

National Curriculum and Credit Framework (NCCF)

Syllabus

for

Multidisciplinary Courses

Offered By

Computer Science/BCA

w.e.f. Academic Session 2023-24



KaziNazrul University
Asansol, PaschimBardhaman
West Bengal 713340

Semester- II

Course Name: Information and Communication Technology

Course Code: MDC209

Course Type: MD (Theoretical)	Course Details: MD-2		L-T-P: 3-0-0		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Course Content:

Theory

UNIT I. Introduction to ICT: Definition of ICT and its significance in today's world, Historical evolution of ICT and major milestones, ICT's role in Education, ICT's role in various industries and societal impacts. [6 Lectures]

UNIT II. Computer Systems and Architecture: Overview of computer hardware components, CPU, memory, storage devices, and peripherals, Basics of computer architecture and operating systems. [6 Lectures]

UNIT III. Software and Programming Fundamentals: Introduction to software types: system software, application software, and programming languages, Basics of algorithm design and problem-solving techniques. [6 Lectures]

UNIT IV. Data Communication and Networks: Understanding data transmission and communication protocols, Introduction to network topologies and architectures, Local Area Networks (LANs), Wide Area Networks (WANs), and the Internet. [6 Lectures]

UNIT V. Basics of Email: Traditional mail vs Email, Understanding of email addresses, Email protocols, To-CC-BCC when sending emails, Setting up your own email account, Email providers, Email productivity features. [4 Lectures]

UNIT VI. Cyber Security Fundamentals: Introduction to cyber security concepts, Common cyber threats and attacks, Password best practices and multi-factor authentication. [5 Lectures]

UNIT VII. Emerging Technologies: The importance of information security in ICT, Cloud Computing and Virtualization: Understanding cloud computing models (SaaS, PaaS, IaaS), Virtualization technologies and their role in cloud infrastructure, Evolution of mobile technologies and their impact on ICT, Exploration of cutting-edge technologies (e.g., Internet of Things, Artificial Intelligence, Virtual Reality). [8 Lectures]

UNIT VIII. Ethical and Social Implications of ICT: Ethical considerations in the use of ICT and data privacy, ICT's impact on society, economy, and the environment. [4 Lectures]

References/Suggested Readings:

1. Fundamentals Of Information And Communication Technology (ICT), P S Kawatra, B.R. Publishing Corporation.
2. Fundamentals of Information Communication Technology, C. Thatchinamoorthy, Notion Press.