



BANKERS INSTITUTE OF RURAL AND ENTREPRENEURSHIP DEVELOPMENT

RAJENDRANAGAR, HYDERABAD-500 030, TS (Regd no.1635/2007)

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ADVANCED PC-HARDWARE DAY TO DAY SCHEDULE

DAY	TOPIC	THEORY HOURS/DAY	PRACTICAL HOURS/DAY
PART-1 : Basic Electronics - 7 Days			
1	Introduction to Electrical How to Generate Current In India What is current, Voltage, Power and Frequency. What about Line(Phase), Neutral and Earth wires Types of Electric Circuits?	4	4
2	How to Connect Switch, Socket and Load to the Power Supply? How to Check Line and Neutral? How to Establish Earth Connection and Check Earth Connection? What is Electric Shock? How to take Precautions from Electric Shock and Short Circuit?	4	4
3	Introduction to Electronics What is electronics? Analog Electronics Digital Electronics (Gates, Flip-flops, Counters, Registers, Microprocessors) What is Circuit? Introduction to electronic components (Resistor, Capacitor, Coil, Transformer, Diode, Transistor, IC)	4	4
4	Resisters Types, Functions Resister Colour Code Chart How to decode resister colour code How to Check Resister using Ohm Meter? How to Solder & De-solder Resister? Capacitor Types, Functions How to calculate Capacitor Values? How to Check Capacitor using Meter? How to Solder & De-solder Capacitor? Coil Types, Functions How to Check Coil using Meter? How to Solder & De-solder Coil? Transformer Types, Functions How to Check Transistor using Meter? How to Solder & De-solder Transistor?	4	4
5	Diode Types, Functions What is BIAS? How to Check Diode using Meter? How to Solder & De-solder Diode? Transistor Types, Functions How to Check Transistor using Meter? How to Solder & De-solder Transistor? Integrated Circuit (IC) Types, Functions How to Check IC using Ohm Meter? How to Solder & De-solder IC?	4	4
6	Rectifiers and Power Supplies What is Rectifier?	2	6

	Types of Rectifier Circuits? What is Power Supplies? Types of Power Supplies? Working with Multi meter. How to check continuity test? How to check electronic components? How to Check Computer Cables? How to Solder Jocks? Working with soldering iron. How to de-solder? Design Rectifier Circuit and Regulating Power Supply?		
7	Exam-1 (Electrical and Electronics – Theory and Practical)		
PART – 2 : Computer Basics and Operating System - 6 Days			
8	Introduction to Computer What is computer? Computer Types Computer Generations? Computer Block Diagram? What is Hardware? Inside the computer Computer Peripherals Memory types	4	4
9	Introduction to Software. What is software? Software types? What is Operating System(OS) OS Types? What is BOOTING? BOOTING TYPES? OS types? OS functions?	4	4
10	MS Disk operating system(DOS) Commands DOS system files Internal Commands External Commands MS Windows Operating System Difference between DOS and Windows Windows Versions How to use Windows OS OS Functions and Features?	3	5
11-12	Working With Windows GUI Operations Introduce System Folders System Properties Accessories Computer management Disk Management Device Management Power Management Task Management Create and Manage User Accounts	6	10
13	Exam-2 (Computer Basics – Theory)		
PART – 3 : Computer Hardware – 13 Days			
14-15	Computer Motherboard Block Diagram and Functions, Types, Identify Models and Comparison, Identify Motherboard Components. How to connect add-on Cards, RAM and Drives to Motherboard. How to Insert Processor in to Socket and Arrange suitable Heat Sink. Motherboard related Troubleshooting	6	10
16	Microprocessor. Functions, Types, Models, Manufacturers and their Models What is Clock Speed?	3	5

	<p>What is Core Technology? What is Thread? What is FSB and BSB? What is Cache Controller & Memory? What is IRQ? What is DMA? How to find Suitable Motherboard for the Processor? Processor Related Trouble Shooting?</p>		
17-18	<p>Memory What is Memory? Types, Functions, What is RAM? Data Storage Methods. Models and Identifications Physical Memory, Virtual Memory, Base Memory, Extended Memory. What is Pagefile and Buffers What is ROM? Memory Related Troubleshooting? Secondary Memory Introduction to Hard Disk HDD Types, Models How Hard Disk works and what are the internal Parts? What is platter, Track, Cluster, Cylinder,</p>	6	10
19	<p>About Hard Disk Partitions and Format Master Boot Record, Zero Track Boot Image Boot Loaders Booting Process from MBR to System Drive. What is a File system? File System Types. (FAT, NTFS, exFS) How to Convert File System. Precautions for Data Recovery.</p>	3	5
20	<p>Introduction CD/DVD CD, DVD Working Procedure? Introduction to CD/DVD/BlueRay Drive. Difference Between CD, DVD, Blue-Ray Disk Types, Models How to replace Drive components? Working with CD/DVD Drives</p>	3	5
21	<p>Monitor Functions, Types, Models, Manufactures Monitor Block Diagram LCD/LED Monitor Disassembling and Assembling VGA Connector Pin outs. How to check VGA connector? How to Change VGA connector? Monitor Troubleshooting Keyboard Functions, Types, Models, Manufactures How to replace damaged keys? How to repair or replace wire? Troubleshooting. Mouse Functions, Types, Models, Manufactures How to repair or replace wire? Troubleshooting</p>	3	5
22-23	<p>SMPS SMPS output voltages Functions, Types, Models, Manufactures SMPS Block Diagram How to check SMPS problems? How to replace damaged components? Troubleshooting and Servicing Primary Section?</p>	6	10

	UPS Functions, Types, Models, Manufactures UPS Block diagram UPS internal and functions UPS Connections. Working with UPS		
24	Printer Functions, Types, Models, Manufactures How to change ink/tonner/ribbon Printer Installations? Working with Printers? Laser Printer Cartridge Refilling Troubleshooting. Scanner Functions, Types, Models, Manufactures Scanner Internal parts and functions Scanner Installations. Working with Scanner. Speakers. Functions, Types, Models, Manufactures How the speakers are working? Working with Speakers Troubleshooting. Web Camera Functions, Types, Models, Manufactures Configure Web camera Working with Speakers Troubleshooting.	3	5
25	Assembling Assembling Precautions Component Directions. Troubleshooting.	2	6
26	Exam-3 (Computer Hardware Theory) Exam – 4 (Computer Assembling – Practical)		
PART – 4 : Software Installations (OS, Drivers and Applications) – 8 Days			
27	BIOS What is BIOS?, BIOS Functions, Types. What is POST? POSTING errors. What is CMOS? How to clear or configure CMOS? How to change CMOS Settings? Configure BIOS Settings. Troubleshooting.	2	8
28-31	OS Installations. Working with Disk Manager Hard disk Partitions and Format Windows Installation Duel OS installations Linux OS installations How to install OS with Different Drives (Internal DVD, External DVD Drive, Pen Drive and With Ghost Software) Device Drivers Installations	4	36
32-33	Application software Installations Application License Activation	3	18
34	Exam-5 (Software Installation - Practical)		
PART – 5 : Troubleshooting - 8 Days			
35-36	Software Troubleshooting OS Installation Problems NTLDR/ BOOTMGR Problems File System Problems (MBR Problem) Safe Mode Problems Blue screen error Problems	3	18

	OS Repair Application Software Problems Virtual Memory Problems File Missing Problems Win32 Supporting Errors Driver Problems		
37	What is Virus? Anti-Virus software installation and update. Working with Anti-Virus? How to clean Virus? How to write CD/DVD Working with Nero burn software	2	8
38	How to use Pre Installed OS CD Data Backup Drivers Backup Hard Disk Partition Resizing	2	8
39	How to use External HDD Data Recovery Password Recovery (BIOS, OS)	2	8
40-42	Hardware Troubleshooting System Dead System Hang System Restart Automatically Exam-6 (Trouble Shooting)	4	16

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