

COMPUTER SCIENCE AND ENTREPRENEURSHIP

Part-I	50 Marks
Part-II	50 Marks
Practical	50 Marks
Total	150 Marks

Part-I (Class-IX)	Marks: 50	Time: 2:00 Hours
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UNIT 1: INTRODUCTION TO SYSTEMS

- Introduction
- | | |
|---|--------------------------|
| 1.1 Theory of Systems | 1.2 Types of Systems |
| 1.3 System and Science | 1.4 Computer as a System |
| 1.5 The Architecture of von Neumann Computers | |
| 1.6 Computing Systems | |

UNIT 2: NUMBER SYSTEMS

- Introduction
- 2.1 Numbering Systems
 - 2.2 Data representation in Computing Systems
 - 2.3 Storing Real Values in Computer Memory
 - 2.4 Binary Arithmetic Operations
 - 2.5 Common Text Encoding Schemes
 - 2.6 Storing Images, Audio and Video in Computers

UNIT 3: DIGITAL SYSTEMS AND LOGIC DESIGN

- Introduction
- | | |
|---|----------------------------------|
| 3.1 Basics of Digital Systems | |
| 3.2 Boolean Algebra and Logic Gates | |
| 3.3 Simplification of Boolean Functions | |
| 3.4 Creating Logic Diagrams | 3.5 Application of Digital Logic |

UNIT 4: SYSTEM TROUBLESHOOTING

- Introduction
- | | |
|----------------------------|--------------------------------|
| 4.1 System Troubleshooting | 4.2 Troubleshooting Strategies |
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UNIT 5: SOFTWARE SYSTEM

- Introduction
- | | |
|-------------------------------------|--------------------------|
| 5.1 Software | |
| 5.2 Introduction to System Software | 5.3 Application Software |

UNIT 6: INTRODUCTION TO COMPUTER NETWORKS

- Introduction
- | | |
|---|------------------------------|
| 6.1 Network as a System | |
| 6.2 Fundamental Concepts in Data Communication | |
| 6.3 Networking Devices | 6.4 Network Topologies |
| 6.5 Transmission Modes | 6.6 The OSI Networking Model |
| 6.7 Ipv4 and Ipv6 | |
| 6.8 Protocols and Network Services | |
| 6.9 Network Security | 6.10 Types of Networks |
| 6.11 Real-World Applications of Computer Networks | |
| 6.12 Standard Protocols in TCP/IP Communications | |
| 6.13 Network Security Methods | |

UNIT 7: COMPUTATIONAL THINKING

- Introduction
- | | |
|---|----------------------------|
| 7.1 Definition of Computational Thinking | |
| 7.2 Principles of Computational Thinking | |
| 7.3 Algorithm Design Methods | 7.4 Algorithmic Activities |
| 7.5 Dry Run | |
| 7.6 Introduction to LARP (Logic of Algorithms for Resolution of Problems) | |

- UNIT 8:** 7.7 Error Identification and Debugging
WEB DEVELOPMENT WITH HTML, CSS AND JAVASCRIPT
 Introduction
- 8.1 Web Development
- 8.2 Basic Components of Web Development
- 8.3 Getting Started with HTML 8.4 HTML Basic Structure
- 8.5 Creating Content with HTML 8.6 Styling with CSS
- 8.7 Introduction to JavaScript 8.8 Developing and Debugging
- UNIT 9:** **DATA SCIENCE AND DATA GATHERING**
 Introduction
- 9.1 Data 9.2 Data Types
- 9.3 Organising and Analysing Data 9.4 Data Types
- 9.5 Data Storage Techniques 9.6 Data Visualization
- 9.7 Data Pre-Processing and Analysis
- 9.8 Collaborative Tools and Cloud Storage
- 9.9 Introduction to Data Science
- 9.10 Big Data and Its Applications
- UNIT 10:** **EMERGING TECHNOLOGIES IN COMPUTER SCIENCE**
 Introduction
- 10.1 Introduction to Artificial Intelligence (AI)
- 10.2 AI Algorithms and Techniques
- 10.3 Introduction to Internet of Things (IoT)
- 10.4 Implications and Future of Emerging Technologies
- UNIT 11:** **ETHICAL, SOCIAL AND LEGAL CONCERNS IN COMPUTER USAGE**
 Introduction
- 11.1 Responsible Computer Usage
- 11.2 Safe and Secure Operation of Digital Platforms
- 11.3 Best Practices in Online Behavior
- 11.4 Legal and Ethical Frameworks
- 11.5 Intellectual Property Rights 11.6 Responsible Internet Use
- 11.7 Impact of Computing on Society
- UNIT 12:** **ENTREPRENEURSHIP IN DIGITAL AGE**
 Introduction
- 12.1 Entrepreneurship
- 12.2 Entrepreneurship in the Digital Landscape
- 12.3 Digital Tools and Platforms 12.3 Business Idea Generation
- 12.5 Developing Business Plans
- 12.6 Ethical and Sustainable Entrepreneurship

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