

ANNEX II
Minimum requirement for IT Equipment
For the provision of IT Equipment Rental Service
for organizing Meetings, and Short Term Office Use.

1. Scope:

The service provider is required to provide the 'Provision of IT Equipment Rental Service for Organizing Meetings, and short term office use' for UNFPA APRO listed below:

Part I. IT Equipment

The specification of the proposed IT equipment should meet minimum requirement as describe below;

Item No.	Description	Minimum Requirement/Specification
1.	Laptop Computer	<ul style="list-style-type: none"> ● 7th Gen Intel Mobile Core i7 or equivalent ● At least Quad-Core Processor, 1.7 GHz speed and 4MB cache ● At least 8GB DDR4 Memory ● At least 512GB, 7200rpm SATA Hard Disk Drive ● Dual Band Wireless 802.11ac ● Gigabit Ethernet network interface ● 1 Audio combo port ● At least 3 USB ports (minimum 2 USB version 3.1 port) ● 1 HDMI port ● 1 Display port ● Cable to connect laptop to monitor or projector ● 1 Memory Card Reader port ● At least 13" FHD (1920 x 1080) Anti-Glare ● Integrated HD Graphics ● At least 3 cell Lithium Ion battery ● Built in Thai/English Keyboard ● Touch pad ● 1 External mouse ● AC Adapter with US Power Cord ● Webcam ● Speaker and Noise Cancelling Digital Array Mic ● Backpack for laptop ● Installed Windows 10 Professional 64bit ● Installed MS Office 2016

		<ul style="list-style-type: none"> ● Installed Adobe Acrobat Reader software ● Installed Google Chrome software ● Installed Anti Virus software ● Compliance and Standards: ENERGY STAR and TCO Certified Notebook
2.	Desktop Computer	<ul style="list-style-type: none"> ● 7th Gen Intel Core i7 or equivalent ● At least Quad-Core Processor, 3.0 GHz speed and 6MB cache ● At least 16GB DDR4 Memory ● At least 512GB, 7200rpm SATA Hard Disk Drive ● Built in or adapter for Dual Band Wireless 802.11ac ● Gigabit Ethernet network interface ● Mic and Speaker port ● At least 4 USB ports (minimum 1 USB version 3.1 port) ● 1 VGA port ● 1 HDMI port ● Cable to connect desktop to monitor or projector ● Integrated HD Graphics ● 1 Mouse ● US Power Cord ● Installed Windows 10 Professional 64bit ● Installed MS Office 2016 ● Installed Adobe Acrobat Reader software ● Installed Google Chrome software ● Installed Anti Virus software
3.	Monitor	<ul style="list-style-type: none"> ● At least Viewable Size 60.45 cm (23.8 Inches) ● Aspect Ratio 16:9 ● LED Backlight Technology ● Antiglare with 3H hardness ● Support 1920 x 1080 at 60Hz resolution ● Contrast Ratio: 1000: 1 (typical) ● Pixel Pitch 0.275 mm x 0.275 mm ● At least 92 Pixel Per Inch (PPI) ● At least brightness: 250 cd/ m2 ● Support Color Depth: 16.7 Million colors ● Height-adjustable stand

		<ul style="list-style-type: none"> • 1 x DisplayPort version 1.2 • 1 x HDMI version 1.4 port • 1 x VGA port • 2 x USB ports • Cable to connect to laptop, desktop or projector • Compliance and Standards: ENERGY STAR, EPEAT Gold TCO Certified Displays and RoHS
4.	Black and White Laser printer with consumable to print 500 sheets per day (Paper & Toner)	<ul style="list-style-type: none"> • Print languages PCL 5, PCL 6, postscript level 3 emulation • Print quality (black) at least 600 dpi • Print speed (black) at least 20 ppm • Media sizes supported A4 • Paper handling input, at least 50-sheet input tray • Inclusive of 500 Sheets of paper and all consumable (toner/drum) • Automatic duplexer for two-sided printing • Driver supported Windows 7 (32 and 64 bit) and Windows 10 (32 and 64 bit) • Power Input voltage: 220 to 240 VAC (+/- 10%), 50/60 Hz (+/- 2 Hz)
5.	Color Multi-Function Printer with consumable to print 500 sheets per day (Paper & Toner)	<ul style="list-style-type: none"> • Color MFP • Print languages PCL 5, PCL 6, postscript level 3 emulation • Print quality (black) at least 600 dpi • Print/Copy speed (bw & color) at least 20 ppm • At least 600dpi scanning resolution • Media sizes supported A4 • Paper handling input, at least 50-sheet input tray • Inclusive of 500 Sheets of paper and all consumable (toner/drum/ink) • Automatic duplexer for two-sided printing • Driver supported Windows 7 (32 and 64 bit) and Windows 10 (32 and 64 bit) • Power Input voltage: 220 to 240 VAC (+/- 10%), 50/60 Hz (+/- 2 Hz)

6.	Wireless USB Presentation Controller with laser pointer	<ul style="list-style-type: none"> ● Compatible with MS Windows 10 (32 and 64 bit) ● USB Plug and Play ● Wireless technology 2.4GHz ● At least 15 meters distance ● Red laser pointer ● Battery status LED
7.	8 Port Gigabit Switch (to use for sharing printer)	<ul style="list-style-type: none"> ● Interface 8 ports , 10/100/1000Mbps auto-negotiation RJ-45 Ports (Auto MDI/MDIX) ● Standards IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x ● LED Power, Link/Activity
8.	24 Ports Gigabit Switch (to be used for stable internet access in some workshops)	<ul style="list-style-type: none"> ● Interface 24 ports , 10/100/1000Mbps auto-negotiation RJ-45 Ports (Auto MDI/MDIX) ● Standards IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x ● LED Power, Link/Activity ● Transmission Method - Store-and-Forward ● Switching Capacity at least 52 Gbps ● Support at least 8K MAC Address ● At least 38 Mbps Forwarding Rate ● At least 32 MB Flash Memory ● At least 128 MB CPU Memory ● Support for up to 256 VLANs ● Support Simultaneously Port-based and 802.1Q tag-based VLANs
9.	Wireless Access Point	<p>Wireless Standard</p> <ul style="list-style-type: none"> ● IEEE 802.11 b/g/n 2.4 GHz ● IEEE 802.11 a/n/ac 5 GHz <p>Wireless Transfer Rate</p> <ul style="list-style-type: none"> ● Transmit: <ul style="list-style-type: none"> ○ 400 Mbps* for 2.4 GHz ○ 867 Mbps* for 5 GHz ● Receive: <ul style="list-style-type: none"> ○ 400 Mbps* for 2.4 GHz ○ 867 Mbps* for 5 GHz

Wireless Security

- 128 bit WPA-PSK/WPA2-PSK

WLAN Features

- Auto channel selection
- WiFi Multimedia (WMM)
- Wireless output power management
- Multiple SSID up to 4
- MAC address filtering

Firewall

- Stateful Packet Inspection (SPI)
- Denial-of-Service (DoS) attack prevention
- ICMP blocking

Routing

- IPv4/IPv6
- NAT
- Port forwarding
- WAN connection type: DHCP, PPPoE
- DHCP option 60/121
- DHCP server on LAN
- IGMP v1/v2
- IGMP proxy
- Dynamic DNS

VLAN

- 802.1q tag/Tag based VLAN
- Bridged/routed VLAN support

WAN

- One 10/100/1000 Mbps Ethernet RJ-45 port with auto MDI/MDIX support

LAN

- Four 10/100/1000 Mbps Ethernet RJ-45 ports with auto MDI/MDIX support

Certification

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		<ul style="list-style-type: none"> • EMC: FCC, IC
10.	Black & White Photocopier with consumable to print 500 sheets per day (Paper & Toner)	<ul style="list-style-type: none"> • Copy/Print speed (black) at least 33 ppm • Print languages PCL 5, PCL 6 • Print quality (black) at least 600 dpi • Media sizes supported A3 • Paper handling input, at least 50-sheet input tray • Automatic duplexer for two-sided printing • Inclusive of 500 Sheets of paper and all consumable (toner/drum/ink) • Driver supported Windows 7 (32 and 64 bit) and Windows 10 (32 and 64 bit) • Power Input voltage: 220 to 240 VAC (+/- 10%), 50/60 Hz (+/- 2 Hz)
11.	Teleconference Audio Devices	<ul style="list-style-type: none"> • Compatible with MS Windows 10 (32 and 64 bit) • USB Plug and Play • Speaker at least 10 Watt output power • Microphone Type Omni-directional • Signal to Noise Ratio (SNR) +70 dB • Connectivity USB 2.0 • Connectivity Bluetooth® 4.2 – Bluetooth® Low Energy (BTLE) • At least 30 m. Wireless range • Talk time Up to 15 hours • Noise cancellation • Compatible with Skype for Business, Cisco, Avaya, Mitel, Alcatel, Unify
12.	Webcam Devices	<ul style="list-style-type: none"> • Cable length: At least 2m (USB extension is acceptable) • Max Resolution: At least 720p/30fps • Focus type: autofocus • FoV: At least 78°
13.	Printer for Photo Printing with consumable to print 100 photos per day (Glossy Paper & Toner)	<ul style="list-style-type: none"> • Ink jet printer with at least 600dpi resolution • Embedded LCD screen with control • USB and SD Card Direct print • Include 100 sheets of 4x6" glossy photo paper

14.	USB Hub	<ul style="list-style-type: none"> ● Compatible with MS Windows 10 (32 and 64 bit) ● Plug and Play ● 10 ports USB version 2 ● 1 port USB version 3
15.	Digital Camera	<ul style="list-style-type: none"> ● APS-C or Full-frame Sensor ● CMOS or CCD technology ● DSLR or Mirrorless technology ● Image stabilizer technology ● Provided with 24-70mm (or equivalent) focal length zoom lens ● At least 20 Megapixels ● High-resolution 4K movie recording ● Iso Sensitivity 100 - 25600 or higher ● Image Quality Modes RAW, RAW & JPEG , JPEG ● White balance modes, Auto and presents ● Shutter speed range 30 - 1/4000 second and Bulb ● Self-timer at least 2-10 second ● At least 5 fps continuous shooting ● Provided with flash ● Autofocus, Eye or Face autofocus and Manual focus ● Wi-Fi Compatible, IEEE 802.11b/g/n ● Viewable and downloadable on a smartphone ● Remote control via Smartphone ● Built-in microphone ● At least 64GB memory card ● Tripod for camera

Service quality insurance:

If there is any problem with IT equipment rental during the meeting/workshop, the replacement of the equipment must be within 2 hours. For the monthly rent, the replacement must be on the next business day.

2 Requirements:

2.1 Specification of the proposed IT Equipment

In their technical proposals, the service provider shall provide lists of proposed IT Equipment including their Brand, Model, Technical Specification, Brochure/Catalogue of each item

Item No.	Description	Proposed IT Equipment			
		Brand	Model	Technical Specification	Remark
1.	Laptop Computer				
2.	Desktop Computer				
3.	Monitor				
4.	Black and White Laser printer with consumable to print 500 sheets per day (Paper & Toner)				
5.	Color Multi-Function Printer with consumable to print 500 sheets per day (Paper & Toner)				
6.	Wireless USB Presentation Controller with laser pointer				
7.	8 Port Gigabit Switch (to use for sharing printer)				
8.	24 Ports Gigabit Switch (to be used for stable internet access in some workshops)				
9.	Wireless Access Point				

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10.	Black & White Photocopier with consumable to print 500 sheets per day (Paper & Toner)				
11.	Teleconference Audio Devices				
12.	Webcam Devices				
13.	Printer for Photo Printing with consumable to print 100 photos per day (Glossy Paper & Toner)				
14.	USB Hub				
15.	Digital Camera				

Service quality insurance:

If there is any problem with IT equipment rental during the meeting/workshop, the replacement of the equipment must be within 2 hours. For the monthly rent, the replacement must be on the next business day.

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