

## **Lesson Plan Session 2024-25**

### **Class – BCA-I (1<sup>st</sup> Semester)**

#### **B23-CAP-102: Foundations of Computer Science**

##### **3<sup>rd</sup> Week, July 2024**

Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers

##### **4<sup>th</sup> Week, July 2024**

Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software

##### **1<sup>st</sup> Week, Aug,2024**

Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy

##### **2<sup>nd</sup> Week, Aug,2024**

Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.

##### **3<sup>rd</sup> Week, Aug,2024**

I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball

##### **4<sup>th</sup> Week, Aug,2024**

joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.

##### **1<sup>st</sup> Week, Sept 2024**

Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons

##### **2<sup>nd</sup> Week, Sept 2024**

Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel

##### **3<sup>rd</sup> Week, Sept 2024**

The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet

##### **4<sup>th</sup> Week, Sept 2024**

Working of Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords

##### **1<sup>st</sup> Week, Oct 2024**

e-mail addresses, message components, message composition, mailer features. Browsers and search engines.

**2<sup>nd</sup> Week, Oct 2024**

Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking.

**3<sup>rd</sup> Week, Oct 2024(upto 26/10)**

Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation

**27/10 to 3/11 Diwali Vacations**

**4-7 Nov, 2024**

Security Mechanisms, Security Awareness,

**2<sup>nd</sup> Week, Nov 2024**

Security Policy, anti-virus software & Firewalls, backup & recovery.

**3<sup>rd</sup> Week, Nov 2024**

Revision and test.

**Ashok Kumar**

Assistant Professor (Computer Science)

**Lesson Plan Session 2024-25**  
**Class – BCA-III (5<sup>th</sup> Semester)**  
**BCA – 352: Operating System-I**

**3<sup>rd</sup> Week, July 2024**

Operating System: Definition, Characteristics, Components, Functions, Examples; Types of Operating System: Single User/Multi User

**4<sup>th</sup> Week, July 2024**

Classification of Operating System: Batch, Multiprogrammed, Timesharing, Multiprocessing, Parallel, Distributed, Real Time

**1<sup>st</sup> Week, Aug,2024**

System Calls and System Programs: Process Control, File Manipulation, Device Manipulation, Information Maintenance, Communications

**2<sup>nd</sup> Week, Aug,2024**

Process Management: Process concept, Process states and Process Control Block; Process Scheduling: Scheduling Queues, Schedulers

**3<sup>rd</sup> Week, Aug,2024**

Context Switch; Operation on Processes: Process Creation, Process Termination; Cooperating Processes, Introduction to Threads

**4<sup>th</sup> Week, Aug,2024**

Inter-process Communication; CPU Scheduling: Basic Concepts, Scheduling Criteria

**1<sup>st</sup> Week, Sept 2024**

Scheduling Algorithms: FCFS, SJF, Priority, Round-Robin, Multilevel Queue, Multilevel Feedback Queue Scheduling

**2<sup>nd</sup> Week, Sept 2024**

Deadlocks: System Model, Deadlock Characterization, Methods of Handling Deadlocks, Deadlock Prevention

**3<sup>rd</sup> Week, Sept 2024**

Deadlock Avoidance, Deadlock Detection and Recovery Memory Management: Introduction, Swapping

**4<sup>th</sup> Week, Sept 2024**

Contiguous Allocation: Single-Partition/Multiple Partition Allocation, External/Internal Fragmentation; Paging: Basic Method, Hardware Implementation of Page table

**1<sup>st</sup> Week, Oct 2024**

Segmentation: Basic Method, Hardware, Implementation of Segment Table, Advantages/Disadvantages of Paging/Segmentation

**2<sup>nd</sup> Week, Oct 2024**

Virtual Memory: Introduction, Demand Paging, Page Replacement, Page Replacement Algorithms: FIFO

**3<sup>rd</sup> Week, Oct 2024(upto 26/10)**

Page Replacement Algorithms: Optimal, LRU, Counting;

**27/10 to 3/11 Diwali Vacations**

**4-7 Nov, 2024**

Thrashing and its cause; File Management: File Concepts, File Attributes

**2<sup>nd</sup> Week, Nov 2024**

File Operations, File Types, File Access/Allocation Methods, File Protection, File Recovery.

**3<sup>rd</sup> Week, Nov 2024**

Revision and Test.

**Ashok Kumar**  
**Assistant Professor (Computer Science)**

**Lesson Plan Session 2024-25**  
**B.Sc Life Sc. And B.Sc. Physical Sc. (1<sup>st</sup> Semester)**  
**Basic IT Tools (B23-SEC-103)**

**3<sup>rd</sup> Week, July 2024**

Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications

**4<sup>th</sup> Week, July 2024**

Basics of Hardware and Software, Application Software, Systems Software, Utility Software

**1<sup>st</sup> Week, Aug,2024**

Central Processing Unit, Input devices, Output devices, Computer Memory & storage

**2<sup>nd</sup> Week, Aug,2024**

Mobile Apps, Introduction to Operating System, Functions of the Operating system

**3<sup>rd</sup> Week, Aug,2024**

Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop

**4<sup>th</sup> Week, Aug,2024**

Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Changing System Date and Time,

**1<sup>st</sup> Week, Sept 2024**

Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers

**2<sup>nd</sup> Week, Sept 2024**

File and Folder Management. Introduction to Internet and World Wide Web

**3<sup>rd</sup> Week, Sept 2024**

Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN),

**4<sup>th</sup> Week, Sept 2024**

Network Topology, Internet, Applications of Internet

**1<sup>st</sup> Week, Oct 2024**

Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines

**2<sup>nd</sup> Week, Oct 2024**

Searching on the Internet, E-mail: Using E-mails

**3<sup>rd</sup> Week, Oct 2024(upto 26/10)**

Opening Email account, Mailbox: Inbox and Outbox,

**27/10 to 3/11 Diwali Vacations**

**4-7Nov, 2024**

Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message, **2<sup>nd</sup> Week, Nov 2024**

searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram)

**3<sup>rd</sup> Week, Nov 2024**

Introduction to Blogs, Digital Locker

**Ashok Kumar**  
**Assistant Professor (Computer Science)**