



Government of Maharashtra

Skill, Employment, Entrepreneurship and Innovation Department



Directorate of Vocational Education and Training, Maharashtra State
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MODEL SPECIFICATION OF COPA Trade

SKILL ENHANCEMENT IN THE STATE AND FOR STRENGTHENING THE NECESSARY INFRASTRUCTURE

Tools & Equipment's for COPA Lab



**OPTION 01: DESKTOP COMPUTER WITH WIRED KEYBOARD AND MOUSE**

Name of Item	Desktop Computer (COPA/A-1/A-01 – Desktop Computer)	DVET Product Code
Category	Machinery	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)**B. Specification:**

1. Supplying and Installation of Desktop Computer from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

2. Manufacturer Details:

Brand	HP, Acer, Asus, Dell, Lenovo
Country of Origin	India
Country of Manufacturer	India

3. Processor:

Processor Make	Intel
Processor Generation	10
Number of Cores per Processor	8
Processor Base Frequency (GHz)	3.8
Processor Description	Intel Core i7
Processor Number	Intel Core i7 10700K
Out of Band Management	NA
Cache (MB)	16



4. Motherboard:

Chipset Series	Intel H Series
Chipset Number	Intel Q 470
Expansion Slots (PCIe x 1) (Number)	01
Expansion Slots (PCIe x 4) (Number)	00
Expansion Slots (PCIe x 16) (Number)	01
Expansion Slots (PCI) (Number)	00
Expansion Slots (M Dot 2)	00

5. Operating System:

Operating System (Factory Pre-Loaded)	Windows 10 Professional or Latest
Recovery Image Media	NA
OS Certification	Windows

6. Memory:

Type of RAM	DDR4
RAM Size (GB)	16
RAM Speed (MHz)	2666
Total Numbers of DIMM Slots	2
Available Number of DIMM Slots populated	1
RAM Expandability up to (using spare DIMM Slots in GB)	64

7. Storage:

Total Number of Internal Bays available	3
Number of 2 point 5 inches internal Bays	02
Number of 3 point 5 inches Internal Bays	01
Number of 2 point 5 Inches Internal Bays Populated	0
Number of 3 point 5 Inches Internal Bays Populated	01
Type of Drives used to populate the Internal Bays	HDD, SSD, SSHD, SSED, PCIe, SSD
Number of Internal Bays populated with HDD	1
Capacity of each HDD (GB)	1000 @7200 rpm
Total HDD Capacity (GB)	1000
Number of Internal Bays populated with SSD	1
Capacity of each SSD (GB)	512 GB M.2 NVMe PCIe 3.0 SSD
Total SSD Capacity (GB)	512 GB



	Number of Internal Bays populated with SSHD	0	
	Capacity of each SSHD (GB)	NA	
	Total SSHD Capacity in addition to 8 GB Flash (GB)	0	
	Number of Internal Bays populated with SSED	0	
	Capacity of each SSED (GB)	0	
	Total SSED Capacity (GB)	0	
	Optane Memory (GB)	0	
8.	Graphics:		
	Type	NVIDIA	
	Processor	NVIDIA GeForce GTX 1650	
	Capacity (GB)	4	
9.	Cabinet:		
	Cabinet Form Factor	SFF (7 to 13 Litres)	
	Cabinet Volume (Litres)	10	
	External Bays (Number)	0	
	Optical Drive	NA	
	Internal Speaker	Yes	
	Audio-in	Yes	
	Audio-out	Yes	
	Headphone out	Yes	
	Microphone-in	Yes	
10.	Connectivity:		
	Wireless Connectivity	Yes	
	If Yes, Type of Wireless Connectivity	Wi-Fi 5 (802.11ac)	
	Number of Ethernet Ports	1	
	Type of Ethernet Ports	10/ 100/ 1000 on board Integrated Gigabit Port (RJ45 Gigabit Ethernet)	
	Bluetooth Connectivity	Yes	
	If Yes, Version of Bluetooth Available	Bluetooth 5.0	
11.	Ports:		
	Number of USB Version 2 Point 0 Ports	2	
	Number of USB Version 3 point 0 / 3 point 1, Gen 1 Ports	6	
	Number of USB Version 3 point 1, Gen 2 Ports	1	
	Number of USB Type C Ports	2	
	Number of Serial Ports	0	
	Number of Parallel Ports	0	



	Number of VGA Ports	1
	Number of HDMI Ports	1
	Number of DP Ports	1
12.	Monitor:	
	Monitor Technology	IPS /TN
	LED Backlit Monitor Size (INCHES)	19.5
	Monitor Resolution (PIXELS)	1600 x 900
	TCO Certification for Monitor	NA
	Number of VGA Ports in the Monitor	1
	Number of HDMI Ports in the Monitor	1
	Number of Display Ports in the Monitor	1
	Availability of Webcam integrated with Monitor	No
	If Yes, Resolution of Webcam	No
	Availability of Speakers integrated with Monitor	No
	If Yes, Number of Speakers available	NA
13.	Power:	
	Power Supply Capacity (Watt)	418
	Minimum Power Efficiency Range (%)	90 - 94
14.	Certification:	
	ROHS Compliance	Yes
	BEE / Energy Star for the given Model	No
15.	Input Devices:	
	Mouse Connectivity	USB Wired
	Type of Mouse	Optical Scroll
	Keyboard Connectivity	USB Wired
	Type of Keyboard	Standard
16.	Operating Conditions:	
	Minimum Operating Temperature	10 degree Celsius
	Maximum Operating Temperature	40 degree Celsius
	Minimum Operating Humidity (%RH)	10
	Maximum Operating Humidity (%RH)	90
17.	Warranty:	
	On Site OEM Warranty (Year)	3 / 5 / 7



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Anti-Virus	Yes
MS Office	Yes



**OPTION 02: ALL IN ONE PC WITH WIRED KEYBOARD AND MOUSE**

Name of Item	ALL IN ONE PC (COPA/A-1/A-01 – Desktop Computer)	DVET Product Code
Category	Machinery	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)**B. Specification :**

1. Supplying and Installation of Desktop Computer from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

2. Manufacturer Details:

Brand	HP, Acer, Asus, Dell, Lenovo
Country of Origin	India
Country of Manufacturer	India

3. Processor:

Processor Make	Intel
Processor Generation	12
Number of Cores per Processor	8
Processor Base Frequency (GHz)	3.8
Processor Description	12th Gen Intel Core i7-12700 Processor
Processor Number	Intel Core i7 12700K
Out of Band Management	NA
Cache (MB)	16



4. Motherboard:

Chipset Series	Intel Q Series
Chipset Number	Q 670
Expansion Slots (PCIe x 1) (Number)	0
Expansion Slots (PCIe x 4) (Number)	0
Expansion Slots (PCIe x 16) (Number)	1
Expansion Slots (PCI) (Number)	0
Expansion Slots (M Dot 2)	0

5. Operating System:

Operating System (Factory Pre-Loaded)	Windows 11 Professional
Recovery Image Media	CD from the OEM / Stored in Partition of the Hard Disk / USB Drive from the OEM / On Line / Cloud
OS Certification	Windows

6. Memory:

Type of RAM	DDR4
RAM Size (GB)	16
RAM Speed (MHz)	3200
Total Numbers of DIMM Slots	2
Available Number of DIMM Slots populated	1
RAM Expandability up to (using spare DIMM Slots in GB)	8

7. Storage:

Total Number of Internal Bays available	1
Number of 2 point 5 inches internal Bays	0
Number of 3 point 5 inches Internal Bays	0
Number of 2 point 5 Inches Internal Bays Populated	0
Number of 3 point 5 Inches Internal Bays Populated	0
Type of Drives used to populate the Internal Bays	HDD, SSD
Number of Internal Bays populated with HDD	1
Capacity of each HDD (GB)	1000 @7200 rpm
Total HDD Capacity (GB)	1000
Number of Internal Bays populated with SSD	1
Capacity of each SSD (GB)	512 GB M.2 NVMe PCIe 3.0 SSD
Total SSD Capacity (GB)	512 GB



Number of Internal Bays populated with SSHD	0
Capacity of each SSHD (GB)	NA
Total SSHD Capacity in addition to 8 GB Flash (GB)	0
Number of Internal Bays populated with SSED	0
Capacity of each SSED (GB)	0
Total SSED Capacity (GB)	0
Optane Memory (GB)	0
8. Graphics:	
Type	Integrated
Processor	UHD 770 Graphics
Size of VRAM in case of Integrated Graphics (MB)	128
9. Generic:	
External Bays (Number)	0
Optical Drive	Yes
Internal Speaker	Yes
Audio-in	No
Audio-out	No
Headphone out	Yes
Microphone-in	Yes
10. Connectivity:	
Wireless Connectivity	Yes
If Yes, Type of Wireless Connectivity	Wi-Fi 5 (802.11ac)
Number of Ethernet Ports	1
Type of Ethernet Ports	10/ 100/ 1000 on board Integrated Gigabit Port (RJ45 Gigabit Ethernet)
Bluetooth Connectivity	Yes
If Yes, Version of Bluetooth Available	Bluetooth 5.3
11. Ports:	
Number of USB Version 2 Point 0 Ports	0
Number of USB Version 3 point 0 / 3 point 1, Gen 1 Ports	2
Number of USB Version 3 point 1, Gen 2 Ports	3
Number of USB Type C Ports	1
Number of Serial Ports	0

[Type here]



Number of Parallel Ports	0
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[Type here]



Number of VGA Ports	0
Number of HDMI Ports	1
Number of DP Ports	1

12. Display:

Monitor Technology	IPS
Display Size (INCHES)	23.8
Display Resolution (PIXELS)	1920 x 1080
Availability of Webcam integrated with Display	Yes
If Yes, Resolution of Webcam	FHD
Availability of Speakers integrated with Display	Yes
If Yes, Number of Speakers available	2

13. Power Supply : External

Power Supply Capacity (Watt)	150
Minimum Power Efficiency Range (%)	85 - 90

14. Certification:

ROHS Compliance	Yes
BEE / Energy Star for the given Model	Yes

15. Input Devices:

Mouse Connectivity	USB Wired
Type of Mouse	Optical Scroll
Keyboard Connectivity	USB Wired
Type of Keyboard	Standard

16. Operating Conditions:

Minimum Operating Temperature	05 degree Celsius
Maximum Operating Temperature	35 degree Celsius
Minimum Operating Humidity (%RH)	5
Maximum Operating Humidity (%RH)	90

17. Warranty:

On Site OEM Warranty (Year)	3 / 5 / 7
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18. Additional:

Anti-Virus	Yes
MS Office latest version	Yes



02. Laptop Option 01: Laptop i7

Name of Item	Laptop (COPA/A-1/A-02- Laptop)	DVET Product Code
Category	Machinery	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification:

1. Supplying and Installation of Laptop from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

2. Manufacturer Details:

Brand	HP, Acer, Asus, Dell, Lenovo
Country of Origin	India
Country of Manufacturer	India

3. Processor

Processor Make	Intel
Processor Generation	12
Number of Cores per Processor	10
Processor Base Frequency (GHz)	1.8
Processor Description	Intel Core i7
Processor Number	Intel Core i7 1265U
Out of Band Management	Intel vPro
Cache (MB)	12

4. Construction

Form Factor	Standard
Chassis Material	Carbon Fibre
Hinges	Metallic

5. Motherboard

Expansion Slots (M Dot 2)	2
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6. Graphics



Graphics Type	Integrated
Graphic Card Description	Inte Iris Xe GFX
Size of Memory in Case of Dedicated Graphic Card (GB)	0
Size of VRAM in case of Integrated Graphics (MB)	0

7. Operating System

Operating System (Factory Pre-Loaded)	Windows 11 Professional
Recovery Image Media	NA
OS Certification	Windows

8. Memory

Type of RAM	DDR4
RAM Size (GB)	16
RAM Speed (MHz)	3200
Total Numbers of DIMM Slots Available	2
Number of DIMM Slots populated	1
RAM Expandability up to(using spare DIMM Slots in GB)	64

9. Storage

Type of Drives used to populate the Internal Bays	SSD
Number of Internal Bays populated with HDD	0
Capacity of each HDD (GB)	NA
Total HDD Capacity (GB)	0
Number of Internal Bays populated with SSD	1
Capacity of each SSD (GB)	1024
Total SSD Capacity (GB)	1024
Number of Internal Bays populated with SSHD	0
Capacity of each SSHD (GB)	NA
Total SSHD Capacity in addition to 8 GB Flash (GB)	0
Number of Internal Bays populated with SSED	0
Capacity of each SSED (GB)	0
Total SSED Capacity (GB)	0
Optane Memory (GB)	0

10. Connectivity

Wireless Connectivity	Yes
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If Yes, Type of Wireless Connectivity	Wi-Fi 6E AX211+ BT 5.3
Number of Ethernet Ports	1
If available, Type of Ethernet Ports	10/100/1000 on board Integrated Gigabit Port
Bluetooth Connectivity	Yes
If Yes, Version of Bluetooth Available	5.3

11. Ports

Number of USB Version 2 Point 0 Ports	0
Number of USB Version 3 point 0 / 3 point 1, Gen 1 Ports	2
Number of USB Version 3 point 1, Gen 2 Ports	0
Number of USB Type C Ports	0
Number of Serial Ports	0
Number of VGA Ports	0
Number of HDMI Ports	1
Number of DP Ports	0
Number of Thunderbolt Port	2

12. Display

Display Size (Inch)	14
Display Type	Non Touch
Display Technology	LED HD Backlit Antiglare
Panel Technology	VA
Display Resolution (Pixels)	1920x1080
Availability of Webcam integrated with Display	Yes
If Yes, Resolution of Webcam	FHD
Infra Red Webcam	No

13. Miscellaneous

Optical Drive	Yes
Type of Optical Drive	CD/RW drive
Internal Speaker (Dual)	Yes
Audio-in	No
Audio-out	Yes
Headphone out	Yes
Microphone-in	Yes
Type of Keyboard	Standard
Backlit Keyboard	Yes
Spill Resistant Keyboard	Yes



Pointing Device/Touchpad	Touchpad with multi-touch gestures enabled
Finger Print Reader	Yes
Hardware Trusted Platform Enabled	Yes
Carry Case	Yes
If Yes, Type of Carry Case	Back Pack
Security Lock Slot	Yes
If Yes, Availability of Cable Lock	No
Weight (Including Battery) (Kilogram)	1.4

14. Power

Battery Type	Integrated
Battery Chemistry	Li - Polymer
Battery Capacity (Watt Hour)	58
Battery Backup Time (Hours)(Value exactly as per Mobile Mark 2014 to be indicated)	8

15. Certification

BIS Registration under CRS of Meity	Yes
BIS Registration Number and its validity	R- 61001830
BEE / Energy Star for the given Model	Yes
ROHS Compliance	Yes
Other Certifications available	UL,CE,FCC
Operating Conditions	
Minimum Operating Temperature	0 degree Celsius
Maximum Operating Temperature	35 degree Celsius
Minimum Operating Humidity (%RH)	10
Maximum Operating Humidity (%RH)	90

16. Warranty

Battery Warranty	3
On Site OEM Warranty (Year)(OEM/ Authorised channel partner shall note that W/G to be fulfilled by OEM at site)	3

17. Additional:

Anti-Virus	Yes
MS Office latest version	Yes



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02. Laptop Option 2: Laptop i5

Name of Item	Laptop Intel Core i5 14 Inch Laptop (Windows 11 Professional) (COPA/A-1/A-02- Laptop)	DVET Product Code
Category	Machinery	BIS CODE
Name of Sector	IT/ ITES	Date
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification:

1. Supplying and Installation of Laptop from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

2. Manufacturer Details:

Brand	HP, Acer, Asus, Dell, Lenovo
Country of Origin	India
Country of Manufacturer	India

3. Processor:

Processor Make	Intel
Processor Generation	12
Number of Cores per Processor	10
Processor Base Frequency (GHz)	1.3
Processor Description	Intel Core i5
Processor Number	Intel Core i5 1235U
Out of Band Management	NA
Cache (MB)	12
Construction	
Form Factor	Standard
Chassis Material	Alluminium
Hinges	Metallic

4. Motherboard

Expansion Slots (M Dot 2)	2
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5. Graphics



Graphics Type	Integrated
Graphic Card Description	Intel Iris Xe GFX
Size of Memory in Case of Dedicated Graphic Card (GB)	0
Size of VRAM in case of Integrated Graphics (MB)	128

6. Operating System

Operating System (Factory Pre-Loaded)	Windows 11 Professional
Recovery Image Media	CD from the OEM / Stored in Partition of the Hard Disk / USB Drive from the OEM / On Line / Cloud
OS Certification	Windows

7. Memory

Type of RAM	DDR4
RAM Size (GB)	8
RAM Speed (MHz)	3200
Total Numbers of DIMM Slots Available	2
Number of DIMM Slots populated	1
RAM Expandability up to(using spare DIMM Slots in GB)	32

8. Storage

Type of Drives used to populate the Internal Bays	SSD
Number of Internal Bays populated with HDD	0
Capacity of each HDD (GB)	NA
Total HDD Capacity (GB)	0
Number of Internal Bays populated with SSD	1
Capacity of each SSD (GB)	1024
Total SSD Capacity (GB)	1024
Number of Internal Bays populated with SSHD	0
Capacity of each SSHD (GB)	NA



Total SSHD Capacity in addition to 8 GB Flash (GB)	0
Number of Internal Bays populated with SSED	0
Capacity of each SSED (GB)	0
Total SSED Capacity (GB)	0
Optane Memory (GB)	0

9. Connectivity

Wireless Connectivity	Yes
If Yes, Type of Wireless Connectivity	Wi-Fi 6E AX211+ BT 5.3
Number of Ethernet Ports	1
If available, Type of Ethernet Ports	10/100/1000 on board Integrated Gigabit Port
Bluetooth Connectivity	Yes
If Yes, Version of Bluetooth Available	5.3

10. Ports

Number of USB Version 2 Point 0 Ports	0
Number of USB Version 3 point 0 / 3 point 1, Gen 1 Ports	3
Number of USB Version 3 point 1, Gen 2 Ports	0
Number of USB Type C Ports	1
Number of Serial Ports	0
Number of VGA Ports	0
Number of HDMI Ports	1
Number of DP Ports	0
Number of Thunderbolt Port	0

11. Display

Display Size (Inch)	14
Display Type	Non Touch
Display Technology	LED HD Backlit Antiglare
Panel Technology	IPS
Display Resolution (Pixels)	1920x1080
Availability of Webcam integrated with Display	Yes
If Yes, Resolution of Webcam	HD
Infra Red Webcam	No

12. Miscellaneous

Optical Drive	Yes
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Type of Optical Drive	N/A
Internal Speaker (Dual)	Yes
Audio-in	No
Audio-out	No
Headphone out	Yes
Microphone-in	Yes
Type of Keyboard	Standard
Backlit Keyboard	Yes
Spill Resistant Keyboard	Yes
Pointing Device/Touchpad	Touchpad with multi-touch gestures enabled
Finger Print Reader	Yes
Hardware Trusted Platform Enabled	Yes
Carry Case	Yes
If Yes, Type of Carry Case	Back Pack
Security Lock Slot	Yes
If Yes, Availability of Cable Lock	No
Weight (Including Battery) (Kilogram)	1.38

13. Power

Battery Type	Integrated
Battery Chemistry	Li - Polymer
Battery Capacity (Watt Hour)	51
Battery Backup Time (Hours)(Value exactly as per Mobile Mark 2014 to be indicated)	13

14. Certification

BIS Registration under CRS of Meity	Yes
BIS Registration Number and its validity	R-61001830
BEE / Energy Star for the given Model	Yes
ROHS Compliance	Yes

15. Operating Conditions

Minimum Operating Temperature	0 degree Celsius
Maximum Operating Temperature	35 degree Celsius
Minimum Operating Humidity (%RH)	10
Maximum Operating Humidity (%RH)	90

16. Warranty

Battery Warranty	3
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On Site OEM Warranty (Year)(OEM/ Authorised channel partner shall note that W/G to be fulfilled by OEM at site)	3
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17. Additional:

Anti-Virus	Yes
MS Office latest version	Yes

03. Wi-Fi Router (With Wireless Connectivity)

Name of Item	Internet connection Wi-Fi Router (Minimum 100 Mbps speed) SERIAL NO. A-1/03	DVET Product Code
Category	Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification

1.	Supplying and Installation of “ Internet connection Wi-Fi Router (Minimum 100 Mbps speed) ” from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.						
2.	<p>Wi-fi Router</p> <p>Wireless routers are the hardware devices that Internet service providers use to connect you to their cable or xDSL Internet network. A wireless router, also called a Wi-Fi router, combines the networking functions of a wireless access point and a router.</p> <p>A router connects local networks to other local networks or to the Internet. A wireless access point connects devices to the network wirelessly, using radio frequencies in the 900 MHz and 2.4, 3.6, 5, and 60 GHz frequency bands. The latest wireless routers are based on the IEEE 802.11ac Wave 2 standard, often shortened to Wave 2.</p> <p>A wireless router is sometimes referred to as a WLAN (wireless local area network) device. A wireless network is also called a Wi-Fi network.</p>						
3.	<p>Manufacturer Details:</p> <table border="1"> <tr> <td>Brand</td> <td>TP-Link, D-Link, Tenda, or equivalent</td> </tr> <tr> <td>Country of Origin</td> <td>India</td> </tr> <tr> <td>Country of Manufacturer</td> <td>India</td> </tr> </table>	Brand	TP-Link, D-Link, Tenda, or equivalent	Country of Origin	India	Country of Manufacturer	India
Brand	TP-Link, D-Link, Tenda, or equivalent						
Country of Origin	India						
Country of Manufacturer	India						
4.	<p>Wireless</p> <table border="1"> <tr> <td>Standards</td> <td>Wi-Fi 5 IEEE 802.11ac/n/a 5 GHz IEEE 802.11n/b/g 2.4 GHz</td> </tr> <tr> <td>WiFi Speeds</td> <td>AC1200 5 GHz: 867 Mbps (802.11ac) 2.4 GHz: 400 Mbps (802.11n)</td> </tr> </table>	Standards	Wi-Fi 5 IEEE 802.11ac/n/a 5 GHz IEEE 802.11n/b/g 2.4 GHz	WiFi Speeds	AC1200 5 GHz: 867 Mbps (802.11ac) 2.4 GHz: 400 Mbps (802.11n)		
Standards	Wi-Fi 5 IEEE 802.11ac/n/a 5 GHz IEEE 802.11n/b/g 2.4 GHz						
WiFi Speeds	AC1200 5 GHz: 867 Mbps (802.11ac) 2.4 GHz: 400 Mbps (802.11n)						



WiFi Range	4× Fixed High-Performance Antennas Multiple antennas form a signal-boosting array to cover more directions and large areas Beamforming Concentrates wireless signal strength towards clients to expand WiFi range
WiFi Capacity	Medium Dual-Band Allocate devices to different bands for optimal performance MU-MIMO Simultaneously communicates with multiple MU-MIMO clients Airtime Fairness Improves network efficiency by limiting excessive occupation
Working Modes	Router Mode Access Point Mode
5. Hardware	
Processor	1.2 GHz CPU
Ethernet Ports	1× Gigabit WAN Port 4× Gigabit LAN Ports
Buttons	WPS/Wi-Fi Button Power On/Off Button Reset Button
Power	12 V = 1 A
6. Security	
WiFi Encryption	WPA WPA2 WPA3 WPA/WPA2-Enterprise (802.1x)
Network Security	SPI Firewall Access Control IP & MAC Binding Application Layer Gateway
Guest Network	1× 5 GHz Guest Network 1× 2.4 GHz Guest Network
7. Software	
Protocols	IPv4 IPv6
OneMesh	OneMesh Supported Without replacing your existing devices or buying a whole new WiFi ecosystem, OneMesh helps you create a more flexible network that covers your entire home.
Parental Controls	URL Filtering, Time Controls
WAN Types	Dynamic IP Static IP PPPoE PPTP L2TP
Quality of Service	QoS by Device
Cloud Service	OTA Firmware Upgrade, DDNS
NAT Forwarding	Port Forwarding, Port Triggering, DMZ, UPnP



	IPTV	IGMP Proxy, IGMP Snooping, Bridge, Tag VLAN
	DHCP	Address Reservation, DHCP Client List, Server
	DDNS	NO-IP, DynDNS
	Management	Tether App, Webpage
8.	Other	
	System Requirements	Internet Explorer 11+, Firefox 12.0+, Chrome 20.0+, Safari 4.0+, or other JavaScript-enabled browser Cable or DSL Modem (if needed)
	Certifications	FCC, CE, RoHS
	Environment	Operating Temperature: 0°C~40°C (32°F ~104°F) Storage Temperature: -40°C~70°C (-40°F ~158°F) Operating Humidity: 10%~90% non-condensing Storage Humidity: 5%~90% non-condensing
9.	Test Data	
	WiFi Transmission Power	CE EIRP: <20dBm(2.4GHz) <23dBm(5GHz) FCC: <30dBm(2.4GHz & 5GHz)
	WiFi Reception Sensitivity	5GHz: 11a 6Mbps:-93dBm ; 11a 54Mbps:-78dBm ; 11ac HT20 mcs8:69dBm;11ac HT40 mcs9:-65dBm; 11ac HT80 mcs9:-62dBm; 2.4GHz: 11g 54Mbps:-78dBm; 11n HT20 mcs7:-74dBm; 11n HT40 mcs7:-71dbm ;

04. Switch 24 ports (Un Managed)

Option 1: Un Managed 24 port Switch

Name of Item	Switch 24 ports	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost)

Supplying **Switch 24 port from OEM / Class-I Local Supplier** as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	Dlink, Tplink, Digisol
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specifications

Type of Switch	Un Managed
Technology	Non PoE
Number of 1G Copper Ports	24
Number of 10G Copper Ports	0
Number of 1 G SFP Port (Uplink)	0
Number of 10 G SFP+ Port (Uplink)	0
Multi-Gigabit Support	No
Redundant Power supply (from day one)	Not Available
Console Port	Not Available
Switching Capacity-Non Blocking (Gbps)	48
Throughput (MPPS)	35
Operating System	Available
Dedicated Stacking Port/Slot (from day one)	Not Available
Stacking Bandwidth (Gbps)	1
Basic Layer-3 Protocol	NA
Security Feature	NA
Management Protocol	NA
QoS	NA
Operating Temperature Range (Degree C)	0 to 40° C
Operating Humidity (RH)(%)	10% to 90%
IPv6 Ready from day one and dully certified	Yes
PoE Power Budget (Watt)	0
On Site OEM Warranty	3 Year

**05. Switch 24 ports (Managed)****Option 2: Web Managed Non PoE Switch**

Name of Item	Switch 24 ports Web Managed Non PoE	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Specification

Type of Switch	Web Managed
Technology	Non PoE
Number of 1G Copper Ports	24
Number of 10G Copper Ports	0
Number of 1 G SFP Port (Uplink)	4
Number of 10 G SFP+ Port (Uplink)	0
Multi-Gigabit Support	No
Redundant Power supply (from day one)	Not Available
Console Port	Not Available
Switching Capacity-Non Blocking (Gbps)	56
Throughput (MPPS)	41.7
Operating System	Available
Dedicated Stacking Port/Slot (from day one)	Not Available
Stacking Bandwidth (Gbps)	0
Basic Layer-3 Protocol	50 IPv6 static route entries , 4 IP Interface , 124 IPv4 static route entries
Security Feature	SSH v2 • TLS v.1.2 • DoS attack prevention , 802.1X Port-based Access Control , Traffic segmentation
Management Protocol	Telnet Server , SNMP v1/v2c/v3 , ICMP v6 • IPv4/v6 Dual Stack , Multiple image , Multiple Configuration
QoS	Queue Handling • Strict • Weighted Round Robin (WRR) • Bandwidth Control , 802.1q
Operating Temperature Range (Degree C)	-5 to 50
Operating Humidity (RH)(%)	0 to 95
IPv6 Ready from day one and dully certified	Yes
PoE Power Budget (Watt)	0
On Site OEM Warranty	1 Year

06. All in One printer (A4 Size)

Name of Item	All in One printer (A4 Size)	DVET Product Code
Category	Machinery	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

1. Supplying and Installation of All-in-one Printer from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

2. Manufacturer Details:

Brand	HP, Cannon, Epson
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification:

Print Technology	Laser
Type of Machine	Multifunction Machine
Type of Printing	Mono
Cartridge Technology	Composite Cartridge
Developer Unit	No
Platen/Flatbed Size	A4
Paper Size (Original/Image)	A4/A4
RAM size (MB)	512
Hard Disk Capacity(GB)	0
Minimum Speed per Minute as per ISO/IEC 24734 in A4 Size-Mono	33
Minimum Speed per Minute as per ISO/IEC 24734 in A4 Size-Colour	0
Minimum Speed per Minute as per ISO/IEC 24734 in A3 Size-Mono	0
Minimum Speed per Minute as per ISO/IEC 24734 in A3 Size-Colour	0



Scanning Feature Availability	Yes
Duplexing Feature Availability	Yes
Faxing Feature Availability	Yes
Speed of Fax, If Fax Feature is available	33.6 kbps
Networking Feature Availability	Yes
If yes, Type of Network Interface	Ethernet 10/100
Wi-Fi Availability	Yes
If yes,Wi-Fi Type	Wi fi 802.11 b/g/n & Wi Fi Direct
Original Document Feeder Type	ADF
Feeder Capacity (Number)	50
Number of Main Paper Tray	1
Each Main Paper Tray Capacity (Number)	250
Bypass Facility	No
If Yes, Bypass Tray Capacity	0
Yield of the cartridge/Ink Tank/Ink Pack supplied with Machine as per ISO/IEC: 19798/2007(E) for Cyan colour (Number of prints)	0
Yield of the cartridge/Ink Tank/Ink Pack supplied with Machine as per ISO/IEC: 19798/2007(E) for Yellow colour (Number of prints)	0
Yield of the cartridge/Ink Tank/Ink Pack supplied with Machine as per ISO/IEC: 19798/2007(E) for Magenta colour (Number of prints)	0
Yield of the cartridge/Ink Tank/Ink Pack supplied with Machine as per ISO/IEC: 19752/2004(E) for Black (Number of prints)	1700
Life of Drum in terms of number of Prints in case of Separate Drum and Toner cartridge technology - Cyan (Number of Prints)	0
Life of Drum in terms of number of Prints in case of Separate Drum and Toner cartridge technology - Yellow (Number of Prints)	0
Life of Drum in terms of number of Prints in case of Separate Drum and Toner cartridge technology - Magenta (Number of Prints)	0
Life of Drum in terms of number of Prints in case of Separate Drum and Toner cartridge technology - Black (Number of Prints)	0
Duty Cycle (No of Prints/month)	50000



Minimum Operating Temperature (Degree C)	15
Maximum Operating Temperature (Degree C)	32.5
Minimum Operating Humidity (%RH)	30
Maximum Operating Humidity (%RH)	70
BIS Registration under CRS of Meity	Yes
BIS Registration Number	R-41001821
Other Certifications Available	UL,CE, RoHS
Dimension (mm x mm x mm)	426.8 x758.8x475.5mm
Weight (Kg)	10.5
On Site OEM Warranty (Year)	3

7. Digital Web Cam

Name of Item	Digital Web Cam	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying and Installation of Digital Web Cam from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	HP, Logitech, Lenovo
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



B. Specification

USB Certification	USB 2.0 high-speed certified
Pan(degree)	360
Tilt(degree)	20
Frame Rates(frames per second)	30
OS Compatibility	10
Fit type	Universal clip fit
Night vision	No
Auto Exposure	No
White Balance	NA
Max. Image Resolution	5500 x 3640
Focus	5 cm to Infinity
Auto Compensation	No
Number of Night vision LEDs	0
Max. Video Resolution	1280 x 720
Microphone	Built-in high sensitive USB microphone



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Lens(MegaPixel)	21
Width	68 millimeter
Length	85 millimeter
Height	60 millimeter
Additional Information (if not mention "NA")	USB Plug and Play Camera. Supports Windows, Linux, Mac
Weight	79 gram
Warranty	6 month

8. Projector with Screen/ Multimedia Projector with Screen/ Smart Interactive Board/Smart TV

PORTABLE LED PROJECTOR WITH WHITE SCREEN

Name of Item	Portable LED Projector with white screen SERIAL NO. A-1/10	DVET Product Code
Category	Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification

2. Supplying and Installation of “**Portable LED Projector with wall mount spring action pull down White Screen**” from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

3. Projector

A projector is an output device that can take images generated by a computer or Blu-ray player and reproduce them onto a screen, wall, or other surface. Typically, the surface projected onto is large, flat, and lightly coloured.

Uses

Projectors can be used to project video, slides, and images onto a screen and also used in business meetings, conferences, classrooms for presentation.

4. Manufacturer Details:

Brand	Epson, Acer, LG, Sony, or equivalent
Country of Origin	India
Country of Manufacturer	India

5. **Portable Projector:**

Technical Specifications:



Technology	LCD
Projection Method	Front and Rear both
Native Resolution	1920 x 1080 (Full HD)
Brightness (Lumens)	3500
Contrast Ratio (Minimum) (pixels) (X :1)	15000
Optical Zoom	Yes
If Yes, Optical Zoom (%)	120
Availability of Lens	Yes
Remotely Controlled	Yes
If Yes, Type of Projector	Standard Throw (0.91 to 2.5)
Aspect Ratio	16:9
Keystone Correction	Automatic & Manual Both
Type of Light Source	UHP / UHE / UHM
Minimum Life of Light Source (In Normal Mode) (Hours)	6000
Lamp Hour Counter (In-Built)	Yes
Inbuilt Speaker	Yes
If Yes, Wattage of Speaker	2
3D Projection Capability	No
Interactive Feature	No
Power Consumption in Sleep Mode (Watts)	1
Power Consumption in Normal Mode (Watt)	327
Noise Level in Echo Mode (dB)	28
Noise Level in Normal Mode (dB)	37
Power Supply 210V-240V, 50 Hz Battery	No
If Yes, Minimum Battery Capacity (mAH)	NA
If Yes, Battery Backup Time (Hour)	NA

6. Ports And Connectivity:

Number of HDMI In Port	2
Number of HDMI Out Port	0
Number of DVI Port	0
Analog RGB In Port (Hours)	Yes
Analog RGB Out Port	No
HD Base T	No
Audio In	No
Audio Out	No
Video In	Yes
Storage Media Port	No
if Yes, Supported File Formats	NA
Number of USB Type A	1
Number of USB Type B	1
Number of USB Type C	0
Wi Fi Connectivity	No



Wireless Screen Share	No
LAN Connectivity	No

7. Certifications

BIS Registration under CRS of Meity	Yes
BIS Registration Number	R-41005371

8. Generic

Dimensions (Length x Breadth x Height) (mm x mm x mm)	303 x 252 x 93
Weight (Kg)	2.7
Minimum Operating Temperature (Degree C)	5
Maximum Operating Temperature (Degree C)	35
Minimum Operating Humidity (% RH)	20
Maximum Operating Humidity (% RH)	80

9. Warranty

On Site OEM Warranty for Light Source (Time or Life in Hours whichever is earlier)	1 Year or 1000 Hrs.
On Site OEM Warranty	3

10. Projector Screen

Type	Spring action pull down
Supported Display Technology	1080p , 3D and 4K Technology
Mounting Type	Wall Mount
Aspect Ratio	4:3
Display Fabric Material	Matte White
Length x Width of Projector Screen (Inch x inch)	96" x 72"
Gain	1.2
Life time lubricated motor for smooth & silent functioning of the screen	NA
Remote	No
If Yes, Type Of Remote	NA
Anti UV Coating	Yes
Waterproof/ Washable	Yes
Fire Proof	No
Autolock/ Instalock Feature	Yes
Weight (Kg)	8 Kgs.
On Site OEM Warranty	3



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09. UPS Online 5.0 KVA

Name of Item	UPS Online 5.0 KVA SERIAL NO. A-1/11	DVET Product Code
Category	Equipment	BIS CODE
Name of Sector	IT & ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification

1.	Supplying and Installation of “ UPS Online 5.0 KVA ” from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.						
2.	<p>UPS Online:</p> <p>A Uninterruptible Power Supply (UPS), at its most basic, is a battery backup power system that supplies power long enough for equipment to properly shut down when utility power fails. It helps prevent loss of data and minimizes the stress a hard shutdown causes on your electronic equipment.</p> <p>An Online UPS is a type of uninterruptible power supply that utilises either a double or delta conversion technology. With double conversion, network equipment does not receive electricity directly from the AC outlet. Instead, AC power travels to a rectifier, where it becomes DC power.</p> <p>Use of UPS Online:</p> <p>Online UPS is a UPS type that supplies power to the AC load in normal operation and uses an inverter to provide AC power during a power failure. In Online UPS, the output power supply always stays ON i.e. the UPS keeps charging the battery and draws current from the battery to supply the load.</p>						
3.	<p>Generic:</p> <table border="1"> <tr> <td>Rating in KVA</td> <td>5.0 KVA</td> </tr> <tr> <td>Switching Technology</td> <td>IGBT-PWM</td> </tr> <tr> <td>Input Voltage</td> <td>AC Single phase 160V - 260V 50Hz</td> </tr> </table>	Rating in KVA	5.0 KVA	Switching Technology	IGBT-PWM	Input Voltage	AC Single phase 160V - 260V 50Hz
Rating in KVA	5.0 KVA						
Switching Technology	IGBT-PWM						
Input Voltage	AC Single phase 160V - 260V 50Hz						



Output Voltage	AC Single phase 230V +/-1% 50 Hz
Warranty for UPS (Years)	2
4. Battery/ Backup Bank:	
Battery/Backup Bank Provided with Online UPS (Hint: In case the UPS is supplied with battery, seller shall ensure compliance to the GST Rates as per recommendations made in the 45th Meeting of GST council dated 17th Sep 2021)	With Battery
Type of Battery (hint: NA in case Battery not provided)	SMF-VRLA conforming to JISC:8702 (Pt.I, II & III), Stationary Lead Acid Batteries (with tubular positive plates) in monobloc container conforming to IS:13369:1992 latest
Backup time (Minutes) (hint: NA in case battery not provided)	60 Minutes
Battery Make	AMRON, Equivalent
Battery Model Number	12AI042
Battery capacity (Ah)	42
Weight of the Battery (kg)	14
Number of Batteries	16
Minimum Guaranteed VAH	1600 X Per KVA X Per hour of backup time
Warranty for battery (Years) by Battery Manufacturer/ Brand hint: NA in case battery not provided	1
Accessories with Battery	NA
5. Installation And Commissioning Or Service:	
Installation and Commissioning (Covered in the Scope of Supply)	Provided
After sales service (Turn Around Time)	Within 7 days
Preventive Maintenance (Hint: Mention Timeline if provided, NA if not provided)	NA
Other Services provided	PAN India service support on 24 x 7 basis
6. Performance / Functional:	
Inbuilt isolation transformer	With
Overall Efficiency (%)	>/=80% & <90% with Inbuilt isolation transformer
Power Factor Load Supported	0.8 or better
Overload limit	20% Overload for minimum 5 minute
Total Harmonic Distortion(THD) (%)	3% Maximum @ 100% Linear Load
Other Functional Features	Crest factor on full non-linear load is not less than 3:1
7. Accessories:	
Accessories	Steel Rack for Batteries



8. Salient Features:	
Protection	Protection for under voltage at battery terminal, Protection of Over voltage, Short Circuit & over load at UPS output terminal, Over temperature protection
Metering	Input Voltage, Output Voltage, Input Frequency, Output Frequency, Input Power, Output Power, Input Power Factor, Output Power Factor
Alarms and Indications	Indicator for Mains presence, Indicator for Battery charging and discharging, Indicator for Output Over Load with Audible Alarm, Indicator for Low Battery Voltage with Audible Alarm, Alarm for Over temperature, Alarm for Low Battery
Additional Features	Pure Sinewave AC Output
9. Design / Construction:	
Type of Design / Construction	Floor Standing
Form factor of UPS	NA (for Floor Standing)
Enclosure (mm)	1.2 mm Minimum Thickness of M.S. Sheet duly powder coated
Degree of Protection	IP20
DC Bus Voltage (In Volts)	72
Other Constructional Features	Static by pass facility, Manual by pass facility, UPS shall be free from workmanship defects, sharp edges, nicks, scratches, burst, etc. All fasteners shall be fixed properly. The equipment shall be complete with all parts and all parts shall be functional
10. Operating Conditions:	
Minimum Operating Temperature	0 degree Celsius
Maximum Operating Temperature	40 degree Celsius
Relative Humidity Non-Condensing at 40 deg C	90 percent
11. Buyer Specific Requirement:	
Environmental Test Report Requirements	Yes
Battery Test Report	Yes
Intended Applications	Critical Infrastructure, Network IT Equipment, Medical Equipment, Support for Data Centres, Network operating centres, Security operation centres, State and District centres, Command and Control centre etc., across the Country to provide impetus to the e-Governance services e.g., Public food distribution, e Way bill, Counselling, e-Office,



		IVFRT etc., services under Digital India Programme
Other Requirements		ROHS compliance, KW rating shall be 0.8 time of KVA rating
12.	Reports And Certification:	
	Type of lab which carried out Test of Complete Product to prove the conformity of product as per specification	OEM
	Agree to provide all relevant documents Test Reports/supporting document /reports etc to the buyer at the time of bidding or on demand	Yes
	As per Meity (Government of India) guidelines UPS shall have valid BIS CRS certifications as applicable	Yes (For UPS rating upto 10KVA)
	Special Terms & Conditions:	
	In addition to General Terms and Conditions of GeM, the following Special T&C shall be applicable for Online UPS (Version 2.0) with reference to Installation and Commissioning.	
	Seller's Responsibility: Installation and Commissioning shall involve all the interconnections, any cabling between power source, switch boards within 3 metre range for input power and connecting Output power in the Scope of seller.	
	Buyer's Responsibility: Buyer will ensure well ventilated/ covered site/ room having requisite power points/distribution board to provide input power to UPS as well as to take out power from UPS within 3 metre of the location of UPS placement.	
	The above is not applicable for the stores supplied without installation and commissioning.	

10. Crimping Tool

Name of Item	Crimping Tool	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying Crimping Tool from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	STANLEY, D Link
Country of Origin	India

Country of Manufacturer	India
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A. Basic Indicative Diagram *(Image is only indicative, adhere to specifications only)*



B. Specification

Maximum crimping capacity in Sqmm	4
Minimum crimping capacity in Sqmm	0.5
Crimping die's provided (mm)	16
Packing	Plastic casing
Sealing O Ring Provided	Not Provided

Construction	
Weight in Kg	0.2-0.6
Crimping Type	Semi Disc
Body Material	Metal
Stroke	18 mm
Changeble Die's feature	No
Length in mm	80-120

Features	
Maximum crimping capacity in Sqmm	4
Minimum crimping capacity in Sqmm	0.5
Crimping Force in newton	4

Accessories	
Crimping die's provided (mm)	16
Packing	Plastic casing
Sealing O Ring Provided	Not Provided

11. Network Rack

Name of Item	Network Rack	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying and Installation of Network Rack from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	D Link, SNS Sunshine, Ewit
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification

Type of Server Racks	Rack Enclosures
Size of Server Rack Enclosure	4U
Depth of the Rack (mm)	Upto 450
Mount Type	Wall mount
Front glass Door	Yes
Type of glass used in front door	Transparent Toughened Glass
Material used for rear door	CRCA Steel
Both rear and front doors with Perforation	No
Side Panels With Key Locks and Slam Latch	No
Secure Locks	Available
Rear split door design	No
Keyboard Tray Sliding and Rotary	No
Shelf For CRT/TFT Display	No



Cable channel in rear side for cable management	No
Support cable entry from top or bottom	No
Vertical & Horizontal managers	No
Numbers of Rack trays	0
Number of Fan For Heat dissipation (nos)	1
Number of fan trays	0
Heavy Duty Caster Wheels	NA
If yes, then Front Break Options	NA
Load Bearing Capacity (Kgs)	15 kilogram
If Wall mount racks then ,Swing-Out Racks	NA
Dust or water resistant	No
PDU Power Strips	Available
Weight (Kg)	4 kilogram
Warranty (Years)	1

12. Digital Multimeter

Name of Item	Digital Multimeter	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying Digital Multimeter from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	Metravi, HTC, RISHABH, MECO
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification:

MEASUREMENTS

DC Voltage Range	1000 Volt
DC Voltage Accuracy	1 percent
DC Voltage resolution	0.01 milliVolt
AC Voltage Range	600 Volt
AC Voltage Accuracy	1 percent
AC Voltage resolution	0.1 milliVolt
DC Current Range	10 Ampère
DC Current Accuracy	1 percent
DC Current resolution	0.001 milliAmpère



AC Current Range	10 Ampère
AC Current Accuracy	1.5 percent
AC Current resolution	0.001 milliAmpère
Resistance Range	40 megaOhm
Resistance Accuracy	1 percent
Resistance resolution	0.1 Ohm
Capacitance Range (Micro farad)	.01 to 1000
Capacitance Accuracy (%)	5
Capacitance resolution (nF)	1
Frequency Range (KHz)	50
Frequency Accuracy (%)	0.1
Frequency resolution (Hz)	0.01
Temperature Range (Degree C)	NA
Temperature Accuracy (%)	NA
Temperature resolution (Degree C)	NA

FEATURES

Type	Hand Held
Display (Digits)	3.5
Measurement Type	True RMS
Counts	60000

OTHER FEATURES

Continuity test and Diode test	Available
Data logging	Not Available
If Data Logging Feature is Available, Internal Memory	NA
Computer Interface along with software	Not Available
Dimensions (mm X mm X mm)	142X70X32
Weight	205 gram
Other Features	AUTO POWER

SAFETY

Safety Rating	Category III 600 V of IEC 61010.
Safety Certification	CE

POWER REQUIREMENTS

Power Requirements	Battery Operated
if Battery Operated, then Type of Battery	Non- Rechargeable (Alkaline)
if rechargeable , then chemistry of the battery	NA
if Non-rechargeable , then size of the battery / cell	AAA
number of non- rechargeable the battery / cell	2
Voltage of rechargeable Battery	0 Volt
capacity of rechargeable battery(milli Ampere Hour)	0



Suitable charger / adaptor provided	NA
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ACCESSORIES

Standard Accessories Supplied with the Equipment	TEST LEADS , MANUAL
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WARRANTY

Warranty	5 year
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OPERATING CONDITION

Minimum Operating Temperature	0 degree Celsius
Maximum Operating Condition	50 degree Celsius
Operating Humidity (RH)	90 percent

13. Screwdriver Set

Name of Item	Screwdriver Set	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying Screwdriver set from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	Venus
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification:

Packaging Type	Plastic Box
Size of Phillips	#00
Size of Flat Tip in inches , Tolerance - 5%	0.1
No. of Flat tip screwdrivers tip	4
Blade Tip Finish	Natural Steel
Handle Grip	PVC
Additional Parameter	NA
No. of Phillips screwdriver tip	1
Type	Manual Working
Set of Screwdriver in pcs	4
Warranty Period	3 year

14. Mini Dongle for Bluetooth devices Connection

Name of Item	Mini Dongle for Bluetooth devices Connection	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying **Mini Dongle for Bluetooth devices Connection** from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	TP Link, Digisol, R3 German
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



B. Specification

Width	15 mm
Height	7 mm
Depth	22 mm
Weight	9 g
Colour	Black
Material	Metal
	Plastic
Bluetooth® signal range	10 m
Power source type	USB Powered
Maximum transmit antenna gain	2 dBi
Transmit frequency range	2402 - 2480 MHz
OS version	Windows 10
	Windows 8



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	Windows 10
Appliance	PC
	Notebook
Including	Software
Bluetooth® version	4
Device type	USB-Adapter
Transfer speed	3 Mbps
Connection	Bluetooth
	USB
Number of Products in Package	1 pcs
Maximum transmit power	-7.92 dBμA/m @ 10m
SmartLife	No

15. Headphone &mic. Set – 05 nos

Name of Item	Headphone &mic. Set	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying Headphone & mic Set **from** OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

2. Manufacturer Details:

Brand	Logitech , Boat , HP, Sony
Country of Origin	India, Thailand
Country of Manufacturer	India, Thailand

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



Dimensions	Height: 162 mm Width: 144 mm Depth: 46 mm Weight: 0.074 kg Cable length: 2.35 m
Technical Specifications	Microphone Type: Unidirectional Sensitivity (headphone): 32 Ohms Sensitivity (headphone): 100 dB +/-3 dB Sensitivity (microphone): -58 dBV/μBar, -38 dBV/Pa +/- 4 dB Frequency response (Headset): 20 Hz - 20 kHz Frequency response (Microphone): 100 Hz - 16 KHz
Warranty Information	2-Year Limited Hardware Warranty



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Compatibility	Windows®, macOS, or ChromeOS™ and popular calling platforms. Certified Works With Chromebook™. Single 3.5 mm jack
In Box	Stereo Headset User documentation

16. Sound System 2:1

Option 1 : Speakers for Computer/Laptop

Name of Item	Sound System 2:1	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying **Sound System 2:1** from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	Creative, Sony, Philips
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



Specification	
Sales Package	<ul style="list-style-type: none"> 2 Satellite Speakers (Left and Right satellites) 1 Subwoofer 1 Infra remote control 1 RCA to 3.5mm cable 1 FM antenna (Included) 1 Warranty and Technical Support Leaflet 1 Quick start guide
Type	<ul style="list-style-type: none"> Laptop/Desktop Speaker



Portable	<ul style="list-style-type: none">• No
Bluetooth	<ul style="list-style-type: none">• No
Memory Card Slot	<ul style="list-style-type: none">• No
Configuration	<ul style="list-style-type: none">• 2.1
Power Source	<ul style="list-style-type: none">• AC Adapter
Power Output (RMS)	<ul style="list-style-type: none">• 25 W
Frequency Response	<ul style="list-style-type: none">• 45Hz - 20kHz
Impedance	<ul style="list-style-type: none">• 4 Ohms (Subwoofer), 6 Ohms (Satellite)
Color	<ul style="list-style-type: none">• Black
Wired/Wireless	<ul style="list-style-type: none">• Wired
Subwoofer	<ul style="list-style-type: none">• 1
Wall Mountable Satellite	<ul style="list-style-type: none">• No
Built-in Fm Radio	<ul style="list-style-type: none">• Yes
Outdoor Usage	<ul style="list-style-type: none">• Yes
Headphone Jack	<ul style="list-style-type: none">• Yes
Configuration	<ul style="list-style-type: none">• 2.1 Channel
Driver Type	<ul style="list-style-type: none">• 1 Subwoofer, 2 Satellites
Compatible Devices	<ul style="list-style-type: none">• Computer, Mobile
USB Ports	<ul style="list-style-type: none">• 1 USB Ports
Headphone Jack	<ul style="list-style-type: none">• Yes
Signal to Noise Ratio	<ul style="list-style-type: none">• 70 dB
Maximum Output RMS Per Satellite	<ul style="list-style-type: none">• 6 W
Maximum Output RMS Subwoofer	<ul style="list-style-type: none">• 13 W
Maximum Output RMS Center Satellite	<ul style="list-style-type: none">• 6 W



Chassis Material	<ul style="list-style-type: none">No, Wood (Subwoofer) Chassis												
Driver Size	<ul style="list-style-type: none">4.5 inch (Subwoofer), 2.75 inch (Satellite)												
Power Input	<ul style="list-style-type: none">220-230V~ 50Hz												
Other Features	<ul style="list-style-type: none">Input Rating: 220-230V~ 50Hz 100mAFM radio scanning frequency: 87.5mHz - 108mHz (Depending on regions)Supports USB thumb drive (32GB Max) to playback your MP3 audio filesBuilt in FM radio receiver with automatic station scanning and memoryAccepts RCA^ and 3.5mm stereo outputs from your TV, DVD player, Computers and almost all other audio devicesPerfect for movies, gaming or music for your living room or on your desktop! ^ Via RCA to 3.5mm cable												
Dimensions	<table><tr><td>Subwoofer Weight</td><td><ul style="list-style-type: none">2.04 kg</td></tr><tr><td>Cable Length</td><td><ul style="list-style-type: none">1.2 m</td></tr><tr><td>Satellite Weight</td><td><ul style="list-style-type: none">0.248 kg</td></tr><tr><td>Width</td><td><ul style="list-style-type: none">32 cm</td></tr><tr><td>Height</td><td><ul style="list-style-type: none">39 cm</td></tr><tr><td>Depth</td><td><ul style="list-style-type: none">20.8 cm</td></tr></table>	Subwoofer Weight	<ul style="list-style-type: none">2.04 kg	Cable Length	<ul style="list-style-type: none">1.2 m	Satellite Weight	<ul style="list-style-type: none">0.248 kg	Width	<ul style="list-style-type: none">32 cm	Height	<ul style="list-style-type: none">39 cm	Depth	<ul style="list-style-type: none">20.8 cm
Subwoofer Weight	<ul style="list-style-type: none">2.04 kg												
Cable Length	<ul style="list-style-type: none">1.2 m												
Satellite Weight	<ul style="list-style-type: none">0.248 kg												
Width	<ul style="list-style-type: none">32 cm												
Height	<ul style="list-style-type: none">39 cm												
Depth	<ul style="list-style-type: none">20.8 cm												
Warranty	<ul style="list-style-type: none">1 Year												

17. External Hard Disk

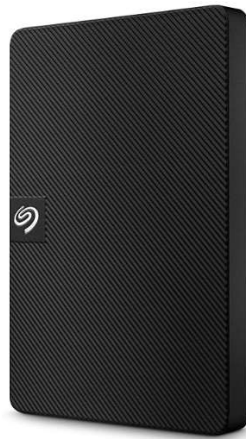
Name of Item	External Hard Disk – 2 TB	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying **External Hard Disk** from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	Seagate, WD, Toshiba
Country of Origin	Thailand
Country of Manufacturer	Thailand

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



B. Specification:

Type	External Portable
Connectivity	Wired
Digital Storage Capacity	1 or 2 TB TB
Speed	5400 rpm
Data Transfer Rate	1 GB/Sec Gb/sec
OS Compatibility	Windows 7,8,10
Interface	Type A USB
Cloud Backup (for Wireless Type)	NA
Network Connectivity	No
Password Protection	No
External Power Required	No
Water Resistant	NA
Shock Resistant	No



Backward Compatibility	No
Dimension (W X H X D)	140 x 130 x 50 mmxmmxmm mmxmmxmm
Weight	159 gms gms
Standard Accessories To Be Supplied With The Hard Disk	NA
Operating Temperature Range	36 Degree C Degree C
Operating Humidity (RH)	85%
Availability Of Test Reports From Central Govt / NABL Approved / ILAC Accredited Lab To Prove Conformity To The Specification. (Test Reports Are To Be Furnished When Demanded By Buyer)	No
If Yes, Test Report No. And Date	NO
If Yes, Name Of The Lab	NO
If Yes, Address Of The Lab	NO
Warranty	2 Year

18. Patch Panel 24 Port

Name of Item	Patch Panel 24 Port 02 Nos	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying **Patch Panel 24 Port (CAT 6 Cable)** from OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	DLink, Digisol
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



Specifications	
Identification :	<ul style="list-style-type: none"> ID Plate : PC, transparent color with paper Panel : SPCC, 1.5mm thickness with black color
RJ45 Jack	<ul style="list-style-type: none"> Housing :PBT +Glass fiber UL94V-0 Contact Brackets : PBT + Glass fiber UL94V-0, black colour
RJ45 Jack Contact	<ul style="list-style-type: none"> Material : Phosphor bronze with nickel plated Finish : 50 micro-inch Gold plated on plug contact area
IDC	Housing : PC, UL 94V-0 Terminal : phosphor bronze with tin plated
Jack bracket set:	ABS
Support Bar	SPCC, 1.5mm thickness with Black colour painted
Electrical	Contact Resistance: 20 Milliohms max. Insulation Resistance: 100 Megaohms min. @ 500 VDC RJ45 Jack Life: 750 Times min



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	IDC Life: 200 Times min Storage: -40 To +70 Operation: -10 To +60
Key Features	80 Degree Punch down Design • 1U Patch Panel to Mount In any Standard Rack • Easy Port Labelling Identification Provision • Accommodates 22~26 AWG Stranded and Solid Wires

19. LAN Tester UTP cat5 cable tester (RJ 45)

Name of Item	LAN Tester UTP cat5 cable tester (RJ 45) 05 Nos.	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying LAN Tester UTP cat5 cable tester (RJ 45) **from** OEM / Class-I Local Supplier as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	DLink, Shield Plus , FEDUS
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram *(Image is only indicative, adhere to specifications only)*



Specifications	
Indicator	LED Lights
Electricity	25mA
Power	9V Alkaline Battery (Excluded)
LxWxH (mm)	104 x 96 x 27
Key Features	<ul style="list-style-type: none"> • Full LED indication lights on both main and remote unit • Check RJ11, RJ45 and BNC connectors • Verify continuity, opens, shorted or cross wire paired • Move switch to S to slowdown auto test feature • Small size and lightweight to carry



Government of Maharashtra

Directorate of Vocational Education and Training, Maharashtra State

3, Mahapalika Marg, Post Box No. 10036, Mumbai – 400 001 Phone: 022-22620603/ 604



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20. Punching Tool for punching RJ 45 socket with cat 5 cable

Name of Item	Punching Tool for punching RJ 45 socket with cat 5/6 cable	DVET Product Code
Category	Tools/ Equipment	BIS CODE
Name of Sector	IT/ ITES	
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	Date
Estimated Cost		10.06.2024 (H0)

Supplying Punching Tool for punching RJ 45 socket with cat 5 cable **from OEM / Class-I Local Supplier** as per the following design, specification, manufacturing process and tests.

1. Manufacturer Details:

Brand	DLink,Shield Plus
Country of Origin	India
Country of Manufacturer	India

A. Basic Indicative Diagram (*Image is only indicative, adhere to specifications only*)



Country of Origin	India
Product Dimensions	11 x 5.5 x 2.5 cm; 100 g
Item Weight	100 g
Item Dimensions LxWxH	11 x 5.5 x 2.5 Centimeters
Included Components	Punching Tool
FEATURES	<ul style="list-style-type: none"> • Color-coded yellow handle on the cut side of the tool reduces the chance for termination errors. • Adjustable low and high impact force settings allow the tool to be set according to the user's preference



	<ul style="list-style-type: none">• Reversible blades for seating/cut or seating only for jumper wires.• Spare blade storage in the handle reduces installation time when a replacement blade is required• Blades are made from heat-treated, high-carbon tool steel with a black-oxide, rust-resistant finish and a precision-ground cutting surface for long life• Simplified internal impact mechanism eliminates jamming for longer, trouble-free service
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21. Air-Conditioner (Split unit) 2 TR

Name of Item	Air-Conditioner (Split unit) 2 TR SERIAL NO. A-1/C-36	DVET Product Code
Category	Machinery	BIS CODE
Name of Sector	IT/ ITES	Date
Name of Trade	COMPUTER OPERATOR AND PROGRAMMING ASSISTANT	
Estimated Cost		

A. Basic Indicative Diagram (Image is only indicative, adhere to specifications only)



B. Specification

1.	Supplying and Installation of “ Air-Conditioner (Split unit) 2 TR for Theory and Practical room ” as per the following design, specification, manufacturing process and tests.	
2.	Manufacturer Details:	
	Brand	Voltas, Godrej, Mitsubishi, Daikin, OGeneral, Bluestar, Carrier, or equivalent.
	Country of Origin	India
	Country of Manufacturer	India
3.	Generic:	
	Nominal Marketing capacity as per BEE Star Rating Label (hint: 1 Ton = 3000 Kcal/Hr, Tolerance +/- 10%) (in Ton)	2 Ton
	Rated cooling capacity (in Watts) as per IS:1391 (Part 2)	≤ 3500
	Technology of air conditioner	Inverter AC - Variable Speed
	ISEER (Wh/Wh) values for compliance of Green AC	Not applicable for Non-Green AC
	Rated voltage (in Volts)	230 V, 1 Phase, 50 Hz, AC
4.	Standards:	
	Split Air Conditioner	Conforming to IS:1391 (Part 2) latest



Unit Mounting Arrangement	Indoor Unit - Wall Mount type
Availability of BIS/ISI Mark certification	No
Air Conditioner Compliance	AC
BEE Star rating of the product (in Nos.) (Central Ministries/ Departments while procuring shall ensure that the items carry 5 star (under normal conditions where annual usages is expected to be more than 1000 hrs), 3 Star (where usage is Limited) or h	5
BEE star rating plan	as per Gazette Notification No. S.O. 3897 (E) dated. 29th October 2019 and as per BEE Notification dated 19th April 2022
5. Refrigerants:	
Eco-friendly Refrigerant	Yes
Refrigerant designation	R 32
Refrigerant Global warming potential (GWP)	675 (for R32)
Refrigerant Ozone Depletion Potential is Zero	No
6. Construction:	
Classification by function	Cooling only (Cooling and dehumidification during cooling mode)
Heating capacity (in Watts)	Not applicable for Cooling only (Cooling and dehumidification during cooling mode)
Unit type	Single split (Single Indoor and Single outdoor)
Compressor Type	Rotary Type
Additional requirement	Not applicable
7. Material:	
Material of Evaporator	Copper
Material of Condensor	Copper
Material of Air Filter (on indoor unit)	Synthetic Fiber
Reusable air filter	Yes
8. General Feature:	
AC Modes	Power Saving Mode, Self Diagnosis Mode, Dry Mode, Eco saving
Remote Control Features	Timer, Fan speed control, On/OFF
Additional Features	Anti-Bacteria Filter, Auto Restart, Dust Filter, Auto Air Swing
9. Environmental Feature:	



Noise level	As per IS:1391 (Part 2) latest
Environmental Friendly Paint	Yes (Paint does not contain heavy metals or their compounds include mercury (Hg), lead (Pb), cadmium (Cd) and hexavalent chromium (Cr)
Recycled Plastic Components	<80% by weight of total plastic components in product
Maximum operating temperature	24 degree Celsius
Minimum operating temperature	7 degree Celsius
Operating Humidity	60
10. Marking and Packing:	
Marking on the Split AC	as per Cl.17.1.1 and as per Cl.17.1.2 of IS:1391 (part 2)
Mode of packing	Packed with Recycled Material
11. Accessories:	
Supply cord and the interconnecting cord between the indoor and outdoor unit	3 m (PVC Insulated sheathed cables as per IS:694)
Accessories / Installation kit with each split air conditioner	Remote control, Operating Manual, Installation Manual, No Installation kit
12. Warranty:	
AC Machine warranty (in Years)	4
Warranty on compressor (in Years)	10 (for Inverter AC) upto including 2 Ton capacity
Contact details of manufacturer, supplier and local service agent are provided	Yes
13. Installation:	
Installation	Yes installation by the agency. Refer Sr. No. 15 Miscellaneous
Not included in the scope of supply	Refer Sr. No. 15 Miscellaneous
14. Certification:	
Availability of type test report from Govt. Lab/ NABL accredited lab / ILAC accredited lab to prove conformity of the specification	Yes. As per IS:1391 (Part 2) latest
Test report number and date - Must declare	
Name and address of Lab - Must declare	
Environmental Management Certification	ISO: 14000
Other certification	