian tradition and their holistic approach to learning.</p>
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