हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh
(Accredited by NAAC with 'A+' Grade with CGPA of 3.42**)**
(कंप्यूटर विज्ञान एवम् सूचना विज्ञान विभाग)
(Department of Computer Science and Informatics**)**

INTERDISCIPLINARY COURSES OFFERED BY THE DEPARTMENT OF COMPUTER SCIENCE AND INFORMATICS

Monsoon Semester 2023

Sr. No.	Course Name	Course Code	Credits	Name of Faculty Member
1.	Fundamentals of ICT	MCA 538	02	**Mr. Mayank Chopra**
2.	Problem Solving using C	MCA 539	02	**Mr. Manoj Dhiman**

MCA 538
Fundamentals of ICT

UNIT-I
Introduction: Computer, Data Processing, Computer System Characteristics, Evolution of Computers, Capabilities and Limitations, Generations of computers, Block diagram of computer, Basic components of a computer system- Input unit, Output unit, Storage unit, ALU, Control unit, Central Processing unit; Number Systems- Non-positional number system, Positional number system, Decimal Number system, Binary number system, Octal number system, Hexadecimal number system.

UNIT-II
Memory: Main memory organization, Main memory capacity, RAM, ROM, PROM, EPROM, Cache Memory, Secondary storage devices: Sequential access devices- Magnetic tape; Direct access devices- Magnetic disks, Floppy disks, Optical disks, Types of Optical disks: CD-ROM, CDR, CD- RW, DVD.
Input devices: Keyboard, Pointing Devices-Mouse, Touch screens, Joystick, Electronic pen, Trackball, Scanning devices: Optical Scanners, OCR, OMR, Bar code reader, MICR, Electronic cardreader, Image capturing devices, Digital cameras.
Output devices: Monitors- CRT, LCD, Printers-Dot matrix, Inkjet, Laser; Plotters, Screen image projector.

UNIT-III
Introduction: Software, Relationship between Hardware and Software, Types of Software-System Software, Application Software; System Software-Operating System, Utility Program; Programming Languages-Machine, Assembly, High Level; Assembler, Compiler, Interpreter.

UNIT-IV
Data Communication & Computer Networks, Basic elements of a communication system, Data Transmission modes-Simplex, Half duplex, Full duplex; Data Transmission speed-Narrowband, Voice band, Broadband; Data Transmission media-Twisted Pair Wire, Coaxial cable, Optical fibers;Modems, Types of Network-LAN, WAN, MAN; Internet, World Wide Web, Web Browsers.

Text Book:
1. Pradeep K. Sinha, PritiSinha, "Computer Fundamentals", 6E ,BPB Publications.

Reference Books:
1. Rajaraman, V., "Fundamental of Computers", Fifth Edition, Prentice Hall India, New Delhi.
2. E. Balagurusamy, "Introduction to Computers (Special Indian Edition)", Tata McGraw Hill.