Certificate Course in Computer Hardware and Networking

SADAKATHULLAH APPA COLLEGE

(AUTONOMOUS)

Reaccredited by NAAC at an 'A+' Grade & an ISO 9001:2015 Certified Institution

Rahmath Nagar, Tirunelveli - 627 011

Department of Computer Science

Offers

Computer Hardware and Networking

About the Course

The Course is designed to acquire the knowledge of the students in introducing computers and its peripherals, troubleshooting Desktop and Laptop, Basics of Networking, Installing & Configuring OS and Assembling PC Components.

Instructional Design

This Course is of twelve months duration which includes Theory classes and Practical Sessions, Assignments and Project work.

Eligibility

All students who have passed Higher Secondary are eligible to enroll for the course.

Scope of the Course

After completing the course the students will be able to do varied job roles like Network Engineer, System Engineer, Hardware Executive, Hardware Consultant, Casting Designer and Technical Support executive.

**SYLLABUS FOR CERTIFICATE COURSE IN HARDWARE
(2018- ONWARDS)**

Certificate Course in Computer Hardware		
Paper – I	**Computer Hardware**	**18NCSCC11**
Hrs./Year:45	**Hrs/Unit:9**	**Credits : 3**

Unit: 1
Computer Fundamentals: Functionality Of Computer-languages: Machine languages, assembly and high level languages-Applications of Computer-Generation of Computers-Input and Output devices-Classification of Computers.

Unit: 2
Introduction to computer-motherboard with components-motherboard chipsets-i/o peripherals-daughter boards-bus standards-PC-bus-Isa-EISA-VESA-AGP-USB-cmos ram-front panel with diagram- Processor(cpu)-processor manufactures-Intel-AMD-cache memory-ram-ram types and voltages-memory bytes.

Unit: 3
Storage: Hard disk drives (hdd)-hard disk interface-partition table-Formatting-low and high level formatting-floppy disk drive-usb/flash drives-i/o ports -AT & ATX power supply specification-smps-operation and regulation.
Input devices-keyboard-Types of Keyboard-Pc/Pc XT-AT-Windows-MM –Remote Keyboard-keyboard operation-wireless keyboard-mouse-Types of Mouse-serial ball Optical and Wireless Mouse-operation of ball mouse-operation of optical mouse-wireless mouse-track mouse.

Unit: 4
Display devices-Cathode Ray Tube(crt)monitor-Liquid Crystal Display
(lcd)monitor-Thin Film Transistor (tft) monitor-plasma panel-data projector-touch screens-working resistive and capacitive screens-modems-types of modems. Communications-bluetooth technology-wi-fi technologies-bluetooth dongle-li-fi-working principal of Li-Fi.

Unit: 5
Printers-dot matrix printers-inkjet printers-laser printers-troubleshooting
the computer. – Systematic Troubleshooting – Symptoms observation and analysis – fault diagnosis – fault rectification – Troubleshooting levels and Assembling the PC.

References: Computer Installation and Servicing by D.Balasubramanian, Managing and Troubleshooting PC's by Mike Meyers Scott Jernigan
Text Book: Study Material for Computer Hardware prepared by the Computer Science Department.

SYLLABUS FOR CERTIFICATE COURSE IN HARDWARE
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Certificate Course in Computer Hardware		
Paper – II	Computer Networking	18NCSCC12
Hrs./Year:45	Hrs/Unit:9	Credits : 3

Unit 1
Network Layers: Application layer-Presentation layer-Session layer-Transport layer-Network layer-Data link layer-Physical layer.

Unit 2

Computer network basis-types of networks-Local Area Network (lan), Metropolitan Area Network (Man), Wide Area Network (Wan)-Home Area Network (Han)-Controller Area Network(Can)-internet-intranet- client-Server Technology.

Unit 3

Network devices-hub-switch-router-Lan connectors- Transmission media-Guided Media utp , stp, coaxial and fiber optic cables -Unguided Media-radio wave, micro waves, light, infrared,x-ray and gamma ray.

Unit 4

Sharing System between networks-IP address classes-history of windows-Booting Operating systems-Installation of operating systems-client type and server type.

Unit 5

Basic electronic-Components-passive, active components-resistors-resistor colour codings-capacitors-types of capacitors-inductors-diode-rectifiers-half, full, bridge rectifier-leds-transistors and other electronic components.

References: Computer Installation and Servicing by D.Balasubramanian, Managing and Troubleshooting PC's by Mike Meyers Scott Jernigan.
Text Book: Study Material for networking prepared by the Computer Science Department.

Certificate Course in Computer Hardware		
Paper-III Practical in Computer Hardware and Networking		18NCSCP1
Hrs./Year:30	Hrs/Unit:9	Credits : 2

Hardware Practicals

1. Assembling the Computer.
2. Installing Operating System for Client type System.
3. Installing Operating System for Server type System.
4. Troubleshooting the Computer.
5. Creating a bootable USB using Software.
6. Creating a bootable USB using Commands.
7. Hard Disk Drive cloning using Software.
8. Enable/Disable Computer's Personalize, Display Settings and USB Ports.
9. Installing drivers and software.

Networking Practicals

1. Laying Cables.
2. Connecting Computers using Switches.
3. Connecting two or more Computers using LAN Cables.
4. Connecting Network Computers using IP Address.
5. Sharing files using FTP Protocols.
6. Remote Desktop Connection.
7. Remote Login using Software.

Sadakathullah Appa College (Autonomous)

Rahmath Nagar, Tirunelveli -627 011.

Certificate Course in Computer Hardware and Networking

Offered by Department of Computer Science

Upon completion of the Course students will be able to:

- Acquire basic knowledge in computer Hardware and its peripherals for installation.
- Trouble shoot issues related to Computer operations.
- Maintain Computers including system management, its backup and to undertake disaster prevention.
- Understand to upgrade or replace any part, or to assemble a computer.
- Understand the basic knowledge of TCP/IP networks (switching, routing), System and Network Administration, Computer and Network Security and Operating systems.