



# Information and Communication Technology (ICT)

## Overview

This course aims to follow the evolution in Information and Technologies and provide a multidisciplinary approach to developing an understanding and skill set for modern Information and Communication-based systems.



It is defined as the application of technology in the processing of information and communication, which includes the use of computers and software to not only convert and store data but also process, transmit, and retrieve it. ICT provides a learner with wider alternatives for their Professional career development as well as business opportunities in the field of data processing, cyber security, blockchain, quantum computing, and in the field of data communication.





- ❖ Blend of three engineering branches **IT, CP & EC**
- ❖ **ICT focuses on** a broader field that encompasses the use of various technologies to manage and communicate information. It includes both hardware and software technologies used for information processing and communication.
- ❖ **Core Subjects:** ICT covers a wide range of topics including computer networks, software development, information systems, cybersecurity, data management, digital communication, and internet technologies.
- ❖ ICT typically focuses on the practical application of technology in various settings, such as businesses, organizations, and industries.
- ❖ It covers a broad range of topics including computer networks, cybersecurity, database management, software development, and more.
- ❖ ICT professionals often work in roles such as IT support specialists, network administrators, systems analysts, project managers, etc.
- ❖ If you are interested in the practical aspects of technology and how it can be applied to solve real-world problems.



# OBJECTIVES



- Demonstrate proficiency in managing a range of hardware and software for troubleshooting Common problems.
- Learn to represent and process data using an advanced Intelligent Learning Approach for embedded and IoT applications.
- Develop an understanding of cyber safety, ethics, digital footprint, and digital well-being.
- Acquire skills to develop websites and mobile apps.
- To develop miniaturized and cost-effective systems with the latest technology in the digital world.
- To develop a collaborative environment for multi-disciplinary skill-based learning.
- Gain Knowledge of Communication and Technologies and Protocols for data communication.

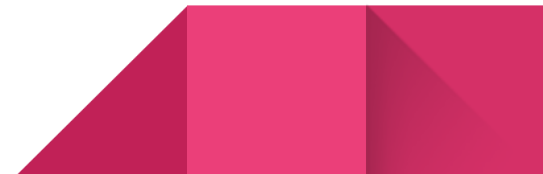


# SCOPE

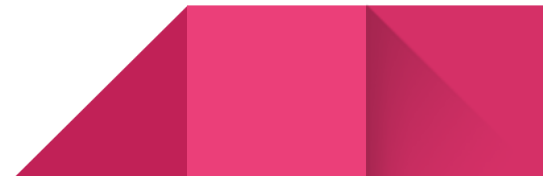
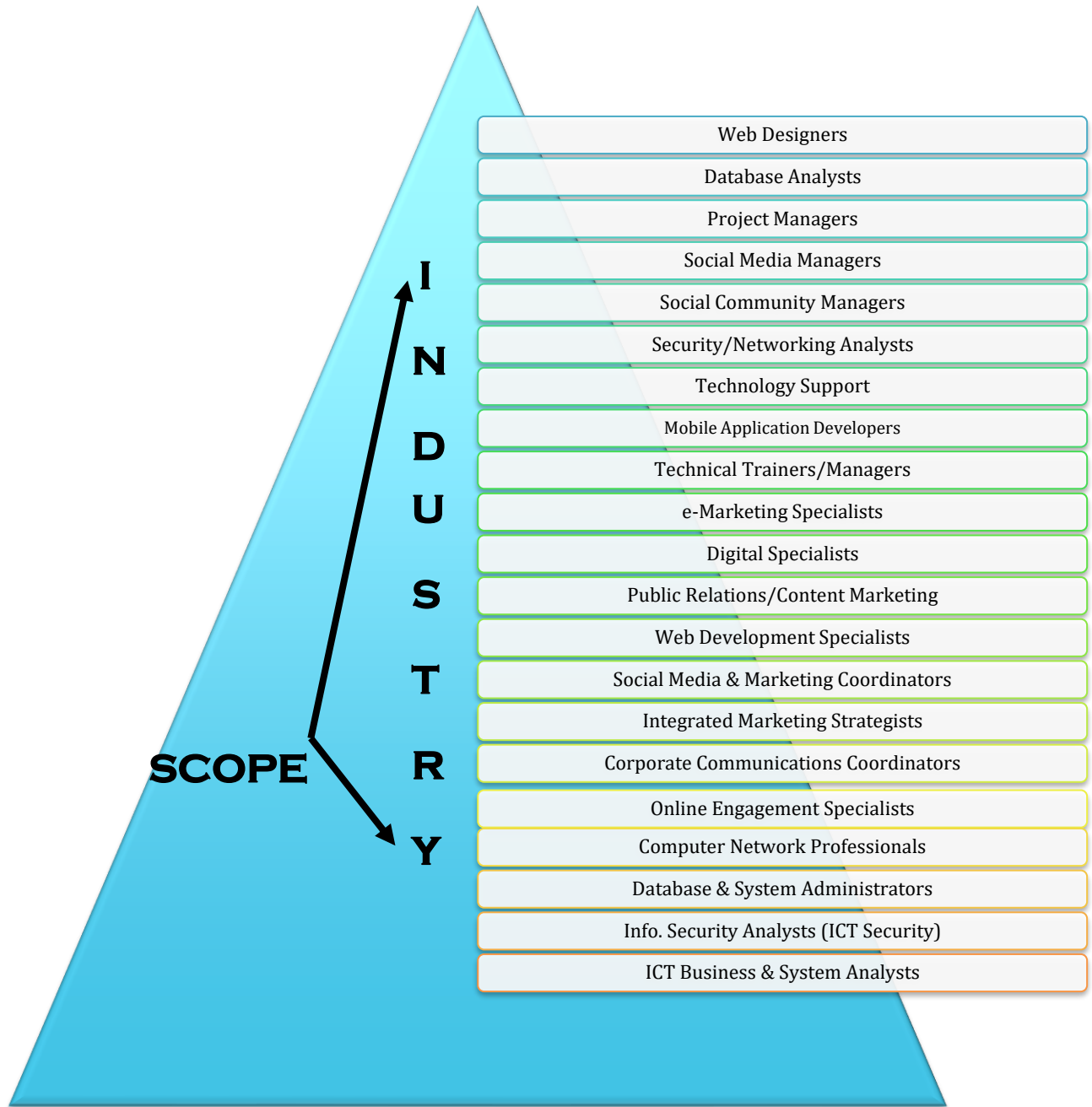


- ICT is one of the economic development pillars to gain national competitive advantage. The ICT has a wide Spectrum of Applications as the use of data science and data processing has been exponential increasing now days and trend will be continue in the years to come.
- Here is the Applications where ICT and relevant skills may be adopted.

Cyber Security	
Artificial Intelligence	
Database Technology	
Wireless and Sensor Networks	
Image & Video Processing	
VLSI Systems	
ICT Governance	
Computer Programmers	







## Key subjects as per industry needs in ICT program:

<ul style="list-style-type: none"> <li>• Design and Analysis of Algorithms</li> <li>• Database Management Systems</li> <li>• Cyber Security</li> <li>• Web Technology</li> <li>• Optical Communication</li> <li>• Engineering Electromagnetics and Wave Propagation</li> <li>• Digital Communication</li> <li>• Advance network Protocols</li> </ul>	<ul style="list-style-type: none"> <li>• Mobile Computing and Wireless Communication</li> <li>• Digital Signal Processing</li> <li>• Satellite Communication and Networking</li> <li>• Digital Image Processing</li> <li>• Artificial Intelligence</li> <li>• IOT and Applications</li> <li>• Big Data Analytics</li> <li>• Systems and Network Security</li> </ul>
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## Programme Structure Summary

Course Group	Course Name	Cr	Teaching Scheme			
			T	P	Tu	Cont. Hrs
Basic Science	Calculus	4	3	0	2	5
Basic science	Physics	4	3	2	0	5
Engineering Science	Introduction to Computer Programming with C	4	3	2	0	5
Engineering Science	Electronics Workshop	2	0	4	0	4
Mandatory Course	Constitution of India	0	2	0	0	2
Humanities & Social Science	Professional Communication	3	2	2	0	3
		17				24

