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**Course Name:** Applications of Information and Communication Technologies (ICT)

**Credit Hours:** 3 (2-3)

**Contact Hours:** Theory: 2 Hours, Practical: 3 Hours

**Pre-requisites:** None

**Course Introduction:** This course is introduced with an aim to provide students with a practical understanding of how information and communication technologies (ICT) are used in various fields and industries. The course covers such areas of knowledge within the application of ICT tools, software, and systems as to enhance productivity, communication, decision-making, and problem-solving across different domains. Through this course, students will be engaged in hands-on activities, projects and assignments to reinforce their understanding of ICT applications. The objective of the course is to build an appreciation for the fundamental concepts in computing and to become familiar with popular PC productivity software.

<b>CLO No.</b>	<b>Course Learning Outcomes</b>	<b>Bloom Taxonomy</b>
CLO-1	Understand basics of computing technology	C1 (Knowledge)
CLO-2	Do number systems conversions and arithmetic	C2(Understand)
CLO-3	Have knowledge of types of software	C2(Understand)
CLO-3	Have knowledge of computing related technologies	C3 (Apply)

**Course Outline:**

Brief history of Computer, Four Stages of History, Computer Elements, Processor, Memory, Hardware, Software, Application Software its uses and Limitations, System Software its Importance and its Types, Types of Computer (Super, Mainframe, Mini and Micro Computer), Introduction to CBIS (Computer Based Information System), Methods of Input and Processing, Class2. Organizing Computer Facility, Centralized Computing Facility, Distributed Computing Facility, Decentralized Computing Facility, Input Devices. Keyboard and its Types, Terminal (Dump, Smart, Intelligent), Dedicated Data Entry, SDA (Source Data Automation), Pointing Devices, Voice Input, Output Devices. Soft- Hard Copies, Monitors and its Types, Printers and its Types, Plotters, Computer Virus and its Forms, Storage Units, Primary and Secondary Memories, RAM and its Types, Cache, Hard Disks, Working of Hard Disk, Diskettes, RAID, Optical Disk Storages (DVD, CD ROM), Magnetic Types, Backup System, Data Communications, Data Communication Model, Data Transmission, Digital and Analog Transmission, Modems, Asynchronous and Synchronous Transmission, Simplex. Half Duplex, Full Duplex Transmission, Communications, Medias (Cables, Wireless), Protocols, Network Topologies (Star, Bus, Ring), LAN, LAN, Internet, A Brief History, Birthplace of ARPA Net, Web Link, Browser, Internet Services provider and Online Services Providers, Function and Features of Browser, Search Engines, Some Common Services available on Internet.

**Reference Materials** (or use any other standard and latest books):

1. Charles S. Parker, Understanding Computers: Today and Tomorrow, Course Technology, 25 Thomson Place, Boston, Massachusetts 02210, USA
  2. Livesley, Robert Kenneth. An introduction to automatic digital computers. Cambridge University Press, 2017.
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3. Zawacki-Richter, Olaf, and Colin Latchem. "Exploring four decades of research in Computers & Education." *Computers & Education* 122 (2018): 136-152.
  4. Sinha, Pradeep K., and Priti Sinha. *Computer fundamentals*. BPB publications, 2010.
  5. Goel, Anita. *Computer fundamentals*. Pearson Education India, 2010.
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