Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Internal	Final Exam	Total
UGSEC-104 (A)	Foundations of IT	SEC	2	4	0	0	50	-	50

Course Outcomes

At the end of the course the student will be able to	
CO1	Describe the organization of computers& fundamentals of Operating Systems
CO2	Explain importance of software in computing & concepts of objects, classes, and their relationships.
CO3	Identify the basic concepts, architecture and various data models used in Database Management Systems
CO4	Explore basic taxonomy and terminology of the computer networking model and architecture.
CO5	Articulate the emerging trends and applications of IT.

Detailed Syllabus

Section A

Unit I: Introduction to Computers: Basic computer architecture and components, Central Processing Unit (CPU) and its functions, Understanding the significance of number system in computing, non-positional and positional number systems, Overview of the functions and roles of operating systems, classification of operating systems, Overview of the Linux operating system and its history, Linux file system hierarchy and directory structure ,Basic Linux commands: navigation, file operations, and text manipulation.

(10 Hrs.)

Unit II: **Computer Software & languages:** Understanding software and its importance in computing ,Types of software, Introduction to algorithms and flowcharts for problem-solving, Exploring the characteristics of a good programming language, Overview of programming languages and their classification, Basic concepts of object-oriented programming-class, object, inheritance, constructors, polymorphism, data encapsulation, exception handling.

(10 Hrs.)

Unit III: Database Management System: characteristics, history and applications, Components of DBMS, Advantages and Disadvantages of DBMS. Language and Architecture: Data Modeling, Records and Files, Abstraction and data Integration, Views, Data Models Classification. Introduction to SQL.

(10 Hrs.)

Section B

Unit-IV: Networks: Characteristics, scope, and typical uses of each network type, Introduction to network topologies, Advantages and disadvantages of different topologies, explanation of the TCP/IP protocol suite and its layers, Overview of the OSI model and its seven layers.

(10 Hrs.)

Unit-V: Emerging trends and Applications in IT: Internet of Things (IOT); Big Data Analytics; Cloud Computing; Artificial Intelligence; Virtual and Augmented Reality; IT Governance, Operational risk and governance, Governance of internal IT processes, E governance framework, E Commerce, Digital markets, electronic data security.

(10Hrs)

Textbooks

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Computer Science: An Overview	J. Glenn Brookshear and Dennis Brylow	Pearson	12th(2021)
2	Introduction to Information Technology	Turban, Rainer& Potter	Wiley Student Edition	2nd(2008)

Reference Books

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Computer Fundamentals	B.Ram	New age International	6th (2020)