

## IMPC1002 FUNDAMENTALS OF IT (3-0-0)

### Course Objectives:

The aim of this course is to:

1. Provide fundamental concepts and importance of Information Systems (IS) in modern business environments.
2. Provide knowledge of Database Management Systems (DBMS) and their role in data organization and management.
3. Explore the basics of Computer Networks, Internet Security, and their implications for business operations and data protection.
4. Learn about emerging trends in computing technologies and their applications in business and commerce.

**Module - I:Information Systems for Business:** Need for Information Systems (IS), Business in the Information age, Information systems Concepts, Role of IT in various functional areas of business – Accounting & Finance, Marketing & Sales, Production & Logistics, and Human Resources Management Systems.

**Module - III:Database Management Systems:** Database, Types of Databases, Components of a Database system. DBMS, DBMS language, Advantage and limitations of Database, Database models. Systems Planning - Traditional system development lifecycle (SDLC) - alternate methods for system development-dataflow analysis, System development outside the system.

**Module-III: Basic Concepts of Computer Network &Internet Security:**Data Communication & Computer Network – Definition, Network Topologies Network Devices, Wireless Networking. Types of attacks, DOS attacks, Malicious Software, Hacking, Security Services, Security Mechanisms - Cryptography, Digital Signature, Firewall, Types of Firewalls, Identification& Authentication. ECommerce Overview- E-commerce Applications, M-Commerce Services & Applications, Emerging Trends in Computing.

### Course Outcomes:

After completing the course, the students will be able to:

- CO-1: Analyze and assess the role of information technology in diverse functional areas of business and its influence on strategic decision-making processes.
- CO-2: Design and execute basic database management systems utilizing suitable database models and languages.
- CO-3: Students will be able to evaluate network topologies, identify security threats, and apply appropriate security mechanisms to mitigate risks.
- CO-4: Engage in discussions regarding emerging computing trends, including e-commerce applications, and their impacts on fostering business innovation and competitiveness.

### Reference Books:

- Foundations of Computing, 5<sup>th</sup> Edition, Sinha and Sinha, bpb publication
- Management Information Systems: Managing the Digital Firm" by Kenneth C. Laudon and Jane P. Laudon
- Database System Concepts, Seventh Edition by Avi Silberschatz, Henry F. Korth, S. Sudarshan, McGraw-Hill
- Simplified Approach to DBMS By Parteek Bhatia Gurvinder Singh, Kalyani