

REVISED TECHNICAL SPECIFICATIONS POST PRE-BID MEETING

Serial No. 1 : Computer; UPS; Printer & Software

1. Desktop All-in-One – 40 Nos.

- a. Operating system : Windows 10/MacOS 10.12 Sierra
- b. Processor : Intel® Core™ i5-6006U (2GHz) or equivalent
- c. RAM : ≥ 4 GB DDR4
- d. HDD : ≥ 1 TB @ 5400 rpm
- e. Screen size : ≥ 23"
- f. Optical disc drive : DVD/RW
- g. Should essentially be provided with wireless keyboard & mouse
- h. Should essentially be provided with wireless (802.11 ac), Ethernet (10/100 LAN) & USB (4 nos. USB 3.0).
- i. All systems should be pre-loaded with licenced Microsoft Office 2016 professional software and three years licence of Quick Heal Total Security.

2. Desktop All-in-One – 06 Nos.

- a. Operating system : Windows 10/MacOS 10.12 Sierra
- b. Processor : 6th Generation Intel® Core™ i7-6700T Processor (2.8GHz) or equivalent
- c. Discrete graphics : NVIDIA® GeForce® GTX 940A 2GB or equivalent
- d. RAM : ≥ 8 GB DDR4
- e. HDD : ≥ 1TB @ 5400 rpm
- f. Screen size : ≥ 23"
- g. Optical disc drive : External DVD/RW
- h. Data link protocol : Ethernet, Fast Ethernet, IEEE 802.11a, IEEE 802.11ac, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n
- i. Should essentially be provided with wireless keyboard & mouse.
- j. Should essentially be provided with wireless (802.11 a/b/g/n/ac), Ethernet (10/100), USB (4 nos. USB 3.0), HDMI (IN & OUT), 3-in-1 Card Reader (SD, SDHC, SDXC), Microphone/Earphone Combo.
- k. All systems should be pre-loaded with licenced Microsoft Office 2016 professional software and three years licence of Quick Heal Total Security.

3. UPS (1 kVA) – 46 Nos.

- a. AVR : 135-300 VAC
- b. Battery : 12V, 7.2Ah x 2
- c. Backup (Typ 2 PC) : 15-25 min. approx.
- d. Backup (Typ 1 PC) : 40-50 min. approx.

4. Online UPS (20 kVA) – 01 No.

- a. UPS Ratings kVA/kW : 20KVA/16 kW
- b. Back-up : 60 min. on full load
- c. Phase : 3phase in - 1Phase out (3-1)
- d. Battery Type /Make : VRLA SMF
- e. Paralleling : Parallelable upto 4 units (Required for future expansion of load)
- f. Input Power Factor : 0.99 @ full restive load
- g. Cold Start : UPS can be started on battery without availability of mains

Inverter Section

- h. Technology : Microprocessor / DSP based PWM - IGBT based Technology
- i. UPS output power factor : 0.8

Battery

- j. Type /Make : VRLA SMF
- k. Battery Placement : Suitable battery rack and accessories provided for battery interconnections and UPS to battery connections etc.

Bypass

- l. Automatic integral critical load from the : The integral bypass performs an automatic transfer of bypass the inverter to the bypass, in the events of overload, over temperature, inverter failure conditions with zero transfer time.

General

- m. Output wave form : Pure sine wave

Display and control

- n. Metered parameters : Input AC voltage/Input AC Current/Input AC frequency/Output AC voltage/Output AC current/Output frequency/voltage
- o. Monitoring ON LAN : SNMP card to monitor & store all the data related to UPS (required optionally). Software Should be compatible to LINUX & Windows & Sun Solaris Platforms.
- p. Warranty : 1 year
- q. Communication option: USB/SNMP Card Options should be available

5. Online UPS (60 kVA) - 01 No.

- a. UPS Ratings kVA/kW : 60 kVA/48 kW or 3 nos. of 20 kVA/16 kW in parallel
- b. Back-up : 60 min. on full load
- c. Phase : 3phase in - 1Phase out (3-1)
- d. Battery Type /Make : VRLA SMF
- e. Paralleling : Parallelable upto 4 units (Required for future expansion of load)
- f. Input Power Factor : 0.99 @ full restive load
- g. Cold Start : UPS can be started on battery without availability of mains

Inverter Section

- h. Technology : Microprocessor / DSP based PWM - IGBT based Technology
- i. UPS output Power factor : 0.8

Battery

- a. Type /Make : VRLA SMF
- b. Battery Placement : Suitable Battery Rack and Accessories provided for battery interconnections and UPS to Battery connections etc.

Bypass

- c. Automatic integral bypass : The integral bypass performs an automatic transfer of critical load from the inverter to bypass, in the events of overload, over temperature, inverter failure conditions with zero transfer time.

General

- d. Output wave form : Pure sine wave

Display and control

- e. Metered parameters : Input AC voltage/Input AC Current/Input AC frequency/Output AC voltage/Output AC current / Output frequency / voltage
- f. Monitoring ON LAN : SNMP card to monitor & store all the data related to UPS (required optionally). Software should be compatible to LINUX & Windows & Sun Solaris Platforms.
- g. Warranty : 1 year
- h. Communication : USB/SNMP Card Options should be available

6. Mono Laserjet Printer - 36 Nos.

- a. Printing method : Laser Mono

- b. Printing output : Monochrome
- c. Printer languages : Host Based
- d. Internal memory : ≥ 2 MB
- e. Max. print resolution : 600 x 600 dpi or better
- f. Monthly duty cycle (A4 size) : ≥ 5000 pages
- g. Print speed : ≥ 14 ppm
- h. Support media types : Paper, Envelopes, Labels, Cardstock, Transparencies, Postcards
- i. Output tray capacity : ≥ 100 sheets
- j. Input tray capacity : ≥ 150 pages

7. Colour Laserjet Multifunction Printer - 10 Nos.

- a. Printing method : Colour laser
- b. Functions : Print, Copy, Scan
- c. Display : LCD/LED/VFD display of at least 2 line with 16 character in each line
- d. Internal memory : ≥ 128 MB
- e. Print
 - (i) Max Print Resolution : 600 x 600 dpi or better for both black as well as colour printing
 - (ii) Monthly duty cycle (A4 size) : ≥ 20000 pages
 - (iii) Print speed : Black - ≥ 16 ppm & Colour - ≥ 4 ppm
- f. Copy
 - (i) Zoom rate : 25 to 400%
 - (ii) Multicopy : ≥ 99 copies
 - (iii) Speed : Black - ≥ 16 cpm & Colour - ≥ 4 cpm
- g. Scan
 - (i) Method : Flatbed
 - (ii) Optical Scanning Resolution : ≥ 1200 dpi
 - (iii) Output tray capacity : ≥ 50 sheets
 - (iv) Input Tray capacity : ≥ 150 sheets
- h. System requirements : Intel core processor having processor speed of ≥ 600 MHz.
- i. Operating system requirement : Full software installs should be supported on Windows 8 or higher & Mac OS X v 10.6.8 or higher.
- j. Should have standard (built-in Fast Ethernet 10/100Base-TX network port).
- k. Connectivity : Hi-Speed USB 2.0 port

8. Software - 02 user licence along with media for a period of three years for each one of the following

- a. Adobe CS6 : Multimedia animation tools, web designing tools, image editing. Including Flash and Dreamweaver.
- b. Adobe Director 12.0 : Create and publish compelling interactive games and eLearning courses for the web, iOS devices, Mac and Windows® desktops, DVDs, and CDs. Integrate virtually any major file format, including FLV, SWF and native 3D content.
- c. 3 DS Max : 3D design software for modelling, animation and rendering.
- d. Video Studio Pro X9 :
- e. Audacity 2.1.2 : Open source, cross-platform audio software for multi-track recording and editing
- f. Lame : MP3 encoder, version v3.99

Serial No. 2 : Video conferencing system; and Audio & video capturing, editing & processing equipment

1. Video Conferencing System - 1 + 1 set

- a. Video Standards : H.261, H.263, H263+, H.263++, H.264 high profile, H.264 baseline profile or higher
- b. Video Frame Rate : Should support 60 fps with 1080p resolution from day one
- c. Video Features : Ability to send and receive two live simultaneous video sources in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously. Should support H.239 and BFCP protocols with 1080p resolution
- d. Point to Point : Should have point to point connectivity on SIP/H.323 in 1080p/60fps conference feature enabled from day one.
- e. Video : Should support Minimum 1 monitor & upgrade to 2 Monitor for Self View, Remote View and Content all in separate Monitors.
- f. Video Output : Should have at least 1& upgradable to 2 nos. of HDMI / or equivalent (High Definition Multimedia Interface) output to connect Full High Definition display devices such as plasma and projectors for both Video and Content (Single/Dual Monitor Support)
- g. Video Input : Should have at least 2 HD video Input to connect full HD cameras. Should have at least one additional video Input to connect auxiliary full HD camera. Should have VGA/DVI/HDMI port to connect PC/ Laptop directly to the Video conferencing system and display resolutions up to 1080p.
- h. Audio : Audio standards supported : G.711, G.722,G.722.1, 64 kbps MPEG-4 AAC-LD or equivalent standard must be supported.
- i. Other features : Noise Reduction, Automatic Gain control, Acoustic Echo Canceller,
- j. Audio Inputs : Bidder should supply 1 tabletop microphone.
The microphones must be standard based microphones.
The pick up of the microphones should be at least 10 feet from the microphone.
Echo Cancellation for every input must be available
- k. External devices : Should have USB port
- l. Network Interfaces : 1 LAN /Ethernet-10/100/1000 Mbps full duplex.
Should have support for IPV4 & IPV6 networks
- m. Bandwidth : IP at least 6 Mbps and upto 12 mbps
- n. Security : Menu Control : Password protected system menu
- o. Encryption of video cal: ITU-T standards based Encryption of the video call / Call should be encrypted end-to-end on IP/Should support Standards-based: SRTP (AES 128 bit), H.235 (AES 128 bit)
- p. Camera : upto 10x optical zoom cameras with 1920x1080p 60 frames per second.
- q. Specifications : Pan range: +/-100 degrees, Tilt range: +/-20 degrees
- r. Display Unit : Diagonal Size 48", Type: 60Hz D-LED BLU, Resolution: 1920*1080 (Full HD), Pixel pitch(mm): 0.183(H) x 0.549(V), Active Display Area(mm) 1054.08(H) x 592.92(V), Brightness (Typ.): 350 nit, Contrast Ratio: 5000:01:00, Viewing Angle (H/V): 178:178, Response Time(G-to-G): 8ms, Display Colors: 16.7 M, Color Gamut: 72%, Haze 2%, Dynamic C/R: 50,000:1, H-Scanning Frequency: 30 ~ 81kHz, V-Scanning Frequency: 48 ~

75HZ, Maximum Pixel Frequency: 148.5MHz, Speaker Type:
Built in Speaker(10W + 10W).

2. Audio & Video capturing, editing & processing equipment

- a. Digital Video Camera : **1 No.**
- ii. Must be of professional series (~~Sony/ Panasonic/Canon~~)
 - iii. Must have 4K Ultra HD Camcorder with 4K 60p/50p video recording capability, 20x zoom lens, functions for professionals
 - iv. 20x optical zoom or higher
 - v. 40x (Full-HD) Intelligent Zoom or higher
 - vi. Must have 4K: POWER O.I.S. Full-HD: HYBRID O.I.S.
 - vii. Dual recording Media Slot with SDHC/SDXC Memory Card Support
 - viii. Wi-Fi/NFC IEEE 802.11b/g/n
 - ix. Possibility of slow and quick motion recording
 - x. Dual media slots for simultaneous/relay recording
 - xi. 50p recording at Full HD 1920 x 1080
 - xii. HDMI standard, AV, HDMI, XLRx2, Headphone, USB (3.0 SuperSpeed), Camera Remote with high speed HDMI cable
 - xiii. ND Filter, Illumination triplis Manual Ring, Dual SD Card Slot
 - xiv. Lens f=0.408 - 8.16 cm (2.95 - 62.6 cm [16:9] in 3.5 cm or higher
 - xv. High sensitivity and high resolution
 - xvi. Recording/Play back 3840x2160 60p/50p (150 Mbps / VBR), LPCM
 - xvii. Compact body
 - xviii. Image Stabilization
 - xix. Software for editing
 - xx. recording format - MOV (LPCM) / MP4 (LPCM) / MP4 or Latest
 - xxi. Accessories Additional -1 extra battery , Led Light , Microphone , hard carry case , 1tb USB HDD , 64GB x 4 cards, software for editing
- b. Tripod : Solid cast end with standard 5/8-27 threads, Long 36 inches boom with molded plastic counterweight, Euro-Style boom with separate clutches for length and angle of boom. Allows user to make one-handed adjustments of boom angle while performing. Professional quality die-cast zinc clutch locks vertical shaft at any height from 36 to 63 inches. Clip-on cable holder. **(2 Nos.)**
- c. Wireless microphone : UWP-C2-UHF Synthesize Wireless Microphone with accessories **(3 Nos.)**
- d. Fluorescent studio light System with control system & stand : 1000 Watt Photo Studio Continuous Triple Lighting Kit, 10' X 20', Green Muslin Backdrop with 12' Background Support System **(1 Set)**
- e. Amplifier/Speaker : PA mixer amplifier of rated output 250 watts, fitted with a MP3 Digital Player combined with highly useful features like LCD display, remote control, and facilities for REPEAT, PAUSE, VOLUME UP / DOWN etc. Read USB drives, SD & MMC cards. ~~SSA-250DP has all the other features of the popular SSA-250M model, like~~ **Should have** 6 Mic inputs, 2 Aux inputs, cut/boost type bass & treble controls, resettable circuit protector, and provision for connecting 24V battery. Facility is ~~given~~ **required** for mixing MP3 playback signal with both Aux and most mic inputs. **(1 No.)**
- f. Professional digital photo camera : 24.2 effective megapixels, ISO range of 100-25600, Full HD videos and time-lapse movies even in low light situations, vari-angle LCD monitor and intuitive touch interface. with Bluetooth and software for automatic transfer of images to your compatible

- smart devices, GPS and wi-fi enabled, and minimum 140 mm VR kit lens. **(1 No.)**
- g. Professional audio microphone : Handheld microphone ideal for live vocals, Dynamic cartridge with cardioid polar pattern, with or without a cable and On/Off switch, and with wireless option. **(3 Nos.)**
- h. Professional lapel mike: Professional-grade wearable microphone designed for use in a wide range of film, television and broadcast scenarios, connects to a smartphone or tablet headset jack and records via any audio app, a high quality omni-directional condenser capsule that picks up sound equally from all around the microphone, allowing for versatility when mounting and ensuring a high degree of user-friendly operation. **(5 Nos.)**
- i. Professional head phone : Headphone type : open-back
 Max. Input Power : 300 mW
 Audio frequency bandwidth : 5 to 54000 Hz
 Sensitivity headphones : 110 dB SPL/V
 Rated Impedance : 36 Ohm and more
(3 Nos.)
- j. Professional OB mixer : "D-PRE" Mic preamps with an inverted Darlington circuit, Metal chassis with XLR balanced outputs and internal universal power supply, Built-in SPX digital effects, bi-directional USB, one-knob compressors. **(1 No.)**
- k. Audio monitor : Custom Class A/B analog amplifiers, Bi-amplified design with 70 watts of distributed power for cohesive, accurate sound, 5" low-frequency drivers with Kevlar cones for rich, defined lows, 1" high-frequency drivers with natural silk domes and integrated waveguides for smooth, clear highs, Optimized rear ports for extended low-frequency response, Magnetic shielding eliminates interference with other electronic equipment, XLR balanced and 1/4" balanced/unbalanced inputs for connecting mixers, amplifiers, instruments, DJ gear, and more, Volume control, Includes two isolation pads. **(1 No.)**
- e. The equipment/systems along with all its accessories must have 2 years comprehensive warranty.
- f. It is mandatory for the bidders to quote for the cost of Comprehensive Annual Maintenance Contract (CAMC) for three years post warranty period failing which the bids shall automatically be treated as non-responsive.
- g. The bidder must also quote for any required accessory, spares, etc. required for the standalone operation of the system. ICAR-IARI shall only be responsible for proving suitable location and power requirement for operating the said system.

Annexure IV: Indicative Drawings

1.1 LAYOUT OF VIDEO CONFERENCING AND AUDIO-VISUAL LAB

