

Strengthening of Training infrastructure

Building capacities at various levels is critical to the success of the project. Necessary training infrastructure is proposed to be augmented at various levels e.g. State Crime Records Bureau (SCRB), District Police Training Colleges (PTCs), Recruits Training Centers (RTCs) etc. for facilitating regular training on ICT and other technologies, change management as well as application software.

The indicative hardware specification for the training infrastructure is given below.

Computer Infrastructure

This section provides an **indicative infrastructure specification** which may be utilized by the states to procure computer infrastructure locally:

1. Indicative Server Specifications

Feature	Specification
CPU	Core 2 Duo E 8400 processor (3GHz, 6MB, L2 Cache, 1333 Mhz FSB)
Chipset and Motherboard	X38 Chipset on OEM Motherboard
Memory	2GB(2x1GB DDR-2 ECC Minimum 4 DIMM slots
Hard Disk Driver	250 GB SATAII 3.0GB/s 7200 rpm drive
Storage Controller	Integrated 4 channel Serial ATA controller with RAID0,1,5 and combination of 1 & 0 functionality
Graphic Card	Professional 3D Graphic card (256MB) or higher.
Keyboard	Standard Keyboard
Mouse	Optical Scroll Mouse
PCI Slots	4 PCI/PCI Express including 1PCI Express x16
Bays	Total 4 Bays with minimum 2 internal and 1 external
Ports	6 USB 2.0 RJ- 45, audio in , audio out, mic in
Networking features	Integrated 10/100/1000
Power Supply	230V +/- 10% single phase, 50 Hz AC
Bundle	System Health Monitoring Tool

Feature	Specification
Software	
Security	Integrated panel lock or pad lock

2. Indicative Desktops specification

Feature	Specification
CPU	(1.6 GHz or better) 64 Bit Processor with 512 KB L2 Cache Memory or better 800 MHz FSB.
Chipset	OEM Motherboard
Bus Architecture	Integrated Graphics, 3 PCI/PCI Express
Memory	1 GB DDR2 RAM 667 MHz with 4 GB Expandability
Hard Disk Drive	160 GB 7200 rpm Serial ATA HDD
Monitor	15" TFT Monitor TCO-03 certified
Keyboard	104 keys
Mouse	Optical
Bays	4 Nos. (2 Nos. 5.25 inches for Optical Media Drives 2 Nos. 3.5 inches for HDD)
Port	6 USB Ports (with at least 2 Front end)
Cabinet	Mini tower
DVD ROM	8x or better DVD ROM Drive
Networking Facility	10/100/1000 on board integrated network port with remote booting facility, remote system installation, remote wake up.
Power management	Screen Blanking, Hard Disk and System Idle Mode in Power On, Set up Password, Power supply SMPS Surge Protected
Pre Loaded Software	Operating System and Antivirus (Latest Version) with one year licence.

3. Indicative Multifunction Printer specification – 20 PPM (Language Printer)

Feature	Specification
Speed (min.)	20 PPM (A4)
Memory(min.)	32 MB
Resolution	1200x1200 dpi
Interface	USB, Ethernet (UTP)
Monthly Duty Cycle	10000 Pages
Language	PCL6 / PS2 or higher

4. Indicative UPS specification - 3KV (60 Minutes Battery Backup)

a. General

- UPS without any workmanship defects, sharp edges, nicks, Scratches burs, etc.
- Enclosures conformance to protection requirement of IP2L1 to IS13947 (part1)/1993 (reaffirmed 1998).
- By-pass facility for maintenance of UPS.
- UPS supply output power and charging current at the same time.
- Switching device MOSFET or IGBT.
- Switching frequency above 10 KHz.
- KW rating of the UPS 0.70 times the KVA rating.

b. Input (as applicable)

- 160V-260V, 50 +/-3% Hz single phase AC or
- 300V-450V, 50 +/-3%Hz three phase AC

c. Output (as applicable)

- 230V +/-1% (with alternative setting for 220V +/-1%) 50 +/-0.5Hz, single phase.
- 400V +/-1% (with alternative setting for 380V +/-1%) 50 +/-0.5Hz three phase. Voltage regulation from no load to full load within +/-1% in both the cases. UPS facility for operation in synchronous mode in which output frequency same as that of mains frequency.

d. Total harmonics distortion at output: 2% maximum for UPS up to 5KVA and 3% maximum for UPS above 5 KVA on resistive load. If total input harmonics are less than or equal to 10%.

e. Efficiency (at rated output voltage and frequency)

Overall efficiency (minimum): 90%

f. UPS power factor at rated load: better than 0.9 lagging.

g. Over load: UPS able to withstand 20% overload for 10 minutes and 50% over load for one minute.

h. Protections :Following protection in UPS:

- Over voltage, short circuit, and overload at UPS output terminal.
- Under voltage at battery terminal.
- Over shoot and under shoot not greater than 4% of rated voltage for duration of 40m sec. (maximum)

i. Indicators and meters

- Mains presence.
- Battery charging and discharging
- Output overload
- Low battery voltage.

j. Digital meter for monitoring the following parameters in UPS(not applicable for rack mounting):

- Input AC voltage.
- Output AC Voltage, current and frequency
- Battery voltage and current.

k. Battery bank:

- UPS with SMF VRLA battery
- Battery AH capacity, battery voltage, number of batteries of each rating, make and model of batteries offered with each item of UPS.
- UPS with Trolley for battery bank

5. Indicative Networking – Switches specification

- One 16 Port Unmanaged Switch, with Rack mount,

- Cabling connecting 8 nodes including the Network enabled MFD
- ADSL Router with 512 Kbps VPN connection branching into the LAN , with 5 Private IP address for the for Client machines connecting to the Central Location

6. Indicative Rack Specification (If required)

- 36 U Rack

7. Indicative Digital Camera Specification (If required)

- 5 mega pixels

Site Preparation including infrastructure

The following items are recommended for site preparation at the training centres:

- One LCD Projector
- One LCD Screen
- Computer desks (As required)
- Computer Chairs (As required)
- White Board (As required)
- Cabling and Earthing
- Book Shelves
- Electronic clock