Annex "D": Technical Specifications

Item No.	Specification	Statement of Compliance	
		Comply	*Not Comply*
	Negotiated Procurement for Purchase of ICT Equipment with Peripherals, Installation, Configuration and Training		
Lot A	**ICT Infrastructure Network**		
	KSU Bulanao Campus, Dagupan Campus, and Rizal Campus Local Area Network (either: Full Duplex PTP Wireless Network Infrastructure Equipment with Auto-Fail Over or Fiber optic technologies, with installation, configuration, training, peripherals and accessories), 1 lot The main objective of this item project is to interconnect KSU Bulanao Buildings, KSU Dagupan Buildings and KSU Rizal Buildings to form a Local Area Network with security measures and controls. Supplier may submit their respective proposal using different technology with similar objective to the project.		
	1) **Full Duplex Wireless Devices** installed in Industrial wireless antenna tower , w/ minimum bandwidth of 100mbps (Antenna Pole accessories: pole step, anchor bolt, turnbuckle, guy wire, sleeve light, clamp, bolt), max height of 12m), (3 full duplex controller, 2 full duplex controller RMP, 12 airfiber5x HD (dimension: 224x82x48mm, .35kg, power supply:24V 1A Gigabit PoE Adapter, weatherproofing: IP67, GPS Antenna: external magnetic base, processor: airFiber LTU IC, OS: airOSLTU), 8 Disk 34 dbi, 4 disk 30 dbi, 8 radome disk cover 1meter, 4 radom disk cover 0.6meter, 8 surge protector, 8 disk bracket, 2 roll, Cat5E STP Outdoor (STP CABLE, shielded, outdoor, Cable CAT5e; Ethernet Support Up to 1 Gbps; Conductor Wire Gauge: 24 AWG; Conductor Solid Bare Copper; Conductor Diameter: 0.500 ± 0.005 mm; Insulation Type: Solid PE; Insulation Thickness AVG: 0.26 mm, MIN: 0.25 mm; Insulation Diameter: 1.04 ± 0.03 mm; Separation (Polyester Wrapping) Thick: 0.025 mm, Extent: 20 mm; Anti-Crosstalk Divider None; Cable Shield (Aluminum Foil) Thick: 0.060 mm, Extent: 18 mm; ESD Drain Wire 0.4 CCS; Rip Cord Yes; Jacket Material PE; Jacket Thickness AVG: 0.50 mm, MIN: 0.46 mm; Jacket Outer Diameter 6.0 ± 0.30 mm; Jacket Color Black; Reference Standard ISO/IEC 11801, TIA/EIA568B.2), 12 phase converter), unit disk capable to broadcast minimum of 100mbps, able to cater CCTV broadcast and live streaming video, w/ installation or Fiber optic technologies with a minimum bandwidth of 1G, able to accommodate CCTV broadcast and live streaming video between campuses. *(Supplier may submit equivalent or alternative proposal on this item that is fit to their proposal).*		
	2) **20 IP Radios**, minimum bandwidth of 100mpbs (installed in Industrial pole with pole step, lightning arrester, pole light, anchor bolt, turnbuckle, guy wire, sleeve, max height 4m, properly configured and functional), or Fiber Optic Technologies, 1G bandwidth. The Main objective is to interconnect buildings in every campus to form a Local Area Network-*see attached photo. (Supplier may submit equivalent or alternative proposal on this item that is fit to their proposal).*		
	3) **33 Access point,** UniFi AP Pro, 802.11AC Dual-Radio Access Points, Dimensions 200 x 200 x 36.5 mm; Weight, 298 g (358 g with Mounting Kits); Networking Interface (2) 10/100/1000 Ethernet Ports; Buttons Reset; Wi-Fi Standards 802.11 a/b/g/n; Power Method Passive Power over Ethernet (48V), 802.3af Supported; Power Supply 48V, 0.5A PoE Adapter (Included); Maximum Power Consumption 12 W; BSSID Up to Four Per Radio; Power Save Supported; Wireless Security WEP, WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i; Certifications CE, FCC, IC; Mounting Wall/Ceiling (Kits Included); Operating Temperature -10 to 70°C; Operating Humidity 5 - 80% Condensing, properly installed and configured. *(Supplier may submit equivalent or alternative proposal on this item that is fit to their proposal).*		
	4) **Access Controller/s** to serve the 3 campuses. *(Supplier may submit equivalent or alternative proposal on this item that is fit to their proposal).*		

	5)	**Network Firewall** to cater the 3 campuses, dimension:1.72 x 17.2 x 11.288 in., weight:8 lb (3 kg), form factor:1 rack unit (RU), 19-in. rackmountable, Stateful inspection throughput (maximum): 1.8 Gbps, Stateful inspection throughput (multiprotocol):900 Mbps, Triple Data Encryption Standard/Advanced Encryption Standard (3DES/AES) VPN throughput: 250 Mbps, users/nodes: unlimited, serial poorts:1 RJ-45 and Mini USB console,memory:8gb, minimum system flash:8gb, maximum heat dissipation:123 Btu/hr, maximum concurrent sessions:250,000, w/ license software, license and updated CISCO Firepower Threat defense and CISCO ASA other license, installation, configuration and training on firewall and vpn. *(Supplier may submit equivalent or alternative proposal on this item that is fit to their proposal).*		
	6)	**Authentication Server** to serve as Captive Portal for the 3 campuses, Rack Mount type, Not Clone *(supplier may submit equivalent proposal on this item).*		
	7)	**SWITCH, 24 ports,** Switch POE/Non-PoE, Dimensions 443 x 43 x 221 mm (17.44 x 1.69 x 8.70"); Weight; Rack-Mount Brackets Included; Rack-Mount Brackets Excluded; 2.6 kg (5.7 lb); 2.51 kg (5.53 lb); Total Non-Blocking Throughput 26 Gbps; Switching Capacity 52 Gbps; Forwarding Rate 38.69 Mpps; Max. AC Power Consumption 25W; Power Method; AC/DC 100-240VAC/50-60 Hz, Universal Input, *(Supplier may submit equivalent or alternative proposal on this item that is fit to their proposal 3 POE switch for Radio proposal/17 non-poe switch for fiber optic proposal/or its equivalent).*		
	8)	**Network Management Laptop**: Processor: Intel Core i7-8300H 2.30 GHz Processor (8M Cache, up to 4.00 GHz),Operating System: Windows 10 Home license, Chipset: Intel® HM370 Express Chipsets, Memory: 8GB DDR4 2666MHz SDRAM, 2 x SO-DIMM socket , up to 32 GB SDRAM, Display: 15.6" (16:9) LED backlit FHD (1920x1080) 120Hz Anti-Glare Panel with 94% NTSC, Graphic: NVIDIA GeForce GTX 1050, 4GB GDDR5 VRAM, Storage: 1TB + 8GB SSHD, Keyboard: Illuminated Chiclet Keyboard, WebCam: HD Web Camera, Wi-Fi: Integrated 802.11 AC (2x2) ,Bluetooth: Built-in Bluetooth V4.0,Interface: 1 x COMBO audio jack, 1 x Type A USB2.0, 2 x USB 3.0 port(s) Type A, 1 x RJ45 LAN Jack for LAN insert, 1 x HDMI, Support HDMI 1.4, Audio: DTS® Headphone: X, Support Windows 10 Cortana with Voice, Battery: 3 Cells 48 Whrs Battery, model: TUF FX504GD-EN045T,Warranty: 2 Years Warranty, w/ back pack		
		Installation of the metal cable raceway, (Metal cable raceway will be provided by the University except for the materials for installation like tox, nails, metal hangir)		
		KSU will evaluate the quotation/proposals of the supplier based on the technical specification in terms of data transfer rate, technology used and durability of the proposed technology. The final decision must be always in favor to the University.		
		Contractor must have an NTC License or its equivalent.		
		Contractor employee must have skills certification or its equivalent to accomplish the job.		
		1 year warranty or higher on equipment and configuration.		
Lot 2		**Various ICT Equipment, Peripherals and Accessories**		
	1)	2 units **COMPUTER GRAPHIC DESKTOP with license Windows 10 operating system**, 64bit, perpetual license adobe CS6, license anti-virus, perpetual license office suites 2016, hardware specifications: Processor: Intel® Core™ i7-8700 Processors, 3.2GHz (12M Cache, up to 4.6 GHz), chipset: Intel® H310,Memory:8 GB Up to 16 GB DDR4 at 2666MHz 2 x DIMM, Storage / Hard Disk: 3.5" 1TB Hard Drive (7200RPM) M.2 128GB SSD, power supply:300 W Power adaptor, Display Screen: 34" Full HD LED 1920x1080,Graphics/Video Processor: NVIDIA® GeForce GTX 1050 2GB (1HDMI,1DVI,1DP), expansion slot:1 x PCI-e 2.0 x16 & 1 x M.2 *2 & 1 x M.2 *3 & 1 x PCI-e x 1, sata:4 x SATA 6Gb/s ports, wireless data network:802.11 a/b/g/n/ac (Optional) , Bluetooth® 5.0, audio: Realtek ALC887 & DTS® Headphone: X®, dimension:179.4 x 363.98 x 419.24 mm (WxDxH), weight:8 kg, Pointing Device: USB Optical Mouse, Input Device: Standard full-sized USB keyboard with numeric keypad, **All external components (e.g. casing/system unit, display, keyboard, mouse) are of the same brand. Computer Voltage Regulator: 220 VAC, 3 years warranty;**		

	2)	21 sets **COMPUTER DESKTOP with license Win10 Pro 64bit operating system and antivirus,** specifications: Processor: i7, 3.4GHz (8M Cache, up to 4.00GHz),Memory: 8GB Upgradable to 16GB of dual-channel, Storage / Hard Disk: 1TB SATA HDD, Display Screen: 21.5" Full HD LED 1920x1080,Graphics/Video Processor: 2GB video card, 1920 x 1080,Pointing Device: USB Optical Mouse Input Device: Standard full-sized USB keyboard with numeric keypad**, All external components (e.g. casing/system unit, display, keyboard, mouse) are of the same brand. Additional: Computer Voltage Regulator: 220 VAC, with 100m cable zip wrap, 1 unit vacuum cleaner** (specs:12' cord length, 2.5" diameter hose size, blower feature, 12 gallon size, 5.5 peak high pressure)		
	3)	2 units **PRINTER,** model:L1300, print method: on demand ink jet, nozzle configuration:360 nozzles Black, 59 nozzles each colour (Cyan, Magenta, Yellow), print direction: Bi-directional printing, Uni-directional printing, maximum resolution:5760 x 1440 dpi (with Variable-Sized Droplet Technology), maximum ink droplet volume:3pl, input capacity:100 sheets, A4 Plain paper (75g/m²), 20 sheets, Premium Glossy Photo Paper, output capacity:50 sheets, A4 Plain paper, 30 sheets, Premium Glossy Photo Paper , paper size: A3+, A3, B4, A4, A5, A6, B5, 10x15cm (4x6), 13x18cm (5x7"), 16:9 wide size, Letter (8.5x11"), Legal (8.5x14"), Half Letter (5.5x8.5"), 9x13cm (3.5x5"), 13x20cm(5x8"), 20x25cm(8x10"), Envelopes: #10(4.125x9.5") DL(110x220mm), C4 (229x324mm, C6(114x162mm), weight: 12.2 kg, dimension:27.8"x12.7"x8.5", w/ genuine ink (black, cyan, magenta, yellow)		
	4)	2 pieces **DJI Phantom 4 Series Intelligent flight battery,** capacity:5870 mAh, voltage:15.2 V, battery type: LiPo 4S, energy:89.2 Wh, net weight:468 g, charging temp range: 41° to 104°F (5° to 40°C), maximum charging power: 100 W		
	5)	1 set **DSLR Camera,** Professional, megapixel & sensor:24.2MP APS-C CMOS Sensor, mount: Canon EF; Canon EF-S, LCD screen: 3" Rear Touchscreen Swivel LCD (1,040,000), video recording: 1920 x 1080p at 23.98, 29.97 fps (90 Mbps MOV); 1920 x 1080p at 59.94 fps (60 Mbps MOV); 1920 x 1080p at 23.98, 29.97 fps (30 Mbps MP4); 1920 x 1080p at 29.97 fps (12 Mbps MP4); 1280 x 720p at 59.94 fps (26 Mbps MP4); 1280 x 720p at 29.97 fps (4 Mbps MP4), flash: Built-In, external flash: Hot Shoe, focus: Auto; Manual; Continuous Auto, ISO: Auto, 100-16000 (Extended Mode: 100-25600), continuous shooting: Up to 7 fps at 24.2 MP for up to 25 frames in raw format; Up to 7 fps at 24.2 MP for up to 110 frames in JPEG format; Up to 3 fps at 24.2 MP, shutter speed:30 - 1/8000 Second , Bulb Mode, touch screen: Yes, wireless function: Built-In Wi-Fi with NFC, view finder:22.00 mm Pentaprism, card slot: SD; SDHC; SDXC, dimension:5.5 x 4.1 x 3.1" / 139.0 x 105.2 x 78.5 mm, power battery:LP-E6N Rechargeable Lithium-Ion Battery Pack, 7.2 VDC, 1865 mAh, color: black, **LENS:** filter size: Front: 67 mm, focal length:18 - 135mm Comparable 35mm Focal Length: 28.8 - 216 mm, focus:1.28'; (39 cm), aperture: Maximum: f/3.5 - 5.6, angle view:74° 20' - 11° 30', **ACCESSORIES:** 2 x 32GB memory card, 1 extra battery pack, 1 travelling bag, and 1 tripod, 1 hot shoe flash, lens filter, cleaning kit, remote and trigger		
	6)	1 set **COMPUTER SERVER BLADE with perpetual license,** Win2012 R2 server operating system and license anti-virus, processor: Intel® Xeon® E3-1220 v6 3.0GHz 4C/4T, Turbo, 72W, TPM, cache memory:8M Cache, memory:8GB DDR4 UDIMM, 2400 MT/s Single Rank, network controller: On-Board LOM 1GBE Dual Port (BCM5720 GbE LOM), storage controller: PERC H330 Integrated RAID Controller, hard drive: 2 x 1TB 7.2K RPM SATA 6Gbps 3.5in Hot-Plug Hard Drive, optical drive: DVD+/-RW, SATA, Internal, power supply: Single, Cabled Power Supply, 250W, management:iDRAC8, Express, form factor:1U Rack Server, 1U/2U Static Rails for 2-Post and 4-Post Racks, mouse: Kit - Dell Optical Mouse - MS116 - Black - S&P, keyboard: Kit - Dell Multimedia Keyboard (English) - KB216 - Black - S&P, warranty: 3 years		
	7)	1 lot **VIDEO CONFERENCING KIT:** model:300-720p, modem:(type: wired, max transfer rate:6mbps, digital signaling protocol:H.225, H.239, H.281, H.323, H.460, SIP, data compression protocol:G.711, G.722, G.722.1, G.728, G.729.A, features: auto gain control, echo cancellation), video input(type: Digital video camera (color) - external, digital video capture resolution:1920 x 1080),video output (type: Codec board - external, max external resolution:1920 x 1200, supported display raphics:1280x720, 1680x1050, 1920x1200, HDTV (1920x1080), SXGA (1280x1024), SXGA+ (1400x1050), VGA		

	(640x480), XGA (1024x768), digital video standard: High-Definition Multimedia Interface (HDMI)), input device (type: remote control, connectivity tech: wireless), networking(type: network adapter, connectivity tech: wired, data link protocol: Ethernet, Fast Ethernet, Gigabit Ethernet, features: auto-uplink (auto MDI/MDI-X), environmental parameters (Min Operating Temperature:32 °F, Max Operating Temperature:104 °F, Humidity Range Operating:15 - 80%), warranty: 1 year		
8)	1 lot **AUDIO RECORDING KIT**: DR-60DmkII 4-Channel Portable Recorder for DSLR, Professional lavalier condenser microphone,16GB SDHC memory card, Samson stereo headphones, Cleaning accessories, 4 AA rechargeable batteries with charger, Auxiliary wire, Microfiber Cleaning cloth, blower brush		
9)	2 rolls **CAT5E CABLES,** CAT5e+ (350MHz), 4-Bonded-pairs, U/UTP-unshielded, Plenum-CMP, Premise Horizontal cable, 24 AWG solid bare copper conductors, FEP insulation, ripcord, Flamarrest® PVC jacket		
10)	25 pieces **RJ 45 with metal jacket**, with ready ground clip		
11)	1 unit **PENETRATION TESTING DEVICE**, Quad-core ARM Cortex A7, 32 K L1/512 K L2 Cache, 512 MB DDR3 Memory, 8 GB SLC NAND Disk, Case Dimensions: 56 x 27 x 14.7 mm sans USB plug. With USB plug it's 70 mm long, with installation, configuration and training		
12)	1 lot **LUMETA IPSONAR 6.2,** provides a clear understanding of entire routed infrastructure and confirmation that all assets are under security management, with installation, configuration and training		
13)	1 lot **INTRUSION DETECTION with license software and bandwidth manager**, CPU:TLR4-03680, CPU core count:36, CPU nominal frequency:1.2 GHz, dimensions:355x145x44mm, license level:6, operating system: routerOS, RAM:16gb, storage size:1gb, storage type: NAND, max power consumption:74w, 10/100/1000 Ethernet ports:8, SFP+ ports:2, memory card type: microSD 32gb, memory cards:1, serial port: RS232, peripherals, configuration and training on IDS and bandwidth management		
14)	2 units **GENERATOR SET**, type: brush (AVR) single phase, frequency:60, rated output:8800, output receptacle:50amp range and 14-150r, fuel: diesel, runtime@75% load:7hours, gross weight:195kg, voltage:120/240, surge output:1100, rated current:36.6, DC 12v output: Yes, fuel tank capacity:25L, dimension(LxWxH)(mm):870x630x700, warranty: 3 years, with installation		
15)	2 sets **LINEMAN SAFETY HARNESS**, Belt: 45mm X 1.33m, Nylon Belt Webbing: 45mmx 1.69m, Nylon Webbing,1 x buckle 3 x "D" ring, 1 x adjusting loop ,2 x CE Mark Double-lock snap hook (H-2102,Φ18mm),1 x rope hook bag,2 x bundle of belt,1X cove, and full body harness: Belt: 45mm X1.33m Nylon Belt, Webbing: 45mmx 1.69m Nylon Webbing, complies to CE and ANSI approved standards, Meets EN 361/EN 358/EN 362/EN 12275/EN 354/EN 355 Standards, Manufactured by ISO 9001:2008 Certified company		
	Other Requirements:		
	(Optional) Actual visit/survey/interview to the site is encourage particularly on the inter-campuses' LAN implementation.		
	Antenna tower must be able to stand signal number 4 typhoon.		
	All equipment and components should be branded (not clone, imitation or assembled) and brand new		
	Availability of parts in local market by local distributor		
	The supplier must have been in IT business for at least five (5) years and is an authorized service partner and reseller of the product/unit being offered.		
	All software to be delivered / installed must have Manufacturer's Certification and proof that product licenses are genuine and acquired from legitimate distributor (e.g. Certificate of Authenticity, Proof of Purchase, Paper License, Certification from authorized distributor)		
	For DESKTOP AND SERVER, 1TB HDD: Installation of the operating system in 500GB partition (50%). Remaining partition for data files (NTFS).		

	Software must be pre-installed, pre-activated and updated. For recovery purpose, included are copies of the image file for the whole hard disk drive. Perpetual license of the recovery software must be included, if needed.		
	Includes delivery, deployment, hardware setup, installation, configuration, integration with the existing system, testing and commissioning of IT equipment in KSU		
	No installation of trial version, evaluation copy, time-limited software, unauthorized/inappropriate licenses and counterfeit products.		
	Deactivation of unnecessary applications that affect CPU performance as determined by the Office. Final approval of the office for the settings and configuration of the PC before deployment to end-user.		
	For malfunctioned hard disk drive / storage device, retention or custody of the defective media/ hard disk drive by procuring office in case of replacement under warranty at no additional cost.		
	Customization of the start-up logo during boot-up to display the official logo of the office located at the middle occupying at least 30% of the screen.		
	Training with training manual		
	Brochure/catalogue indicating the brand name and model of bid item/s as additional technical requirements		
	3 years warranty of service and device/equipment (It will start after the turn-over and training of the end-user)		
	The winning bidder must show and ask for approval from KSU TWG on their plan on the task before they proceed to the implementation stage of the network or show their specification of the items (specification must include brand name and model) to the KSU TWG before procurement and delivery of the item, KSU TWG will check if the item/s are equal or above the prescribed specifications.		
	One (1) month testing of the delivered and installed ICT equipment before KSU will pay the full amount and issue the user acceptance test.		
	After Sales Requirements:		
	After sales training at the procuring entity's school after the completion of delivery. Includes the training/ knowledge transfer (operator/user training) on the use/operation of the unit.		
	Under warranty coverage: If unrepairable within 7 days, a free service backup unit (1:1) or service spare part of the same or higher specification must be provided by the supplier until defective unit / part is considered repaired/replaced.		
	Supplier/bidder must have an official website and capable of receiving request for technical support / service by phone and by supplier's official corporate email account.		
	Monday to Friday, office hours technical support and service		
	With Customer Service division/section of at least 5 years' experience in IT business and after-sales service and support.		
	Capable of providing technical service/assistance within 24 hours OR next business day on-site (NBDOS) service warranty.		
	With reliable ticketing/monitoring system/procedure capable of monitoring all received service request based on issued report/incident number for proper monitoring and tracing.		

I hereby certify to comply with all the above Technical Specifications.

_____   _____   _____
    Name of Company/Bidder   Signature Over Printed Name   Date
                              of Representative