

INTERNSHIP PROGRAMME FOR UG DEGREE (SEMESTER-V)

(For the students admitted under New Curriculum and Credit Framework from the academic session 2023-24)



Course Title: Basic of Computer	
Internship Providing Organization (IPO):	Bankura Sammilani College Computer Centre
Category of Course:	For UG DEGREE (SEM-V)
Duration:	60 Hours
Course Coordinator and Contact Details:	Mrs. Antara Kar Mob: 9064638612
Mentors:	Mr. Samiran Banerjee
Intake Capacity:	70 Students
Course Fees:	Rs. 400/- (Students from Host Institution) Rs. 600/- (Students from Other Institution)

SYLLABUS

Course Title: Basic of Computer [50 Marks/2 Credits/60 Hours]

Learning Outcomes (LO)

- Able to identify different physical components or hardware and understand the importance or functioning of different hardware of a computer system.
- Develop skill for assembling different hardware components and troubleshooting hardware related problems by replacing defective components.
- Learn about the importance of different types of software including operating system (OS) required for running a computer system.
- Able to install and uninstall OS and other programme related with computer functioning.
- Gather basic knowledge about installing and configuring different network components.

Network

THEORY:

[6 hours]

Install & configure Network

- OSI Model- The functions of different layers in OSI model

Network Components – Modems, Firewall, Hubs, Bridges, Routers, Gateways, Repeaters, Transceivers, Switches, Access point, etc.–their functions, advantages and applications.

PRACTICAL:

[6 hours]

Install & configure Network

- Installing & Configuring a Peer-to-Peer Network using Windows Software.
- Making cables by crimping.
- Connect computers using Bluetooth.
- Connecting computers using Wi-Fi configuration. Basic Programmable switch Configuration.

Basic Hardware & Computer Parts

THEORY:

[12 hours]

(a) Types of I/O devices and ports on a standard PC for connecting I/O devices.

b) Function of keyboard, brief principle, types, interfaces, connectors, cable.

- c) Function of Mouse, brief principle, types, interfaces, connectors, cable.
- d) Function of monitor, brief principle, resolution, size, types, interfaces, connectors, cable.
- e) Function of Speakers and Mic, brief principle, types, interfaces, connectors, cable.
- f) Function of serial port, parallel port, brief principle of communication through these ports, types of devices that can be connected, interface standards, connectors, cable.
- g) Precaution to be taken while connecting/removing connectors from PC ports. Method of ensuring firm connection

Types of Processors and their specifications (Intel Celeron, P4 family, Xeon, and AMD)

- a) Memory devices types, principle of storing. Data organization 4bit, 8bit, word.
- b) Semiconductor memories, RAM, ROM, PROM, EPROM, EEPROM, Static and dynamic.
- c) Example of memory chips, pin diagram, pin function of devices.
- d) Concept of track, sector, cylinder. FD Drive components- read write head, head actuator, spindle motor, sensors, PCB.
- e) Precaution and care to be taken while dismantling Drives.
- f) Drive by, sizes, types of drives that can be fitted. Precautions to be taken while removing drive bay from PC.
- g) HDD, advantages, Principle of working of Hard disk drive, cylinder and cluster, types, capacity, popular brands, standards, interface, jumper setting. Drive components- hard disk platters, and recording media, air filter, read write head, head actuator, spindle motor, circuit board, sensor, features like head parking, head positioning, reliability, performances, shock mounting capacity. HDD interface IDE, SCSI-I/2/3 comparative study. Latest trends in interface technology in PC and server HDD interface.
- h) Precautions to be taken while fitting drives in to bay and bay inside PC cabinet.
- i) CMOS setting. (restrict to drive settings only).
- j) Meaning and need for using Scandisk and defrag.
- k) Basic blocks of SMPS, description of sample circuit.

PRACTICAL:

[10 hours]

Hardware Identification

- Identify the front and rear panel controls and ports on a PC cases
- Cooling
- Power Supplies
- Power Supply Connections
- Mother board Connections
- Mother board Components
- CPU(Processor)
- RAM(Memory)
- Hard Drive Connections
- Mechanical vs. Solid State Drives
- ROM Drives
- Video Cards
- Sound Cards

Hardware Remove-Test-Replace/Install

[6 hours]

- Removing RAM
- Installing RAM
- Removing a ROM Drive
- Installing a ROM Drive
- Removing a Hard Drive
- Installing a Hard Drive
- Defects related to SMPS, its cable, connector and servicing procedure.
- Removing Power Supply
- Installing Power Supply
- Removing Video Card
- Installing a Video Card
- Install expansion Cards
- Removing Fans
- Installing Fans
- Removing the Motherboard
- Installing the Motherboard
- Removing the Processor
- Installing the Processor
- Installing CPU Cooler
- Troubleshooting
- Checking the Power Switch
- Removing the CMOS Battery Seating Expansion Cards

Software Installation

THEORY:

[10 hours]

Types of software. System software OS, Compiler. Application software like MS Office.

Functions of an operating system. Disk operating system.

- a) Concept of GUI, Modes of starting on different occasions.
- b) Desktop, Icon, selecting, choosing, drag and drop.
- c) My computer, networking.
- d) Recycle in, briefcase, taskbar, start menu, toolbar, and menus.
- e) Windows Explorer.
- f) Properties of files and folders.
- g) Executing application programs.
- h) Properties of connected devices.
- i) Applications Under Windows accessories.
- j) Windows Help.
- k) Finding files, folders, My Computers.
- l) Control panel. Installed devices and properties. Utilities for recovering data from defective/bad hard disks.
- m) Introduction to removable storage devices, Bulk data storage devices-magnetic, optical, magneto optical drives, WORM drives.

- n) CDROM drives-Technology, Types of CD drives, working principle application.
- o) Minor repairs and maintenance of CDROM drives.
- p) Technology, working principle, capacity, media of DVDROM drive.
- q) Important parts and functions of DVDROM drive.
- r) Minor repair works on a DVD ROM drive.
- s) Technology, working principle, capacity, media of CD WRITER and use different modes of writing on a CD. Using of utility for CD writing.
- t) Minor repair works on a CDWRITER.
- u) Latest trends in backup devices/media

PRACTICAL:

[10 hours]

Windows Installation

- A walkthrough of installing Windows 7/8
- A walkthrough of installing Windows XP
- Imaging: create a Windows system Image
- How to Backup/Restore your Windows partition with the bootable image disk
- Duplicating a partition (creating a multiboot system)
- A multiboot system: the Windows boot manager vs. an alternative boot manager
- Setting up a multi boot/dual boot system
- Dual Boot Ubuntu and Windows
- Windows XP registry tweaks

Software Installation

- Installing a software program in windows □ How to run a file from MS-DOS
- Extracting run compressing compressed file
- How to compress or make files in to one file
- Extracting files from the Windows cabinets
- Uninstalling Windows Software Unable to remove a program from Windows Add/Remove programs