

S.S. JAIN SUBODH P.G. COLLEGE, JAIPUR
GENERIC ELECTIVE COURSE
COURSE TITLE: FUNDAMENTALS OF DIGITAL TECHNOLOGY
NODAL DEPARTMENT: COMPUTER SCIENCE
COURSE CODE: 23GEC_6401T

MARKING SCHEME

Tutorial (Hours)	Time Allowed ESE (Hrs)	Course Credits	Total Marks	End Semester Exam (Max. Marks)	Assignment	Minimum Marks
30	2	2	50	35	15	20

COURSE OBJECTIVES:

1. Learn the fundamentals of computer networks and internet technologies.
2. Understand the key concepts and applications of emerging technologies.
3. Explore the impact of new technologies on different industries.
4. Analyze the ethical and societal challenges posed by technological advancements.

COURSE CONTENTS:

Networking and Internet Technologies

- Basics of Computer Networks: Types of Networks (LAN, WAN, WLAN), Networking Devices (Routers, Switches, Modems), Understanding IP Addresses and DNS
- Introduction to the Internet: How the Internet Works (Protocols, Web Browsing, Search Engines), Email and Online Communication, Introduction to Cloud Computing
- Cybersecurity Basics: Understanding Common Threats (Viruses, Phishing, Hacking), Safe Browsing Practices, Using Antivirus and Security Tools

(15 Hours)

New and Emerging Technologies

- Introduction to Artificial Intelligence (AI): Definition and Types of AI (Narrow AI, General AI), History and Evolution of AI
- Internet of Things (IoT) and Smart Technologies: Introduction to IoT, Understanding IoT, Applications of IoT, Smart Homes, Smart Cities, Industrial IoT, IoT in Healthcare, Agriculture, and Transportation, Challenges in IoT, Security and Privacy Concerns of IOT.

(15 Hours)


SUGGESTED READINGS:

1. Data Communications and Networking by Behrouz A. Forouzan Publisher: McGraw Hill Education (India)
2. Fundamentals of Internet of Things (IoT) with Practical Applications by S. K. Singh Publisher: Wiley India
3. Artificial Intelligence: Principles and Practice by E. S. Bhatia Publisher: Oxford University Press

COURSE OUTCOMES:

On successful completion of the course the students will be able to:

1. This course provides students with a foundational understanding of computing principles and applications. Covering essential topics like computer hardware, software and networking
2. An overview of the latest advancements in technology, covering emerging trends and their potential impacts on society and various industries.
3. The course aims to equip students with the skills necessary to effectively use and understand computers in both academic and professional settings.


(Prof. K. B. Sharma)

Principal


Head of the Department