



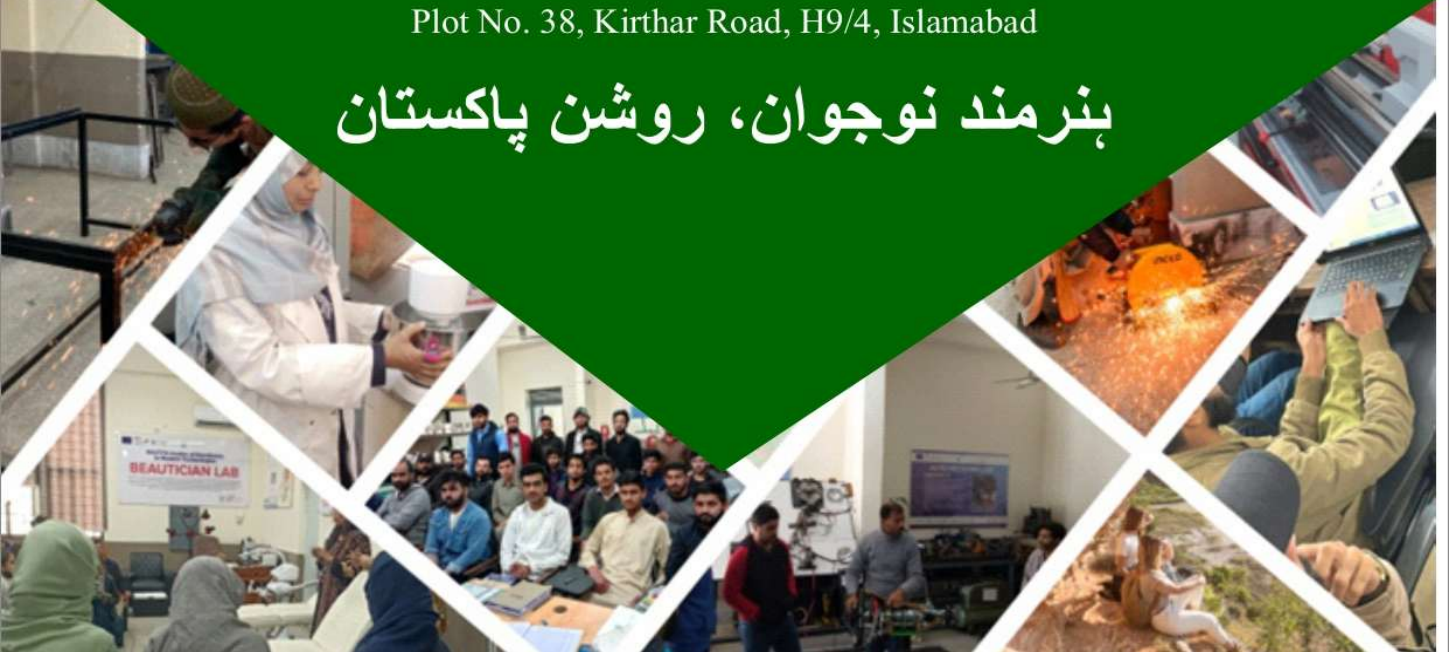
# STANDARD MANUAL OF TOOLS & EQUIPMENT FOR TVET LABS & WORKSHOPS



**NATIONAL VOCATIONAL & TECHNICAL  
TRAINING COMMISSION (NAVTTTC)**

Plot No. 38, Kirthar Road, H9/4, Islamabad

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## Message of Executive Director NAVTTC

As the Executive Director of the National Vocational and Technical Training Commission (NAVTTC), it is with great pride and a deep sense of responsibility that I officially present the first-ever **“Standard Manual for Tools and Equipment for TVET Workshop Development”** for Pakistan’s Technical and Vocational Education and Training (TVET) sector.



This landmark manual is a comprehensive and meticulously developed resource that outlines standardized guidelines for the specifications and quantities of tools, equipment, machinery, and essential consumables required to establish and upgrade TVET laboratories and workshops. Designed to cater to both conventional and Competency-Based Training & Assessment (CBT&A) modes of training, it serves as a foundational reference to ensure quality, uniformity, and alignment with international best practices across various trades and occupations.

Recognizing the critical role of modern infrastructure in raising the standard of technical and vocational education, NAVTTC has prioritized the development of evidence-based, demand-driven, and forward-looking training solutions. This manual represents a significant step towards our broader goal of equipping Pakistan’s workforce with the skills necessary to thrive in the era of the Fourth Industrial Revolution (Industry 4.0).

We urge all relevant stakeholders—including government bodies, TVET institutions, development partners, and implementing agencies—to adopt and integrate this manual into their planning, procurement, and development processes. Its successful implementation will not only elevate the quality and relevance of training programs but also contribute meaningfully to Pakistan’s socio-economic development.

I extend my sincere appreciation to all those who contributed to the creation of this manual. Your dedication and expertise have laid the groundwork for a stronger, more resilient, and future-ready TVET ecosystem in Pakistan.

**Muhammad Aamir Jan**

Executive Director, (NAVTTC)

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## Introduction

The National Vocational and Technical Training Commission (NAVTTTC) is dedicated to enhancing and standardizing Pakistan's Technical and Vocational Education and Training (TVET) system. To achieve this, NAVTTTC has initiated several key measures, including the development of Competency-Based Training & Assessment (CBT&A) frameworks, outcome-based curricula, robust assessment systems, comprehensive lesson plans, stringent criteria for trainer and trainee selection, and the formulation of quality assurance and accreditation manuals.

In alignment with the demands of the Fourth Industrial Revolution (Industry 4.0), NAVTTTC is committed to developing a skilled workforce capable of meeting contemporary challenges. This includes the implementation of the National Vocational Qualification Framework (NVQF), which classifies the skills, knowledge, and competencies required for various occupations, thereby facilitating better job prospects and career mobility for learners.

This manual serves as a comprehensive guide to the standards and specifications necessary for the development of modern TVET infrastructure. It details the complete specifications and quantities of tools, equipment, machinery, and essential consumables required for TVET laboratories and workshops across various trades and occupations, catering to both conventional and CBT&A modes of training. By adhering to these guidelines, TVET institutions and stakeholders can design and implement facilities that not only meet current educational and training needs but also anticipate future industry requirements. Collectively, we can ensure that Pakistan's TVET sector remains responsive, dynamic, and aligned with global standards, ultimately contributing to the nation's socio-economic development.

## Purpose

The purpose of this manual is to provide comprehensive guidelines and safety protocols for the use, maintenance, and management of tool equipment in Technical and Vocational Education and Training (TVET) programs through the TVETS sector of Pakistan.

This manual aims to:

1. Ensure safety: Promote safe working practices and minimize risks associated with tool equipment.
2. Standardize procedures: Establish standardized guidelines for tool equipment usage, maintenance, and management.
3. Support skill development: Provide TVET students and instructors with the knowledge and skills necessary for effective tool equipment operation.
4. Resource optimization: Provide guidance on tool equipment maintenance, storage, and inventory management, helping TVET institutions optimize their resources.
5. Contain Machines, Attachments, Accessories, Consumable Materials, Tools and Equipment of various Trades which will be used for Training on CBT and Non- CBT Programs of Level-IV, advance for Level V and also for their Assessments Purpose well.

By creating a comprehensive manual of tool equipment for TVET Sector of Pakistan this manual aims to support the delivery of high-quality TVET programs and provide students and instructors access to reliable and accurate

information, promoting a safe and effective learning environment.

## Scope

This manual covers tool equipment used in various Technical and Vocational Education and Training (TVET) programs.

It provides comprehensive information on:

- i. Hand tools: Description, usage, and safety guidelines for hand tools commonly used in TVET programs.
- ii. Power tools: Description, usage, and safety guidelines for power tools used in TVET programs.
- iii. Specialized equipment: Description, usage, and safety guidelines for specialized equipment used in specific TVET programs.

This manual aims to provide TVET instructors, students, and technical staff with the knowledge and guidelines necessary for safe and effective use of tool equipment. The recommended workshop size for all trades is (25-35) feet x (16-25) feet

NAVTTC




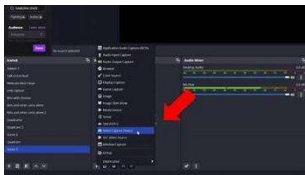

## 1. IT Sector

### Lab 01: Tools and Equipment of IT Lab

(FOR CLASS OF 15 to 25 Students)  
Conventional IT Lab




Sr No.	Name	Description	Image	CBT	Non-CBT
1	<b>Workstations (Computers)</b>	Intel Core i5/i7 (or AMD Ryzen 5/7) Minimum 32GB DDR5 (64GB+ for 3D/video) 1TB NVMe SSD + 4TB External HDD/SSD NVIDIA RTX 4080 / AMD Radeon RX 7900 / Apple GPU (M2 Ultra) Windows 11 Pro / macOS Sonoma		25	25
2	<b>Scanner</b>	6400 dpi resolution, color accuracy, flatbed		1	1
3	<b>Monitors (Color-Accurate Displays)</b>	Size 27"–32" Resolution: 4K UHD (3840×2160) Color Gamut 99% Adobe RGB / DCI-P3 Panel IPS / Calibrated Calibration Hardware calibration supported		25	25
4	<b>Headphones</b>	Closed-back, flat response		25	25
5	<b>Software Suite (Licenses Required)</b>	Python, Node.js, Java, C++ Visual Studio Code, Eclipse, IntelliJ Docker, Kubernetes, Jenkins Git, GitHub, GitLab Ansible, Terraform Jupyter Notebook / Jupyter Hub TensorFlow, Py Torch, OpenCV		25	25
6	<b>External SSD</b>	2TB, USB-C 3.2		5	5
7	<b>RAID Storage</b>	8TB–40TB, RAID 5, NAS-ready		25	25


Sr No.	Name	Description	Image	CBT	Non-CBT
8	Router	Wi-Fi 6E, 2.5Gb Ethernet		1	1
9	Switch	Gigabit/10GbE, 8–16 ports		1	1
10	NAS	8–12 bays, 10GbE support		1	1
11	Desk	Height adjustable, 140cm+ width		25	25
12	Chair	Ergonomic, lumbar support		25	25
13	Cable Management	Velcro ties, raceways, trays		25	15
14	Multimedia Projector	Multimedia Projector (3000-3200 Lumens) with Laser Pointer and tripod screen (6" x 8") + adjustable stand.		1	1
15	Printer:	Up to 40 PPM 600 MHz 1200 by 1200 dpi 128 MB RAM Legal, A4 & letter size paper. 2 Paper Tray(s), Duplex Printing 1 Hi-Speed USB 2.0; 1 Host USB; 1 Gigabit Ethernet 10/100/1000TX, Microsoft windows Xp/7/ 8/10 and Linux supportive. 01 Year minimum Warranty.		1	1




Sr No.	Name	Description	Image	CBT	Non-CBT
16	<b>Scanner</b>	ADF Up to 1200 x 1200 dpi (color and mono) For text & images: PDF, JPEG, PNG, BMP, TIFF, TXT (text), RTF (rich text) and searchable PDF. Up to 20 ppm 64 MB, 120 MHZ Standard Hi Speed 2.0		1	1
17	<b>Smart LED TV</b>	43 Inch Smart LED TV (At least Changlong Ruba or equivalent)		1	1
18	<b>Smart Board / Interactive Display</b>	65–75", 4K, touch-enabled		1	1
19	<b>Lecture Recording</b>	OBS Studio with webcam & mic		1	1
20	<b>Wireless Presentation Clicker</b>	Clicker		1	1







## Lab 02: Tools and Equipment of Graphics and Media Production





(FOR CLASS OF 15 to 25 Students)

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
1	<b>Workstations (Computers)</b>	Intel i9-14900K / AMD Ryzen 9 7950X / Apple M2 Ultra Minimum 32GB DDR5 (64GB+ for 3D/video) 1TB NVMe SSD + 4TB External HDD/SSD NVIDIA RTX 4080 / AMD Radeon RX 7900 / Apple GPU (M2 Ultra) Windows 11 Pro / macOS Sonoma		25	25
2	<b>Drawing Tablet</b>	8192 pressure levels, tilt recognition		25	25
3	<b>Pen Display</b>	4K display, 99% Adobe RGB, pen with 8192 levels		25	15
4	<b>Scanner</b>	6400 dpi resolution, color accuracy, flatbed		1	1
5	<b>Camera</b>	4K/6K video, full-frame sensor		5	3
6	<b>Monitors (Color-Accurate Displays)</b>	Size 27"–32" Resolution: 4K UHD (3840×2160) Color Gamut 99% Adobe RGB / DCI-P3 Panel IPS / Calibrated Calibration Hardware calibration supported		25	15
7	<b>Video Camera</b>	4K/6K RAW, large sensor		5	5

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
8	<b>Tripod</b>	Fluid head, 3-section legs		5	3
9	<b>Stabilizer</b>	3-axis gimbal, DSLR/Mirrorless support		5	3
10	<b>Lighting</b>	Bi-color LED, CRI 95+, dimmable		5	3
11	<b>Green Screen</b>	Chroma key fabric, adjustable frame		5	3
12	<b>Microphone</b>	Condenser/XLR, cardioid pattern		5	5
13	<b>Audio Interface</b>	24-bit/192kHz, XLR inputs		1	1
14	<b>Headphones</b>	Closed-back, flat response		25	25
15	<b>Studio Monitors</b>	5"–8" drivers, flat EQ		1	1

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
16	<b>Software Suite (Licenses Required)</b>	Design and Layout: Adobe Photoshop, Illustrator, InDesign Adobe Premiere Pro, Final Cut Pro, DaVinci Resolve, Video Editing software Adobe After Effects + Red Giant plugins Motion Graphic Software Blender, Autodesk Maya, Cinema 4D 3d/ animation software Adobe Audition, Logic Pro, Avid Pro Tools, Auditor Software Figma, Adobe XD, Sketch, Web/UX DaVinci Resolve Studio, Color Grading		25	25
17	<b>External SSD</b>	2TB, USB-C 3.2		5	3
18	<b>RAID Storage</b>	8TB–40TB, RAID 5, NAS-ready		25	15
19	<b>Router</b>	Wi-Fi 6E, 2.5Gb Ethernet		1	1
20	<b>Switch</b>	Gigabit/10GbE, 8–16 ports		1	1
21	<b>NAS</b>	8–12 bays, 10GbE support		1	1
22	<b>Soundproofing</b>	Acoustic foam panels, bass traps		5	3
23	<b>Lighting</b>	RGB or daylight-balanced LED		5	3

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
24	<b>Desk</b>	Height adjustable, 140cm+ width		25	25
25	<b>Chair</b>	Ergonomic, lumbar support		25	25
26	<b>Cable Management</b>	Velcro ties, raceways, trays		25	15
27	<b>Motion Capture</b>	Rokoko Smart Suit Pro		5	3
28	<b>VR Production</b>	Meta Quest 3 or HTC Vive XR Elite		5	3
29	<b>3D Printing</b>	Prusa i3 MK4 / Creality K1		5	3
30	<b>Color Grading Panel</b>	Blackmagic Design Mini Panel		5	3
31	<b>Studio Lights Along with accessories</b>	Studio Umbrella Lamination of studio wall (Chroma and background 10x10 feet) Camera mounted flash TTL Octa 90cm & 180cm with flash Reflectors Monopod Tripod Tungsten 350watt with accessories Fluorescent Light 100Watt with accessories Fluorescent Light 250Watt with accessories (Or all above equivalent or higher specs.)		5	3





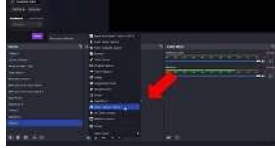


Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
32	<b>Multimedia Projector</b>	Multimedia Projector (3000-3200 Lumens) with Laser Pointer and tripod screen (6" x 8") + adjustable stand.		1	1
33	<b>Printer:</b>	Up to 40 PPM 600 MHz 1200 by 1200 dpi 128 MB RAM Legal, A4 & letter size paper. 2 Paper Tray(s), Duplex Printing 1 Hi-Speed USB 2.0; 1 Host USB; 1 Gigabit Ethernet 10/100/1000TX, Microsoft windows Xp/7/ 8/10 and Linux supportive. 01 Year minimum Warranty.		1	1
34	<b>Scanner</b>	ADF Up to 1200 x 1200 dpi (color and mono) For text & images: PDF, JPEG, PNG, BMP, TIFF, TXT (text), RTF (rich text) and searchable PDF. Up to 20 ppm 64 MB, 120 MHZ Standard Hi Speed 2.0		1	1
35	<b>Smart LED TV</b>	43 Inch Smart LED TV (At least Changlong Ruba or equivalent)		1	1

## Lab 03: Tools and Equipment of Advanced High-Tech IT Lab

(For Class Of 15 To 25 Students)

S. No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
1	<b>Workstations (Computers)</b>	Intel i9-14900K / AMD Ryzen 9 7950X / Apple M2 Ultra Minimum 32GB DDR5 (64GB+ for 3D/video) 1TB NVMe SSD + 4TB External HDD/SSD NVIDIA RTX 4080 / AMD Radeon RX 7900 / Apple GPU (M2 Ultra) Windows 11 Pro / macOS Sonoma		25	25
2	<b>Scanner</b>	6400 dpi resolution, color accuracy, flatbed		1	1
3	<b>Monitors (Color-Accurate Displays)</b>	Size 27"–32" Resolution: 4K UHD (3840×2160) Color Gamut 99% Adobe RGB / DCI-P3 Panel IPS / Calibrated Calibration Hardware calibration supported		25	25
4	<b>Headphones</b>	Closed-back, flat response		25	25
5	<b>Software Suite (Licenses Required)</b>	Python, Node.js, Java, C++ Visual Studio Code, Eclipse, IntelliJ Docker, Kubernetes, Jenkins Git, GitHub, GitLab Ansible, Terraform Jupyter Notebook / Jupyter Hub TensorFlow, Py Torch, OpenCV		25	25
6	<b>External SSD</b>	2TB, USB-C 3.2		5	5
7	<b>RAID Storage</b>	8TB–40TB, RAID 5, NAS-ready		25	25

S. No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
8	<b>Router</b>	Wi-Fi 6E, 2.5Gb Ethernet		1	1
9	<b>Switch</b>	Gigabit/10GbE, 8–16 ports		1	1
10	<b>NAS</b>	8–12 bays, 10GbE support		1	1
11	<b>Soundproofing</b>	Acoustic foam panels, bass traps		5	5
12	<b>Lighting</b>	RGB or daylight-balanced LED		5	5
13	<b>Desk</b>	Height adjustable, 140cm+ width		25	25
14	<b>Chair</b>	Ergonomic, lumbar support		25	25
15	<b>Cable Management</b>	Velcro ties, raceways, trays		25	25
16	<b>Multimedia Projector</b>	Multimedia Projector (3000-3200 Lumens) with Laser Pointer and tripod screen (6" x 8") + adjustable stand.		1	1






S. No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
17	<b>Printer:</b>	Up to 40 PPM 600 MHz 1200 by 1200 dpi 128 MB RAM Legal, A4 & letter size paper. 2 Paper Tray(s), Duplex Printing 1 Hi-Speed USB 2.0; 1 Host USB; 1 Gigabit Ethernet 10/100/1000TX, Microsoft windows Xp/7/ 8/10 and Linux supportive. 01 Year minimum Warranty.		1	1
18	<b>Scanner</b>	ADF Up to 1200 x 1200 dpi (color and mono) For text & images: PDF, JPEG, PNG, BMP, TIFF, TXT (text), RTF (rich text) and searchable PDF. Up to 20 ppm 64 MB, 120 MHZ Standard Hi Speed 2.0		1	1
19	<b>Smart LED TV</b>	43 Inch Smart LED TV (At least Changlong Ruba or equivalent)		1	1
20	<b>Smart Board / Interactive Display</b>	65–75", 4K, touch-enabled		1	1
21	<b>Lecture Recording</b>	OBS Studio with webcam & mic		1	1
22	<b>Wireless Presentation Clicker</b>	Clicker		1	1
23	<b>User Policy Control</b>	GPO, Role-based access, MFA		1	1
24	<b>Laptops (for portable use)</b>	Processor: Intel Core i5/i7 or equivalent RAM: 8 GB or more Storage: 256 GB SSD or higher Operating System: Windows 10/11, macOS, or Linux (depending on institute preference) Display Size: 13" to 15"		25	25





## Lab 04: Tools and Equipment of Internet of Things (IoT)

(For Class Of 15 To 25 Students)

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
1	<b>Workstations (Computers)</b>	Intel i9-14900K / AMD Ryzen 9 7950X / Apple M2 Ultra Minimum 32GB DDR5 (64GB+ for 3D/video) 1TB NVMe SSD + 4TB External HDD/SSD NVIDIA RTX 4080 / AMD Radeon RX 7900 / Apple GPU (M2 Ultra) Windows 11 Pro / macOS Sonoma		25	25
2	<b>Arduino Uno R4 / Mega 2560</b>	8-bit, 16 MHz, GPIO		5	5
3	<b>ESP32 DevKit V1</b>	ESP32 DevKit V1		5	5
4	<b>STM32F746 Nucleo Board</b>	2-bit ARM Cortex-M7, RTOS		5	5
5	<b>Particle Boron (LTE)</b>	Particle Boron (LTE)		5	5
6	<b>Micro: bit v2</b>	Bluetooth, accelerometer, user-friendly		5	5
7	<b>Temperature &amp; Humidity</b>	DHT22, BME280		5	5
8	<b>Distance</b>	Ultrasonic HC-SR04, VL53L0X (laser)		5	5

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
9	<b>Servo Motors</b>	MG995, SG90		5	5
10	<b>Scanner</b>	6400 dpi resolution, color accuracy, flatbed		1	1
11	<b>Monitors (Color-Accurate Displays)</b>	Size 27"–32" Resolution: 4K UHD (3840×2160) Color Gamut 99% AdobeRGB / DCI-P3 Panel IPS / Calibrated Calibration Hardware calibration supported		25	25
12	<b>Software Suite (Licenses Required)</b>	Arduino IDE, PlatformIO Python, C++, Node.js VS Code, Thonny, Jupyter Lab Inker cad Circuits (easy and online) Proteus (simulation + PCB design) KiCad, Fritzing, Eagle		25	25
13	<b>External SSD</b>	2TB, USB-C 3.2		5	5
14	<b>RAID Storage</b>	8TB–40TB, RAID 5, NAS-ready		25	25
15	<b>Router</b>	Wi-Fi 6E, 2.5Gb Ethernet		1	1
16	<b>Switch</b>	Gigabit/10GbE, 8–16 ports		1	1









Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
17	<b>NAS</b>	8–12 bays, 10GbE support		1	1
18	<b>Multimedia Projector</b>	Multimedia Projector (3000-3200 Lumens) with Laser Pointer and tripod screen (6" x 8") + adjustable stand.		1	1
19	<b>Printer:</b>	Up to 40 PPM 600 MHz 1200 by 1200 dpi 128 MB RAM Legal, A4 & letter size paper. 2 Paper Tray(s), Duplex Printing 1 Hi-Speed USB 2.0; 1 Host USB; 1 Gigabit Ethernet 10/100/1000TX, Microsoft windows Xp/7/ 8/10 and Linux supportive. 01 Year minimum Warranty.		1	1
20	<b>Scanner</b>	ADF Up to 1200 x 1200 dpi (color and mono) For text & images: PDF, JPEG, PNG, BMP, TIFF, TXT (text), RTF (rich text) and searchable PDF. Up to 20 ppm 64 MB, 120 MHZ Standard Hi Speed 2.0		1	1
21	<b>Smart LED TV</b>	43 Inch Smart LED TV (At least Changlong Ruba or equivalent)		1	1
22	<b>Network Infrastructure (Switches, Routers, Modems, etc.)</b>	Router: Dual-band Wi-Fi router (Wi-Fi 6 recommended) for optimal performance Switch: 24/48-port Gigabit Ethernet switch for wired connections Firewall: UTM (Unified Threat Management) for enhanced security Wired Network Cable: Cat 6 or Cat 6A cables for high-speed networking Access Points (APs): High-quality APs for wireless connectivity across the lab		1	1








Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
23	<b>Interactive Whiteboard or Smartboards</b>	<p>Screen Size: 65" to 75" (depending on classroom size)</p> <p>Resolution: Full HD (1080p) or 4K for clarity</p> <p>Interactive Features: Multi-touch support, built-in software for collaboration, wireless connectivity</p> <p>Connectivity: HDMI, USB, and wireless options for easy device pairing</p>		1	1
24	<b>UPS (Uninterruptible Power Supply)</b>	<p>Capacity: 1kVA to 3kVA (depending on the lab's total power consumption)</p> <p>Type: Line-interactive or online UPS for reliable power backup</p> <p>Battery Life: At least 30–45 minutes of backup time for a smooth shutdown</p>		1	1
25	<b>Network Attached Storage (NAS)</b>	<p>Storage Capacity: 4TB or more, depending on the volume of data storage needs</p> <p>RAID Configuration: RAID 1 or RAID 5 for redundancy and fault tolerance</p> <p>Network Connectivity: Gigabit Ethernet for fast access</p>		1	1
26	<b>Backup Devices</b>	<p>Type: External hard drives or cloud-based backup solutions</p> <p>Capacity: 1TB or higher for local backups</p> <p>Frequency: Automated scheduled backups</p>		1	1

## 2. Construction Sector

### Lab 01: Tools and Equipment of Furniture and Fixture

(For Class of 15 to 25 Students)

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
1	<b>Workbenches</b>	Steel frame, wooden or epoxy resin top, 72"x36"		1	1
2	<b>CAD Workstations</b>	Min. Core i7, 32 GB RAM, 1TB SSD, GPU (NVIDIA RTX 3060 or higher), 2K/4K dual monitors		25	5
3	<b>Ergonomic Chairs</b>	Adjustable height, lumbar support, mesh back		25	25
4	<b>Storage Cabinets</b>	Lockable steel or wooden cabinets with shelves		5	5
5	<b>Lighting</b>	LED panel lights (4000K–5000K), adjustable task lamps		1	1
6	<b>Universal Testing Machine (UTM)</b>	Load capacity 10–100kN, software-based analysis		1	1
7	<b>Drop Test Machine</b>	Drop height up to 1.5m, programmable drops		1	1
8	<b>Chair Durability Tester</b>	100,000 cycles, adjustable force and frequency		1	1

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
9	<b>Moisture Meter</b>	Digital, range 5–40%, accuracy $\pm 1\%$		15	5
10	<b>Formaldehyde Emission Tester</b>	Based on ASTM D6007 or EN 717-2 standards		5	3
11	<b>Color Matching Booth</b>	D65, TL84, UV, CWF light sources		5	3
12	<b>CNC Router</b>	3-axis, 4'x8' bed, min. 3kW spindle		1	1
13	<b>3D Printer</b>	FDM/PLA compatible, 300x300x400mm		1	1
14	<b>Hand Tools</b>	Screwdrivers, chisels, clamps, hammers		10	5
15	<b>Power Tools</b>	Drill, jigsaw, sander, circular saw – branded for safety (Bosch, DeWalt)		1 each	1 each

## Lab 02: Tools and Equipment of Building Electrician

(For Class of 15 to 25 Students)

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
1	Combination Plier	8 inches, insulated		25 Nos.	10
2	Wire Stripper	adjustable gauge, up to 6 mm <sup>2</sup>		12 Nos.	10
3	Long Nose pliers	6 inches		12 Nos.	10
4	Insulated Wire Cutter,	7 inches		25 Nos.	10
5	High Insulation Rubber Hand Gloves	Rated for 1000V, Class 0, electrical insulation, with leather protectors		25 Nos.	10
6	Knife Cutter	retractable blade		12 Nos.	10
7	Chisels	6", 12"		5 Nos. each	10

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
8	Hammers	200 gm		10 Nos.	10
9	Hack Saws			10 Nos.	10
10	White Boards	(3 × 4 Feet, For Practical)		10 Nos.	10
11	Phillips Screw Driver	No. 1, 2, 3		25 Nos. Each	10
12	Screw Driver	4", 6", 8"		25 Nos. Each	10
13	Measuring Tape	3m		12 Nos.	5
14	Steel Foot Rule			12 Nos.	5
15	Bench Vice	5"		25 Nos.	5
16	Bearing Puller	( 3" , 4" )		3 Nos. Each	1

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
17	<b>Drill Machine</b>	( 0 – 13 mm )		3 Nos.	1
18	<b>Allen key</b>	Universal Set		2 Nos.	10
19	<b>Clamp meter</b>	0–750V–AC 50 Hz		10 Nos.	5
20	<b>Multi-Meter</b>	A.C./D.C. (Digital)		10 Nos.	5
21	<b>DIN rail strips</b>	35mm, 1 Meter length		5 Dozen	3
22	<b>Single Phase Energy Meter</b>	220V/10–20A		5 Nos.	2
23	<b>Three Phase Energy Meter</b>	( 30 A )		3 Nos.	1

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
24	Breaker DB			5	2
25	Insulation Remover	150 mm		20 Nos.	10
26	Test Boy			12 Nos.	6
27	Hand Electric Drill Machine	with Hammering 0–13 mm		2 Nos.	1
28	Fish Tape			5 Nos.	1
29	Assorted Stationery Items	(Lab/Workshop Infrastructure)		As per Need	1
30	Safety Helmet	Hard hat, ANSI Z89.1 Type I, Class E (Electrical), with chin strap		25 Nos.	20
31	Safety Shoes	Insulated, anti-slip, steel toe, rated for electrical hazards (EH) up to 1000V		25 Pairs	20










S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
32	<b>First Aid Kit</b>	with burn gel, bandages, antiseptic, etc		2 Nos.	1
33	<b>Fire Extinguisher</b>	ABC type, 5 kg, for electrical fires		2 Nos.	1
34	<b>Reflective Safety Vest</b>	High-visibility, ANSI/ISEA 107 Class 2		25 Nos.	1
35	<b>Spirit Level</b>			5 Nos.	1

## Lab 02: Consumable Materials of Building Electrician

(For Class of 15 to 25 Students)

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
1	LED Bulb	0 Watt		6 Dozen	3 Dozen
2	LED Bulb	12 Watt		3 Dozen	2 Dozen
3	Wire	3/0.029" (Black, Red)		5 Coils Each	3 Coils Each
4	Wire	1/0.044"		3 Coils	2 Coils
5	Single Pole MCB	10:00 am		2 Dozen	2 Dozen
6	Double Pole MCB	16 A		2 Dozen	2 Dozen
7	Bell push switch			3 Dozen	3 Dozen
8	One Way Switch			6 Dozen	6 Dozen

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
9	Two Way Switch		<p>2-WAY SWITCH</p> 	2 Dozen	2 Dozen
10	Two Pin Socket			3 Dozen	3 Dozen
11	Two pin shoes			3 Dozen	3 Dozen
12	Lamp Holder			8 Dozen	8 Dozen
13	Incandescent Lamp	(100 Watt)		1 Dozen	1 Dozen
14	PVC Board	Boxes (1 to 10 holes)		1 Dozen Each	1 Dozen Each
15	Fan Regulators			5 Dozen	5 Dozen

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
16	<b>Drill Machine Bit Set</b>	(1 – 15 mm)		2 sets Each	2 sets Each
17	<b>Neon Phase Tester</b>	Light Duty Pocket Size		2 Dozen	2 Dozen
18	<b>Channel Ducts</b>	( 16x38 )		24 Lengths	20 Lengths
19	<b>Channel Ducts</b>	(25x40 )		12 Lengths	10 Lengths
20	<b>Steel Screw</b>	(0.5 , 1, 1½” , 2 & ¾”)		6 Packets each	3 Packets each
21	<b>Insulation Tape</b>			6 Dozen	3 Dozen
22	<b>RCBO</b>	(10 A)		1 Dozen	1 Dozen
23	<b>Three pole MCB</b>	32 A		1 Dozen	1 Dozen
24	<b>Four pole MCB</b>	63 A		1 Dozen	1 Dozen

## Lab 03: Tools and Equipment of Industrial Electrician






(For Class of 15 to 25 Students)

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
1	<b>Combination Plier</b>	8 inch, insulated		25 Nos.	15 Nos.
2	<b>Wire Stripper</b>	adjustable gauge, up to 6 mm <sup>2</sup>		12 Nos.	5 Nos.
3	<b>Long Nose plier</b>	6 inch		12 Nos.	5 Nos.
4	<b>Insulated Wire Cutter</b>	7 inch		25 Nos.	5 Nos.
5	<b>Grip Plier</b>	10 inch, curved jaw		10 Nos.	5 Nos.
6	<b>Knife Cutter</b>	Retractable blade		12 Nos.	10 Nos.
7	<b>Single Phase Motor</b>			5 Nos.	3 Nos.
8	<b>Hammer</b>	200 gm		10 Nos.	10 Nos.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
9	Hack Saws			10 Nos.	10 Nos.
10	White Boards	(3 × 4 Feet, For Practical)		1 Nos.	1 Nos.
11	Phillips Screw Driver	No. 1, 2, 3		25 Nos.	15 Nos.
12	Screw Driver	4", 6", 8"		25 Nos.	15 Nos.
13	Measuring Tape	3m		12 Nos.	10 Nos.
14	Steel Foot Rule			12 Nos.	10 Nos.
15	Bench Vice	5"		10 Nos.	5 Nos.
16	Three Phase Motors			5 Nos.	3 Nos.
17	Drill Machine	(0 – 13 mm)		5 Nos.	3 Nos.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
18	Allen key	Universal Set		5 sets.	2 sets.
19	Clamp meter	0–750V–AC 50 Hz		15 Nos.	5 Nos.
20	Multi-Meter	A.C./D.C. (Digital)		15 Nos.	5 Nos.
21	Megger Tester			5 Nos.	3 Nos.
22	Single Phase Energy Meter	220V/10–20A		15 Nos.	5 Nos.
23	Three Phase Energy Meter	( 30 A )		15 Nos.	5 Nos.
24	Marking Tape			Few Packs	Few Packs

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
25	<b>Insulation Remover</b>	150 mm		15 Nos.	10 Nos.
26	<b>Test Boy</b>			10 Nos.	5 Nos.
27	<b>Hand Electric Drill Machine</b>	with Hammering 0–13 mm		2 Nos.	2 Nos.
28	<b>Assorted Stationery Items</b>	(Lab/Workshop Infrastructure)		As per Need	As per Need
29	<b>High Insulation Rubber Hand Gloves</b>	Rated for 5000V, Class 1, electrical insulation, with leather protectors		25 Nos.	25 Nos.
30	<b>Safety Helmet</b>	Hard hat, ANSI Z89.1 Type I, Class E (Electrical), with chin strap	 	25 Nos.	25 Nos.
31	<b>Safety Shoes</b>	Insulated, anti-slip, steel toe, rated for electrical hazards (EH) up to 5000V		25 Nos.	25 Nos.
32	<b>First Aid Kit</b>	with burn gel, bandages, antiseptic, etc.		3 Nos.	3 Nos.







S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
33	<b>Fire Extinguisher</b>	CO2 type, 5 kg, for electrical fires		2 Nos.	2 Nos.
34	<b>Reflective Safety Vest</b>	CO2 type, 5 kg, for electrical fires		25 Nos.	25 Nos.
35	<b>Lockout/Tagout Kit</b>	Includes padlocks, tags, and hasps for electrical isolation		3 Kits.	3 Kits.
36	<b>VFD</b>	(with DC to AC and Single Phase to Three Phase Conversion Functionality)		1 Nos.	1 Nos.
37	<b>Switchgear</b>	Single Phase, Three Phase		15 Nos. each	10 Nos. each

## Lab 03: Consumable Materials of Industrial Electrician




(For Class of 15 to 25 Students)

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
1	Wire	1/0.044"		6 Coils	3 Coils
2	Wire	3/0.029" (Black, Red)		3 Coils Each	2 Coils Each
3	Wire	7/0.029" (R , Y , B)		2 Coils Each	1 Coils Each
4	Three pole MCB	32 A		1 Dozen	1 Dozen
5	Single Pole MCB	10:00 am		2 Dozen	1Dozen
6	Double Pole MCB	16 A		2 Dozen	1Dozen
7	Push Buttons	Industrial (Red , Green)		3 Dozen Each	2 Dozen Each

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
8	<b>Magnetic Contactor</b>	25 A , 220 V AC		3 Dozen	2Dozen
9	<b>Terminal Block</b>	16mm Din Rail Line Up Mounted		100 pieces	50 pieces
10	<b>Overload Relay</b>	( 10 – 16 A , Adjustable )		2 Dozen	1 Dozen
11	<b>Electromechanical Relays</b>	( 220 V AC ) , 8 Pin , With Bases		2 Dozen	1Dozen
12	<b>Timer Relays</b>	( 220 V AC ) , 8 Pin , With Bases		3 Dozen	2Dozen
13	<b>DIN rail strips</b>	35mm , 1 Meter length		2 Dozen	2 Dozen
14	<b>Industrial Push Buttons Boxes</b>	( 1 to 3 holes )		1.5 Dozen Each	1Dozen Each
15	<b>Indicators</b>	( R , Y , B , G )		3 Dozen Each	2Dozen Each

S. No.	Name of Items	Description	Pictures		CBT	Non-CBT
16	<b>Drill Machine Bit Set</b>	( 1 – 15 mm )			3 Each	2 Each
17	<b>Neon Phase Tester</b>	Light Duty Pocket Size			2 Dozen	1Dozen
18	<b>Channel Ducts</b>	( 16x38 )			24 Lengths	20 Lengths
19	<b>Channel Ducts</b>	( 25x40 )			12 Lengths	10 Lengths
20	<b>Voltmeter</b>	Digital ( Panel)			1 Dozen	1 Dozen
21	<b>Ammeter</b>	Digital ( Panel)			1 Dozen	1 Dozen

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
22	Emergency Stop Push Button			1 Dozen	1 Dozen
23	Steel Screw	( 0.5 , 1, 1½” , 2 & ¾” )		6 Packets each	3 Packets each
24	Insulation Tape			6 Dozen	3 Dozen
25	Digital Voltage Current Protector			6 Nos.	6 Nos.
26	PVC Conduit	Flexible		30 Meters	20 Meters
27	Selector Switches			1 Dozen	1 Dozen
28	Enclosure	(Pannel Box)		3 Nos.	3 Nos.








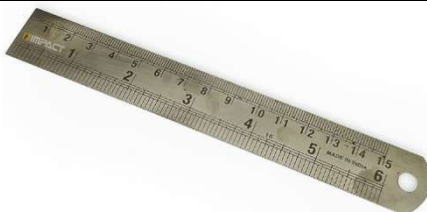

S. No.	Name of Items	Description	Pictures	CBT	Non-CBT
29	<b>Lugs</b>	(1.5 to 8mm)		Few Packs Each	Few Packs Each
30	<b>Cable Glands</b>	(PG7, PG9, PG11, PG 19, PG 21)		Few Packs Each	Few Packs Each
31	<b>Four pole MCB</b>	63 A		1 Dozen	1 Dozen

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## Lab 04: Tools and Equipment of Solar PV (Photovoltaic) Technician







(For Class of 15 to 25 Students)

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
1	<b>Combination Plier</b>	8 inches, insulated		15 Nos.	12 Nos.
2	<b>Wire Stripper</b>	adjustable gauge, up to 6 mm <sup>2</sup>		15 Nos.	12 Nos.
3	<b>Long Nose pliers</b>	6 inches		15 Nos.	10 Nos.
4	<b>Insulated Wire Cutter</b>	7 inches		15 Nos.	5 Nos.
5	<b>Grip Plier, 10 inches</b>	10-inch, curved jaw		15 Nos.	5 Nos.
6	<b>Knife Cutter</b>	retractable blade		15 Nos.	5 Nos.
7	<b>Crimping Tool</b>	for MC4 Connectors		15 Nos.	10 Nos.



S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
8	Hammer	200 gm		25 Nos.	12 Nos.
9	Hack Saws			25 Nos.	12 Nos.
10	Compass			10 Nos.	5 Nos.
11	Spanner Set			5 sets	3 sets
12	Phillips Screw Driver	No. 1, 2, 3		25 Nos.	25 Nos.
13	Screw Driver	4", 6", 8"		25 Nos.	25 Nos.
14	Measuring Tape	3m		25 Nos.	12 Nos.
15	Steel Foot Rule			25 Nos.	12 Nos.
16	Solar Power Meter			15 Nos.	5 Nos.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
17	Solar Irradiance Meter			5 Nos.	3 Nos.
18	Drill Machine	(0–13 mm)		5 Nos.	3 Nos.
19	Hand Electric Drill Machine	with Hammering (0–13 mm)		5 Nos.	3 Nos.
20	Allen Key	Universal Set		5 sets	3 sets
21	Multi-Meter	A.C./D.C. (Digital)		15 Nos.	10 Nos.
22	Megger Tester			5 Nos	3 Nos.
23	Single Phase Energy Meter	220V/10–20A		15 Nos.	10 Nos.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
24	Three Phase Energy Meter	( 30 A )		15 Nos.	10 Nos.
25	Solar Panel	(Polycrystalline 250W)		10 Nos.	5 Nos.
26	Solar Panel	(Monocrystalline 100W)		15 Nos.	10 Nos.
27	Solar Hybrid Inverter	(MPPT 5kVA)		3 Nos.	2 Nos.
28	Inverter	(1500W Sine Wave)		5 Nos.	2 Nos.
29	Charge Controller	(MPPT 20A)		5 Nos.	3 Nos.
30	Charge Controller	(PWM 40A)		5 Nos.	3 Nos.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
31	<b>Dry Cell Battery</b>	(12V, 100Ah) for Solar System		5 Nos.	5Nos.
32	<b>Solar Panel Stand</b>	(For 150W–250W Panels)		15 Nos.	15 Nos.
33	<b>Solar Installation Tester</b>			15 Nos.	5 Nos.
34	<b>Temperature Gun</b>	(Non-Contact IR Infrared)		10 Nos.	5 Nos.
35	<b>Ladder</b>	(Adjustable, 10 Feet)		5 Nos.	2 Nos.
36	<b>High Insulation Rubber Hand Gloves</b>	(Rated 1000V, Class 0)		25 Nos.	25 Nos.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
37	<b>Safety Helmet</b>	(ANSI Z89.1 Type I, Class E)	 <p>TYPE I (HARD HAT)      TYPE II (SAFETY HELMET)</p>	25 Nos.	25 Nos.
38	<b>Safety Shoes</b>	(Insulated, Steel Toe, Rated 1000V)		25 Nos.	25 Nos.
39	<b>First Aid Kit</b>	(Comprehensive)		5 Nos.	3 Nos.
40	<b>Fire Extinguisher</b>	(ABC Type, 5 kg)		5 Nos.	2 Nos.
41	<b>Reflective Safety Vest</b>	(ANSI/ISEA 107 Class 2)		25 Nos.	25 Nos.
42	<b>Lockout/Tagout Kit</b>	(Padlocks, Tags, Hasps)		5 Kits.	3 Kits.

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
49	Switchgears			25 Nos.	10 Nos.
50	Clamp meter	0–750V–AC 50 Hz		15 Nos.	10 Nos.

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**Lab 04: Consumable Materials of Solar PV (Photovoltaic) Technician**

(For Class of 15 to 25 Students)







S. No.	Name of Consumable Material	Description	Pictures	CBT	Non-CBT
1	<b>Solar Cable</b>	4 mm <sup>2</sup> , 6 mm <sup>2</sup>		6 Coils Each	3 Coils Each
2	<b>Connector Bar</b>	1000v and 16 A		25 Nos. each	15 Nos. each
3	<b>Wire</b>	3/0.029"		3 Coils	2 Coils
4	<b>MC4 Connectors</b>	(Male / Female)		2 Coils	2 Coils
5	<b>Cable</b>	3 Core, 7/0.036		2 Coils	2 Coils
6	<b>Electromechanical Relays</b>	(220 V AC) , 8 Pin , With Bases		2 Dozen	1 Dozen

S. No.	Name of Consumable Material	Description	Pictures	CBT	Non-CBT
7	Timer Relays	( 220 V AC ) , 8 Pin , With Bases		3 Dozen	1Dozen
9	Three pole MCB	32 A		1 Dozen	1 Dozen
10	Four pole MCB	63 A		1 Dozen	1 Dozen
11	Single Pole MCB	10.0 A		2 Dozen	1 Dozen
12	Double Pole MCB	16 A		2 Dozen	1 Dozen
13	PVC Conduit	Flexible		60 Feet	30 Feet
14	Selector Switches			1 Dozen	1 Dozen
15	Lugs	(0.029, 0.044, 6mm <sup>2</sup> , 4 mm <sup>2</sup> )		Few Packs of Each	Few Packs of Each

## Lab 05: Tools and Equipment of Substation Power House Technician

(For Class of 15 to 25 Students)

S. No.	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
1	<b>Combination Plier</b>	8 inches, insulated		15 Nos. each	10 nos each
2	<b>Wire Stripper</b>	adjustable gauge, up to 6 mm <sup>2</sup>		10 Nos.	5
3	<b>Long Nose pliers</b>	6 inches		12 Nos.	5
4	<b>Insulated Wire Cutter</b>	7 inches		10 Nos.	5
5	<b>Grip Plier</b>	10-inch, curved jaw		15 Nos.	10
6	<b>Knife Cutter</b>	retractable blade		25 Nos.	20
7	<b>Clamp meter</b>	0–750V–AC 50 Hz		10 Nos.	5

S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
8	<b>Multi-Meter</b>	A.C./D.C. (Digital)		10 Nos.	5
9	<b>High Voltage Insulation Tester</b>	(Megger), up to 5kV		5 Nos.	3
10	<b>Earth Resistance Tester</b>	digital, clamp type		5 Nos.	3
11	<b>Primary Injection Test Kit</b>	up to 1000A		3 Nos.	2
12	<b>Secondary Injection Test Kit</b>	for Relays		3 Nos.	1
13	<b>Relay Test Set</b>	3-phase		15 Nos.	5



S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
14	SF6 Gas Leakage Detector			3 Nos.	2
15	Contact Resistance Meter	up to 100A		3 Nos. Each	2
16	Breaker Timing Kit			3 Nos.	2
17	Thermal Imaging Camera	IR resolution 160x120		1 Nos.	1
18	Digital Panel Meters	(V/A/Frequency )		5 Nos.	3
19	Drill Machine	(0–13 mm), variable speed		3 Nos.	3

S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
20	<b>Allen Key</b>	Universal Set, metric sizes		3 set	2
21	<b>Screw Driver Set</b>	(Phillips & Flat)		3 Each	3 each
22	<b>Hammer</b>	(Ball Pein), 200 gm		10 Nos.	5
23	<b>Bench Vice</b>	5 inch		3 Nos.	3
24	<b>Safety Helmet</b>	ANSI Z89.1, Class E		25 Nos.	15
25	<b>High Voltage Insulated Gloves</b>	Class 2, 17kV with leather protectors		25 Nos.	15
26	<b>Safety Shoes</b>	EH Rated up to 17kV, Steel Toe		25 Nos.	15

S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
27	<b>First Aid Kit</b>	Comprehensive		3 Nos.	2
28	<b>CO2 Fire Extinguisher</b>	5kg		2 Nos.	2
29	<b>Reflective Safety Vest</b>	Class 2		25 Nos.	15
30	<b>Lockout/Tagout Kit</b>	with tags, padlocks, hasps		3 Kits.	2
31	<b>Ladder</b>	Ladder		(Adjustable , 10 Feet)	(Adjustable , 10 Feet)
32	<b>High Voltage Detector</b>	(Up To 11 kV – 33 kV)		3 Nos.	2
33	<b>Phase Sequence Meter</b>			5 Nos.	3

S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
34	CT & PT Testing Kit			3 Nos.	2
35	HV Test Set	(Portable, 0–5kV or 0–10kV)		3 Nos.	2
36	Infrared Thermometer	(Temperature Gun)		2 Nos.	1
37	Transformer Oil Test Kit			3 Nos.	2
38	Transformer Model	(3-phase oil-type 25kVA for lab use)		1 No.	1
39	HT Panel Demo Setup	(Control, Relay, Metering)		3 Nos.	2






S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
40	Single Phase Energy Meter	220V/10–20A		10 Nos.	5
41	Three Phase Energy Meter	( 30 A )		10 Nos.	5
42	Distribution Box	with Busbars & Wiring Board		10 Nos.	5
43	Substation Layout Model	(Miniature 11kV Substation with dummy busbars)		1 No	1
44	White Boards	( 3x4 Feet ) For Practical		1 Nos.	1
45	Power Quality Analyzer			3 Nos.	1
46	Cable Fault Locator			3 Nos.	1

S. No	Name of Tools and Equipment	Description	Pictures	CBT	Non- CBT
47	<b>Busbar Fabrication Tool Kit</b>	(Punch, Bend, Cut)		3 Nos.	1
48	<b>Switchgears</b>			10 Nos.	5

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## Lab 05: Consumable Materials of Substation Technician

(For Class of 15 to 25 Students)

S. No.	Name of Item	Description	Pictures	CBT	Non-CBT
1	Control Cable	3 Core, 2.5 mm <sup>2</sup> , PVC		3 Bundles	2
2	Cable	Single Core, 10 mm <sup>2</sup> , Red/Black		3 Coils Each	2
3	Lugs	(Copper), 2.5 mm <sup>2</sup> , 10 mm <sup>2</sup> , 25 mm <sup>2</sup>		6 Packs Each	3
4	Cable Glands	(PG9, PG11, PG13.5)		6 Packs Each	3
5	Cable Ties	6 inch & 12 inch, UV Resistant		6 Packs Each	3
6	Steel Screw	(0.5 , 1, 1½" , 2 & ¾")		6 Packets each	3
7	Insulation Tape	PVC, Flame Retardant		6 Dozen	3
8	Indicator Lamps	(R, Y, B, Black), 220V		5 Dozen each	3 dozen each

S. No.	Name of Item	Description	Pictures	CBT	Non-CBT
9	Relay Base	(8 Pin), DIN Rail Mountable		3 Dozen	2
10	Electromechanical Relays	(220 V AC) , 8 Pin, With Bases		2 Dozen	2
11	Timer Relays	( 220 V AC ) , 8 Pin , With Bases		3 Dozen	2
12	PVC Flexible Conduit	20mm & 25mm		10 Dozen	5
13	MCB	(SP 6A, DP 10A, TP 16A , 4 pole 60 A )		1 Dozen Each	1 Dozen Each
14	Voltmeter	Digital ( Panel)		2 Dozen	1
15	Ammeter	Digital ( Panel)		2 Dozen	1

S. No.	Name of Item	Description	Pictures	CBT	Non-CBT
16	<b>Selector Switch</b>	2-position & 3-position		3 Dozen each	1
17	<b>Emergency Stop Push Button</b>	Twist Release		3 Dozen	1
18	<b>Panel Boxes</b>	Metal Enclosure		5 Nos.	2
19	<b>Slotted Ducts</b>	25x40mm, PVC		12 Lengths	8
20	<b>Earthing Strip</b>	Copper, 25x3mm, 1 meter		3 Sets	2 sets
21	<b>Heat Shrink Tubes</b>	Different Sizes		5 Dozen each	3 dozen

S. No.	Name of Item	Description	Pictures	CBT	Non-CBT
22	<b>Overload Relays</b>			3 Dozen	2
23	<b>Magnetic Contactors</b>	25 A , 220 V AC		3 Dozen	2
24	<b>Busbar Material</b>	(Aluminum/Copper Strips for Demo)		30 Feet	20 ft
25	<b>Push Buttons</b>	Industrial (Red, Green)		3 Dozen Each	2
26	<b>Terminal Blocks</b>	DIN Rail Line Up Mounted, 16mm		100 Pieces	50
27	<b>DIN Rail Strips</b>	35mm (1 Meter Length)		50 Pieces	30

## Lab 06: Tools and Equipment of Underground Electrical Wiring Technician






(For Class of 15 to 25 Students)

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
1	<b>Combination Plier</b>	8 inch, insulated		20 Nos.	10
2	<b>Wire Stripper, adjustable gauge, up to 6 mm<sup>2</sup></b>	adjustable gauge, up to 6 mm <sup>2</sup>		12 Nos.	5
3	<b>Long Nose pliers, 6 inch</b>	6 inch		10 Nos.	5
4	<b>Insulated Wire Cutter, 7 inch</b>	7 inch		20 Nos.	10
5	<b>Grip Plier, 10-inch, curved jaw</b>	10-inch, curved jaw		10 Nos.	5
6	<b>Knife Cutter, retractable blade</b>	retractable blade		15 Nos.	5
7	<b>Hammers</b>	200 gm		10 Nos.	5
8	<b>Pickaxe</b>	for trenching		5 Nos.	3





S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
9	<b>Shovel/Spade</b>	for trenching		5 Nos.	3
10	<b>Steel Rod Bender</b>	(Manual)		3 Nos.	2
11	<b>Manual Pipe Bender</b>	(for PVC conduit)		3 Nos.	2
12	<b>PVC Pipe Cutter</b>			5 Nos.	3
13	<b>Phillips Screw Driver</b>	No. 1, 2, 3		25 Nos.	15 each
14	<b>Screw Driver</b>	4", 6", 8"		25 Nos.	15 each
15	<b>Measuring Tape</b>	5m		10 Nos.	5
16	<b>Steel Folding Rule</b>			10 Nos.	5
17	<b>Spirit Level</b>			5 Nos.	3

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
18	Digital Clamp Meter			10 Nos.	5
19	Earth Resistance Tester	(Digital)		5 Nos.	2
20	Multi-Meter A.C./D.C.	(Digital)		10 Nos.	5
21	Megger Tester			3 Nos.	2
22	Cable Route Tracer	(Underground Locator)		5 Nos.	2
23	Underground Cable Fault Locator			5 No.	3

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
24	Cable Pulling Lubricant Applicator			5 Nos.	3
25	Fish Tape	50m (Steel)		10 Nos.	5
26	Hand Electric Drill Machine	with Hammering 0–13 mm		3 Nos.	2
27	Drill Machine Bits	(1 – 15 mm)		3 Each	2 each
28	Safety gloves	(Class E with Chin Strap)		25 Nos.	15
29	Safety Helmet	(Insulated, EH-rated up to 1000V)		25 Nos.	15
30	Reflective Safety Vest	(ANSI/ISEA 107 Class 2)		25 Nos.	15

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
31	High Insulation Rubber Gloves	(Class 0)		3 Nos.	3
32	Lockout/Tagout Kit			2 Nos.	1
33	First Aid Kit			15 Nos.	5
34	Fire Extinguisher	(ABC type, 5kg)		5 Nos.	3
35	Warning Tape	(Buried Cable Marking)		5 Rolls	3
36	Directional Boring Tool			5 Nos.	2

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
37	Cable Pulling Winch			5 Nos.	1
38	Hydraulic Cable Cutter			5 Nos.	2
39	Crimping Plier			10 Nos.	5
40	Hot Stick			10 Nos.	5
41	Adjustable Wrench			12 Nos.	5
42	Cable Rollers			5 Nos.	3
43	Cable Drum Jacks			1 No.	1 no

S. No.	Name of Tools/Equipment	Description	Pictures	CBT	Non-CBT
44	Cable End Sealing Caps			5 dozen	3 dozen
45	Phase Sequence Indicator			10 Nos.	5
46	Cable Tensioner			1 Nos.	1
47	Switchgears			15	10




## Lab 06: Consumable Materials of Underground Electrical Wiring Technician

(For Class of 15 to 25 Students)

S. No.	Name of Items	Distraction	Pictures	CBT	Non-CBT
1	Underground Armored Cable	2.5 mm <sup>2</sup> , 4 Core	 2.5mm 4 Core SWA	3 Coils	2 Coils
2	Underground Armored Cable	6 mm <sup>2</sup> , 3 Core		5 Coils	3 coils
3	PVC Conduit Pipe	1" & 1.5"		60 Meters Each	30 meters each
4	GI Wire	(for Earthing)		3 Coils	2 coils
5	Earth Rods	(Copper Clad Steel, 8 ft)		5 Nos.	2 Nos
6	Cable Glands	(PG9, PG11, PG13.5)		Few Packs Each	Few Packs Each


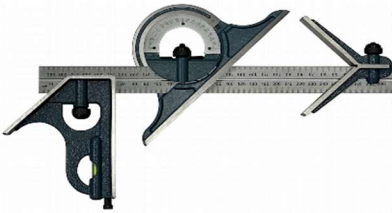

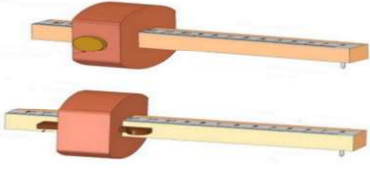



S. No.	Name of Items	Distraction	Pictures	CBT	Non-CBT
7	Heat Shrink Sleeves			5 dozen	2 dozen
8	Cable Jointing Kit	(LV)		3 Nos.	2 nos
9	PVC Tape	(Insulation)		6 dozen	3 dozen
10	Warning Tape (Caution: Buried Cable Below)			6 Rolls	3 Rolls
11	Sand for Cable Bedding	(Practice Use)		As Required	As Required

S. No.	Name of Items	Distraction	Pictures	CBT	Non-CBT
12	<b>Bricks/Stone Slabs</b>	for Cable Protection		As Required	As Required
13	<b>Cable Tags/Markers</b>			5 Packs	3 Packs
14	<b>Lugs</b>	for Underground Cable		Few Packs Each Size	Few Packs Each Size
15	<b>Neutral Link Strip</b>			2 dozen	2 dozen
16	<b>Distribution Box</b>	(Outdoor IP65)		12 Nos.	6 Nos.
17	<b>MCBs</b>	SP 15A, DP 32A TP 32 A, FP 63 A		2 dozen Each	2 dozen Each

S. No.	Name of Items	Distraction	Pictures	CBT	Non-CBT
18	Earth Pit Chamber Cover			5 Nos.	5 Nos.
19	Cable Termination Kit			2 Nos.	2 Nos.
20	Fasteners, Screws, Clamps	(PVC/GI)		Assorted Packs	Assorted Packs








## Lab 07: Tools and Equipment of Carpenter

(For Class of 15 to 25 Students)

Sr. No	Tools	Specification	Images	CBT	Non-CBT
1	<b>Tape Measure</b>	Typically, 16–25 ft		10	05
2	<b>Combination Square</b>	Measures 90° and 45° angles; has a built-in ruler		5	2
3	<b>Angle finder</b>	0°–360°, digital or manual		5	2
4	<b>Marking Gauge</b>	Adjustable up to 6–8 inches		5	2
5	<b>C-Clamps</b>	1" to 9" opening sizes		12	6
6	<b>Pipe clamps</b>	For ½" or ¾" diameter pipes		12	4
7	<b>Marking Knife</b>	Sharp blade for precise layout lines		25	10







Sr. No	Tools	Specification	Images	CBT	Non-CBT
8	<b>Drill Machine</b>	10mm–13mm chuck, 500W–800W (corded), Variable speed, hammer mode (optional), reverse function		5	2
9	<b>Vernier Calipers</b>	Measures internal/external distances with high precision		5	2
10	<b>Hand Saw</b>	20–26-inch blade; general purpose wood cutting		10	5
11	<b>Back Saw</b>	Short stiff blade; ideal for clean, precise cuts		10	5
12	<b>Baby grinder</b>	4"-to-7"-disc size, 700W–1000W motor, side handle, safety guard		3	1
13	<b>Crosscut Saw</b>	Designed to cut across the grain; teeth angled for slicing		4	2
14	<b>Rip Saw</b>	For cutting along the grain; aggressive tooth pattern		5	2
15	<b>Electric hand planner</b>	3¼" blade width, 500W–750, Adjustable depth, dust collection, kickstand		3	1

Sr. No	Tools	Specification	Images	CBT	Non-CBT
16	<b>Wood Chisels</b>	Sizes vary (1/4" to 1"); for carving or joint work		5 Sets	1 Set
17	<b>Wood Rasp</b>	Coarse file; used for shaping wood quickly		5 Sets	1 Set
18	<b>File (Flat/Round)</b>	Used for fine shaping, smoothing		5 Sets	1 Set
19	<b>Router</b>	1/4" or 1/2" collet, 1.25–2.25 HP motor, Variable speed, plunge or fixed base, depth adjustment		2	1
20	<b>Miter Saw</b>	10" or 12" blade size, 1400W–2000W, Sliding arm, laser guide, bevel and miter adjustments		1	1
21	<b>Claw Hammer</b>	16–20 oz; for driving and pulling nails		10	4
22	<b>Wooden/Rubber Mallet</b>	Used with chisels or gentle assembly		5	2
23	<b>Screwdrivers</b>	Flathead, Phillips; for driving screws manually		5 Set	1 Set

Sr. No	Tools	Specification	Images	CBT	Non-CBT
24	<b>Metal hand planner</b>	9"–14" body length, Adjustable mouth, replaceable blades, wooden or plastic handle		5	2
25	<b>Cordless Drill</b>	12–20V; used for drilling and screwdriving		5	1
26	<b>Circular Saw</b>	Blade size ~7¼"; for fast straight cuts in wood		2	1
27	<b>Jigsaw</b>	For cutting curves, shapes, and holes		2	1
28	<b>Power Sander</b>	Speeds up sanding; orbital for smooth finish		2	1
29	<b>Spirit Level</b>	Typically, 1 ft; for checking level and plumb surfaces		5	2
30	<b>Drill Bits</b>	1mm–13mm, sets, Twist, spade, auger, Forstner, masonry, brad point		2 Set	1 Set

## Lab 07: Consumables Materials of Carpenter

(For Class of 15 to 25 Students)









Sr.	Consumables	Specification	Images	CBT	Non-CBT
1	<b>Wood Screws</b>	1/2"–4", Flat/Phillips head, Steel (zinc or brass coated)		2 box each size	1 box each size
2	<b>Nails</b>	1"–6", Common/Finishing/Brad, Steel, galvanized		1 box each size	1 box each size
3	<b>Wood Glue</b>	250ml–1L bottles		2 bottles	1 bottle
4	<b>Sandpaper</b>	40–320 grit		2 packets	1 packet
5	<b>Wood Filler</b>	250g–1kg tubs, Solvent or water-based		1 gallon	1 gallon
6	<b>Finishing Nails</b>	1"–2.5", Galvanized steel		1 box each size	1 box each size



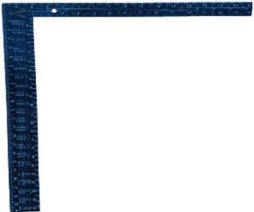



Sr.	Consumables	Specification	Images	CBT	Non-CBT
7	<b>Abrasive Discs</b>	4"-7" diameter		1 piece each	1 piece each
8	<b>Screws (Drywall)</b>	1"-2.5", bugle head		1 box each size	1 box each size
9	<b>Tack Cloth</b>	9"x18" sheets, Sticky, lint-free		5 meters	2 meters
10	<b>Wire Nails</b>	1"-3", Mild steel		1 box each size	1 box each size
11	<b>Laminate Sheets</b>	Standard 8'x4', Scratch-resistant, heat-resistant		As per need	As per need
12	<b>L Brackets</b>	Small/medium (1"-4"), Steel, zinc-plated, Pre-drilled holes		12 brackets (mix)	6 brackets (mix)
13	<b>Hinges</b>	35mm bore type, Nickel-plated steel,		1 box	1 box








Sr.	Consumables	Specification	Images	CBT	Non-CBT
14	<b>Edge banding tape</b>	18mm–22mm width, 0.4mm–2mm thick, pre-glued or non-glued, iron-on or edge banding machine compatible		2 rolls	1 roll
15	<b>Cylindrical key lock</b>	60mm or 70mm backset, 25mm–30mm faceplate, Brass or stainless steel		8	4
16	<b>Night latch lock (outside opening)</b>	Horizontal type, 60mm–85mm backset, Opened with a key from outside, auto-latching mechanism		4	2
17	<b>Night latch lock (inside opening)</b>	Horizontal, surface-mounted, operated with a thumb turn or knob, used for unlocking from inside		4	2
18	<b>Sandpaper roll China</b>	Grit sizes 40–320		10 ft mix	5 ft mix
19	<b>Ball-bearing sliders</b>	12"–24" length, side-mount type, Full-extension, heavy-duty, soft-close optional		2 packets	1 packet
20	<b>Undermount sliders</b>	12"–22", concealed mounting, Soft-close, push-to-open options, requires rear brackets and clips		2 packets	1 packet








## Lab 08: Tools and Equipment of Mason





(For Class of 15 to 25 Students)

S. No	Nome of Tool	Specifications	Photo	CBT	Non-CBT
1	<b>Trowel with Handle</b>	<b>Mason Trowel</b> (Tampered and hardened Carbon Steel Blade, Square tip blade 20-28cm long, Wooden handle)		25	10
2	<b>Chisel Set (9" - 12" - 18")</b>	<b>CHISEL Set</b> (High carbon hardens steel, Hexagonal/ octagonal shank chisels, chrome/black finish, polished cutting edge. 200 mm shank 20 mm wide on cut (Approximate) 300 mm shank 25 mm wide on cut 450 mm shank 36 mm wide on cut Chisel Set (9"-12"- 18"))		5 Sets	2
3	<b>Bricks Hammer with wooden Handle</b>	<b>Brick Hammer</b> (Forged steel rectangle head and tapered tip weight = 250-400gm, Wooden handle (30cm long) with molded vinyl grip)		25	10
4	<b>Hammer (1 Kg, 1½ kg, 3 kg)</b>	<b>Hammer</b> (Forged steel rectangle head and tapered tip weight = 1, 1.5, 3 Kg Wooden handle (60cm long) with molded vinyl grip)		5 Sets	2
5	<b>Plumb Bob</b>	<b>Plumb Bob</b> (Weight = 100-130gm, Screwed Cap, Strup indicator)		25	10
6	<b>Shovels with Handle</b>	<b>Shovels with handle:</b> Hardened and tempered steel blade, rounded point D-shape handle (wooden) 75cm long		10	5
7	<b>Kassi (plies) with Handle</b>	<b>Kassi (Plies) with handle</b> (Tampered and hardened steel square blade)		5	3
8	<b>Spirit level (Aluminum 2ft)</b>	Spirit Level (Aluminum 2 ft. length)		25	10

S. No	Nome of Tool	Specifications	Photo	CBT	Non-CBT
9	<b>Straight edge (Deodar wood) small (4 feet)</b>	<b>Straight Edge:</b> Deodar Wood = thickness Size = 3"x1.5"x48"		25	10
10	<b>Straight edge large (Aluminum)</b>	<b>Straight Edge:</b> Aluminum Tube = 2mm thickness Size = 7 cm x3 cm length = 1 m		5	3
11	<b>Mason Square</b>	24"x12" 4mm thick with marking on both sides		3	2
12	<b>Hand Measuring Tape (5m)</b>	<b>Steel Tape:</b> Slide Lock, Automatic Returns, Metallic / plastic case, 5-meter, Graduation on both side in feet & meter		25	10
13	<b>Measuring Tape 100 feet (30m)</b>	<b>STEEL TAPE</b> • Length 30 m, 13 mm wide • stainless steel with vinyl coating • Both face marking, one in m (0.1, 0.01, and 0.005m) and other in ft		5	3
14	<b>Striker for Vertical joint (pointing)</b>	<b>Striker for vertical joint (pointing):</b> Tampered and hardened steel		25	10
15	<b>Striker for Horizontal joint (pointing)</b>	<b>Striker for horizontal joint (pointing)</b> Tampered and hardened steel		25	10
16	<b>Trowel Pointing</b>	<b>Pointing Trowel</b> x Tampered and hardened Carbon Steel Blade, Square tope blade = 10-18cm long		25	10
17	<b>Pointing Tray</b>	<b>Pointing Tray:</b> Tampered and hardened steel plate with Wooden handle underneath x Size = 400x400 x thickness 3 m		25	10

S. No	Nome of Tool	Specifications	Photo	CBT	Non-CBT
18	<b>Wheel barrow</b>	Wheel Barrow: (Capacity: 75-100 Ltr. Size: 130x60x80 cm (approx.) Frame: Angle Iron (1.5 x 1.5 x 0.25 inches) / body M.S sheet (6 SWG) Wheel: Rubber (tubeless tire)		5	3
19	<b>Pick Axe with Wooden handle</b>	<b>Pick Axe:</b> Hardened and tamper steel, Shape: Chisel end point Wight = 4 Kg, Wooden handle= 75 cm long		5	2
20	<b>Steel Float (small, medium, large)</b>	Steel float Set (Small, medium, large) Wooden Handle		10 Sets	5 Sets
21	<b>Wooden Float (small, medium, large)</b>	Wooden Float (small, medium, large) Wooden Handle		10 Sets	5 Sets
22	<b>Steel mould for DPC (6 feet) adjustable for (13½", 9", 4 ½) wall with overall length 6'</b>	M.S. angle iron 1½"x 2"x ¼" welded with 1/2" Steel bar		3 Sets	1 Set
23	<b>Mortar Pans GI (18"Ø)</b>	Mortar Pan (GI Sheet (20 SWG) Size 18" diameter)		25	10
24	<b>Daungry</b>	DANGARI cloth made of Cotton and Polyamide Rexine with Good Quality		25	10

S. No	Nome of Tool	Specifications	Photo	CBT	Non-CBT
25	<b>Safty shoes</b>	minimum impact resistance of 200 Joules and compressive strength of at least 15 kN at the toe cap, in addition to other characteristics such as being antistatic.		25	10
26	<b>Mortar / concrete Mixer (one bag)</b>	Concrete Mixer Machine (Drum Types, tilting) 1 Bag mixing capacity		1	1
27	<b>Safety Helmet</b>	Straps should be fitted such that minimum clearance be at least 30 mm and maximum clearance more than 80 mm. Chin strap should have minimum width of 19 mm and directly attached to shell. Nape strip should have minimum depth of 115 mm. The mass of helmet without attachments should be 400 g.		25	10
28	<b>Gloves</b>	Rexine with Good Quality		25	10
29	<b>Safety Belt</b>	Belt Width: up to 2" (51 mm). • Belt Connection: slotted. • Overall Size: 6-3/4" (171 mm) x 10" (254 mm). • Weight (lbs.):		10	5
30	<b>Water Tank</b>	Plastic Water Tank 500 Liters Water storage Capacity		1	1
31	<b>Safety googles</b>	Color: White, lens center thickness of 2.5 mm, weight 26 gr. Per piece in a plastic bag		25 Sets	10 Sets

S. No	Nome of Tool	Specifications	Photo	CBT	Non-CBT
32	<b>Dori cotton</b>	Cotton		12	5
33	<b>Tubular Scaffolding</b>	Good quality 1- Steel pipe 1 ½" (10 feet length) 2- Steel pipe 1 ½" (20 feet length), Joint fixed, Joint universal		20	10
34	<b>Laser Level</b>	Laser level with tripod		2	1
35	<b>Water level pipe</b>	Plastic transparent (50 feet)		2	1









## Lab 09: Tools and Equipment of Shuttering and Scaffolding

(For Class of 15 to 25 Students)

Sr#	Items	Description	Photos	CBT	Non-CBT
1	<b>Steel Pipe 20ft</b>	Material: Mild steel (ASTM A53/A106) Diameter: 2 inches (50mm) Thickness: 3.2mm (Schedule 40) Surface: Hot-dip galvanized (ISO 1461) Application: Vertical standards for scaffolding.		50	20
2	<b>Screw Jack Base</b>	Adjustable height: 300–500mm. Base plate: 150x150mm, 6mm thickness. Load capacity: 5 tons.		20	10
3	<b>Caster</b>	Load: 100kg, rubber wheel, swivel lock.		20	10
4	<b>Double Couplers</b>	Material: Forged steel (BS 1139). Load capacity: 6.25 kN (swivel), 8.5 kN (fixed).		150	60
5	<b>Swivel coupler</b>	360° rotation for diagonal bracing.		50	20
6	<b>Half Coupler</b>	Single-sided clamp for ledger connections.		50	20
7	<b>Board Retaining Coupler</b>	For securing wooden battens/planks.		10 kg	5 kg
8	<b>Inner Joint Coupler</b>	Connects internal scaffold tubes.		10 kg	5 kg
9	<b>Joint pin Coupler</b>	Pin diameter: 12mm, length: 100mm.		50	25

Sr#	Items	Description	Photos	CBT	Non-CBT
10	Steel plate			200	100
11	Claw Hammer	Weight: 450g, fiberglass handle.		10	5
12	Harness & Lanyard	EN 361-certified, 22kN strength.		25	10
13	Measuring Tape (30 m)	Fiberglass-coated, $\pm 1$ mm accuracy.		12	6
14	Scaffolder Ratchet	Load: 2 tons, 10m nylon strap.		12	6
15	Nut	Grade 8.8, M12–M20 sizes (ISO 4032).		100 kg	50 kg
16	Standard pipe 6.5 feet length Dia 2 inch	Length: 6.5ft (2m) Use: Horizontal/transom pipes in scaffolding		8	4
17	Ledger pipe 2m length	Diameter: 48.3mm (BS EN 39 standard) Load capacity: $\geq 10$ kN.		8	4
18	Cross bracing length 8.5ft	Diagonal bracing for scaffolding stability. Adjustable length with swivel couplers.		8	4

Sr#	Items	Description	Photos	CBT	Non-CBT
19	<b>Screw Jack Base</b>	Adjustable height: 300–500mm. Base plate: 150x150mm, 6mm thickness. Load capacity: 5 tons.		8	4
20	<b>Wooden ply (1ftx1ft)</b>	12mm thickness, exterior-grade.		8	4
21	<b>Base Plate (Toe Board)</b>	Size: 200x200mm, 8mm steel plate. Anchored with M16 bolts.		2	1
22	<b>Circular saw</b>	Blade: 180mm, 1500W motor.		1	1
23	<b>Drill machine (pedestal type)</b>	Pedestal: 750W, 13mm chuck.		1	1
24	<b>Steel rule</b>	Thickness: 10mm, ASTM A36.		25	10 Sets
25	<b>Hand drill</b>	Hand drill: 550W, 10mm chuck.		6	3 Sets
26	<b>Bit set</b>	HSS bits (3–12mm), masonry/concrete bits.		12 Sets	6 Sets
27	<b>Ball Peen Hammer</b>	Weight: 500g, hardened steel head.		25	10

Sr#	Items	Description	Photos	CBT	Non-CBT
28	<b>Zambur</b>	Chisel edge, 250mm length.		25	10
29	<b>Tabular scaffolding steel pipe 1 1/2-inch 20 feet length</b>	Material: Mild steel (ASTM A53/A106) Diameter: 1.5 inches (37.5mm) Thickness: 3.2mm (Schedule 40) Surface: Hot-dip galvanized (ISO 1461)		1000 ft	500 ft
30	<b>Fixed joints</b>	Adjustable angles (0–180°) for complex scaffolding.		20	10
31	<b>Universal joints</b>	Adjustable angles (0–180°) for complex scaffolding.		10	5
32	<b>Crow bar</b>	Length: 1.2m, forged steel.		12	6
33	<b>Spanner set</b>	Sizes: 10mm–32mm, chrome-vanadium steel.		6 Sets	3 Sets
34	<b>Screw wrench 12"</b>	Adjustable jaw capacity: 1–1.5 inches.		25	10
35	<b>Hammer</b>	Weight: 450g, fiberglass handle.		6	3
36	<b>Electric welding set</b>	MMA/ARC, 230V, 140A output.		4 Sets	1 Set

Sr#	Items	Description	Photos	CBT	Non-CBT
37	<b>Rectangular Column shuttering with different sizes</b>	Material: Steel/plywood. Sizes: Rectangular: 300x300mm to 600x600mm.		5 Sets	2 Sets
38	<b>circular Column shuttering with different sizes</b>	Material: Steel/plywood. Circular: 200mm–800mm diameter.		5 Sets	2 Sets
39	<b>Form work (Plate)</b>	Steel plate thickness: 5mm.		5 Sets	2 Sets
40	<b>PLY WOOD SHEET</b>	Marine-grade, 18mm thickness. Surface: Film-faced for water resistance.		20 Sheets	10 Sheets
41	<b>Wooden Batten</b>	Size: 50x50mm, teak or pine wood.		30	10
42	<b>Wooden Table Saw</b>	2000W motor, 254mm blade.		1	1
43	<b>Plumb bob with dori</b>	300g brass bob, 10m nylon cord.		25	10
44	<b>Core cutting machine</b>	Diamond core bit (100–200mm), 2200W.		1	1

Sr#	Items	Description	Photos	CBT	Non-CBT
45	<b>Pneumatic hammer</b>	Air pressure: 6–7 bar, 2000 BPM.		1	1
46	<b>Pipe level</b>	Shape Round Thickness 1 Millimeter (mm) Length 100 Meter (m) Color Transparent		100 ft	50






NAVTTC





## Lab 10: Tools and Equipment of Steel Fixer

(For Class of 15 to 25 Students)

S. No	Item	Specifications	Photo	CBT	Non-CBT
1	<b>Measuring Tape</b>	<b>STEEL TAPE</b> (Length 30 m, 13 mm wide, stainless steel with vinyl coating, both face marking, one in m (0.1, 0.01, and 0.005m) and other in ft (inches & half), first decimeter also marked for 0.001m and first ft marked for 1/8" button arrangement for quick release / winding, non-corrosive metal cover.		10	5
2	<b>Pliers</b>	8" End Cutting Plier wire snips manufactured with special high grade Tool steel, high strength with plastic grip		10	5
3	<b>Hammer</b>	Brick Hammer (Forged steel rectangle head and tapered tip weight = 3000 gm Wooden handle (60cm long) with molded vinylene grip		10	5
4	<b>Tongue (Sunny)</b>	18" Long		10	5
5	<b>Steel Bender Steel Rod (Manual)</b>	1" diameter Galvanized steel pipe with bending Tooth		6	3
6	<b>Electric Rebar Bender</b>	Rebar Bender, 900-watt hydraulic 5/8", bending angle 0-130 degree		1	1
7	<b>Rebar Cutter</b>	Rebar cutter with cutting speed 1-1.5 sec, cutting upto 5/8"		1	1

S. No	Item	Specifications	Photo	CBT	Non-CBT
8	<b>Bench Grinder</b>	220 V Bench Grinder for sharpening tools		1	1
9	<b>Pincer</b>	Carpenter Pincer 150mm Size, steel		6	3
10	<b>Anvil</b>	Cast Iron 10 Kg, Single Horn anvil with large counter top and stable base, high hardness, rugged round		5	2
11	<b>Wire Twisting Tool</b>	10" Stainless steel rebar wire twister		12	5
12	<b>Empty Tool Box</b>	U Safe Iron metal Tool Box, Size 17"		1	1
13	<b>Claw Lever (Bari)</b>	2.5' Long 250 mm diameter		10	5
14	<b>Knipex (7",10",12")</b>	3 Piece cobra plier (7",10",12" size)		5 Set	2 Sets
15	<b>Spanner</b>	8 Imperial Set		1 Set	1 Set

S. No	Item	Specifications	Photo	CBT	Non-CBT
16	Hak saw	Hak saw steel cutting with blade size 12"		25	10
17	Hoist and Crane Machine	Voltage:220V-240V~50HzInput power:900WLifting weight:250Kgs (Single line)500Kgs (Double line) Lifting height:18m (Single line), 9m (Double line) Lifting speed:8m/min (Single line),4m/min (Double line) Upper and lower limit device Emergency stop switch Thermal protection terminal Packed by carton box		1	1
18	Rebar Gauge	<ul style="list-style-type: none"> <li>• Diameter Range: Rebar gauges are designed to measure a range of standard rebar sizes. Common sizes range from 6 mm (1/4 inch) to 50 mm (2 inches) in diameter.</li> <li>• Increment: The gauge typically includes incremental measurements that correspond to standard rebar sizes, such as 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm, 32 mm, 40 mm, and 50 mm.</li> </ul>		25	10
19	Rebar Locator	<p>A rebar locator typically detects rebar at depths of 10 mm to 200 mm with an accuracy of <math>\pm 1</math> mm for cover thickness and rebar size. It features an LCD display, user-friendly interface, and options for data storage and connectivity via USB or Bluetooth.</p> <p>Powered by rechargeable batteries, it offers 8-20 hours of operation in a compact, durable design.</p>		1	1
20	Torque Wrench	<p>Thin profile, sealed, teardrop head design offers improved access and durability for highly effective application</p> <p>Torque accuracy of <math>\pm 3\%</math> CW between 20% and 100% of wrench capability Pull adjustment collar feature allows you to make quick and easy torque setting changes</p>		2	1

S. No	Item	Specifications	Photo	CBT	Non-CBT
21	<b>Rebar Corrosion Detector</b>	ZBL-C310A is a specialized apparatus; it is designed according to the electrochemical testing method (natural potential method) of "construction testing technical standard". By using the electrode polarization theory, C310A tests the potential of concrete surfaces through a Cu/CuSO4 reference electrode, and determines the level of rebar corrosion with the commonly used natural potential method. Powerful professional analysis-process software facilitates the generation of test reports automatically The device generates rebar distribution maps and rebars corrosion potential contour graphs; Data transfer to sub-thumb drive is available, very convenient for field work;		2	1
22	<b>Concrete cover depth meter</b>	1. Detection Depth: Measures concrete cover from 10 mm to 200 mm with $\pm 1$ mm accuracy. 2. Rebar Size Detection: Detects rebar diameters from 6 mm to 50 mm. 3. Display & Interface: Backlit LCD screen with audio/visual alerts for rebar location and depth.		2	1
23	<b>Electric Grinder Small 4"</b>	Hand Held Mini Electric 100 mm angle grinder machine with 6 pieces wheel/disc for cutting, 4", 850 W, 220V		5	2
24	<b>Rebar Tier</b>	Rebar Tier up to 16mmx 19mm with 0.8 mm wire with battery operated		1	1








## Lab 11: Tools and Equipment of Tile Fixer









(FOR CLASS OF 15 to 25 Students)








Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
1	<b>Measuring Tape</b>	METALLIC TAPE • 30 m (100 ft) long • Brass wire woven nylon / cotton, ribbon 2 mm (1/12") wide. • Graduated both in metric and feet units • Complete in plastic case		25	12
2	<b>Trowel</b>	Trowel (200-280 mm long steel) For general purpose • Tempered and hardened steel. • With wooden handle.		25	12
3	<b>Plumb bob</b>	• 100-130 gms weight • Brass polished • Replaceable blued steel pointer • Screw cap with strip indicator		25	10
4	<b>Tile cutter</b>	Max. cutting thickness 12mm STEEL BASE SIZE 815 X 195cm THICKNESS OF BASE 2mm BLADE SIZE $\Phi$ - 16 X 6 X 3mm		2	1
5	<b>Rubber Hammer</b>	2.25in (57mm) hard rubber face and 11in (280mm) long wooden handle		25	10
6	<b>Try square</b>	600 x 400mm. Steel Framing Square Heavy gauge steel framing square with metric and imperial markings.		25	10
7	<b>Water Level pipe</b>	Shape Round Thickness 1 Millimeter (mm) Length 100 Meter (m) Color Transparent		5 Pipes	2 Pipes
8	<b>Shovel</b>	Shovels with handle (Hardened and tempered steel blade, rounded point D-shape handle (wooden) 75cm long		10	5



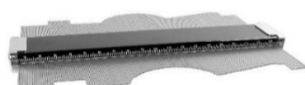


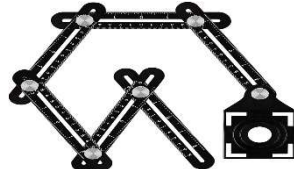

Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
9	<b>Mortar pan</b>	Mortar Pan (GI Sheet (20 SWG) Size 45 cm dia		10	5
10	<b>Bucket</b>	Heavy duty tin sheet (20 SWG) conical shape with galvanized iron blade 100 feet (30m) x Capacity: 9-10 Ltr.		10	5
11	<b>Wire brush</b>	Wire Brush for clearing		25	10
12	<b>Safety Helmet</b>	Straps should be fitted such that minimum clearance be at least 30 mm and maximum clearance more than 80 mm. Chin strap should have minimum width of 19 mm and directly attached to shell. Nape strip should have minimum depth of 115 mm. The mass of helmet without attachments should be 400 g.		25	10
13	<b>Boot (Safety Shoes)</b>	minimum impact resistance of 200 Joules and compressive strength of at least 15 kN at the toe cap, in addition to other characteristics such as being antistatic.		25	10
14	<b>Mixing board /Tray</b>	Tray (Galvanized Iron, 14 SWG) SET 600X450X80mm, 750X750X80mm (80mm height)		5	3
15	<b>Line and pins</b>	6 inches in length and chrome plated		25	10
16	<b>Spirit level</b>	Mason's Spirit Level x Aluminum = 2 ft. length x Three Vials		25	10

Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
17	<b>Float</b>	Steel float Set (Small, medium, large) Wooden Handle		25	10
18	<b>Pointer hammer</b>	Ball Point - 800 gms, 1.3 Kg, 42 x 8 x 4 cm		25	10
19	<b>bolster tile remover set</b>	Dimensions, 41.79 x 10 x 4.5 cm; 460 g		25 Sets	10 Sets
20	<b>Straight edge (Aluminum)</b>	Straight Edge Aluminum Tube = 2mm thickness Size = 5x2 cm length = 1 m		10	5 Sets
21	<b>Grinding stone</b>	Particle Size 120 mm Shaft Diameter d 3mm Outer Diameter D 10mm Thickness T 13mm		10	5 Sets
22	<b>Tiling trowel</b>	11" x 4 1/2" blade made with hard tempered steel · Notch shape options: Square, U-Shape, V-Shape		25 Sets	10 Sets
23	<b>Gloves</b>	Good Quality		25 Sets	10 Sets
24	<b>Mallet (Rubber)</b>	MALLET • Hardwood head dia 75 mm • Complete with handle 400 mm long fixed into the head.		25	10
25	<b>Electric mortar mixer</b>	Dimensions (l x w x h) 530 x 390 x 715 mm Speeds (rpm) Low, High Paddle: 140 ± 5, 285 ± 10 Mixing Head: 62 ± 5, 125 ± 10 Rated Power 180 W Bowl Capacity 5 liters approx. Weight 54 kg		1	1
26	<b>Power Wet Saw</b>	1 HP, 3600 RPM direct-drive motor, ideal for handling small or large tile projects · 7 in		2	1

Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
27	<b>Hand Held tile cutter</b>			5	2
28	<b>Rubber bucket</b>	weight, 1.3 Kilograms; Product dimensions, 31L x 22W x 28H centimeters; Capacity, 14 liters;		5	2
29	<b>Safety Belt</b>	Belt Width: up to 2" (51 mm). • Belt Connection: slotted. • Overall Size: 6-3/4" (171 mm) x 10" (254 mm). • Weight (lbs.): .56		25	10
30	<b>Safety goggles</b>	Color: White, lens center thickness of 2.5 mm, weight 26 gr. Per piece in a plastic bag		25	10
31	<b>Tile leveling plier</b>	Part Number 10 gauge Item Weight 450 weight approximately Product Dimensions 9.5 x 1.8 x 4.25 inches		25	10
32	<b>Reflective jackets</b>	Reflective Jacket made out of Polyester fabric with 1 1/2" wide Micro Prismatic reflective tape for night time vision		25	10
33	<b>Diamond Drill bit kit</b>	10-Piece Professional Grade Integrated Steel Diamond Hole Saw - 1/4 in. (6 mm), 5/16 in. (8 mm), 3/8 in. (10 mm), 1/2 in. (12 mm), 9/16 in. (14)		5	2
34	<b>Electric Tile Cutter Machine</b>	Table Size: 395 x 385mm Blade Size: Ø180 x 2.6 x Ø22mm Maximum Cutting Depth: 45°: 25mm Maximum Cutting Depth: 90°: 35mm Input Volt: 220V Rated Input Power: 500W Speed: 2800rpm Weight: 12kg		5	2

Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
35	<b>Tile Nipper</b>	Material Carbide, Rubber Product Dimensions 8.5"L x 3.5"W Handle Material Rubber Item Weight 0.9 Pounds		5	2
36	<b>Tile and glass circle cutter</b>			5	2
37	<b>Scraper</b>	6-inch Scraper Tool Long Handle Thickened Stainless Steel Material Sturdy and Durable		25	10
38	<b>Heavy Duty knife cutter</b>	155 x 40 x 18 mm (cutter). Blade Dimensions: 0.5 x 18 x 100 mm. Heavy Duty cutter		25	10
39	<b>Silicone gun</b>	9" caulking gun; Thickness : 1.0mm; Length: 230mm; Diameter:55mm; Iron shank with teeth; With cutting function;		25	10
40	<b>Tile Gape regulator</b>	2 x pump up suction cups · 2 x lip clamps · Spans between 170 - 225mm · Width: 250mm · Length: 655mm.		5	2
41	<b>Tile Double vacuum suction cup</b>	Suction cup diameter is 4.7in or 11.8cm. Made of durable Aluminum material, able to handle heavy tiles, Glass, or other smooth material. large 4-3/4 dual suction cup design with locking tabs, great comfortable lifting hands.		5	2
42	<b>Fire Extinguisher</b>	Capacity (kg) 6 Type of Extinguishing Media Dry Powder Expellant Pressurized with N2 Gas/120 gm Gas Cartridge Minimum Effective Discharge (%) 85 Minimum Jet Length (mtr) More than 2 mtr		5	2









Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
43	<b>Fire prevention kit</b>	Include Fire Alarm Systems; Smoke detector; Heat Detector; Fire Hydrant System; Fire Suppression System		5	2
44	<b>Tile Trimmer</b>	Heavy-duty tile cutter machine in Pakistan for Cutting All Kinds of Ceramic and Porcelain up To 120 cm / 1200mm / 48"		5	2
45	<b>knee pad</b>	Capped by large abrasion-resistance rubber caps for long-lasting wear. Excellent for non-slip, hard surface work environment		25 Pair	10 Pair
46	<b>Tile Laser Leveler (Horizontal &amp; Vertical)</b>	3 LASER – DONG CHENG DFF 11; Vertical Line Angle, 150 ; Width of Laser Line, 2 (5m) ; Battery Specification, 3x1.5V AA ; Working Temperature, -10~+45.		2	1
47	<b>Notched Spreader</b>	4" wide spreader used for spreading base adhesive across the back of 6" wide vinyl or rubber cove base. Features a polished stainless-steel blade and an attractive lacquered wood handle. The blade has 1/8" x 1/8" V- shaped notches which are typically the correct size for spreading this adhesive		2	1
48	<b>Grout Spreader</b>	length is 350mm, its width is 150mm and its thickness is 6.5mm.		10	5 Sets
49	<b>Tile Rubbing Stone</b>	rectangular Shape, 4" x 1" Black 60-90 Grit Stone		10	5


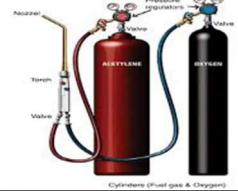







Sr. No	Name of Items	Specifications	Image	CBT	Non-CBT
50	<b>Tile Removing Chisel</b>	heavy duty 1-1/2 x 10" tile chisel; Length, 10.0"; Width, 1.5"		10	5
51	<b>Grout Rake</b>	4 in 1 Tile Grout Remover Grout Scraping Rake Tool with 2 Carbide Alloy Head Grout Remover Scraper (0.8mm, 2mm, 3mm, 4mm)		10	5
52	<b>Profile Gauge</b>	Dimension, 5" inches width + 10" inches long; Gross weight, 450 grams; Net weight, 340 grams		10	5
53	<b>Tile Hole Cutter</b>	Metal Cutting Diameter: 25mm / 0.98inch; Shank Size: 8 x 25mm / 0.31inch x 0.98inch (D x L)		10	5
54	<b>Tile Vibrator</b>	Battery Voltage 16.8v max lithium, Battery maH 2000 maH, item weight Approx 2kg.		5	2
55	<b>Zapotec six-fold</b>	Zapotec Six-Fold Multi-Function Aluminum Alloy Ruler with Hole Guide - Angle Measurement Finder Hole Opening Locator Template - For Builder Contractor Tiler Carpentry Woodworking (Black)		5	2
56	<b>Monto lit Tile Levelling Lifter</b>	300 mm, wretched lever handle, attach to pump action metal plate form		5 Sets	2 Sets

## Lab 12: Plumbing Cum Pipe Fitter Requirement of TVET Lab workshop










(FOR CLASS OF 15 to 25 Students)


Sr.#	Item	Description	Picture	CBT	Non-CBT
1.	<b>Safety Helmet</b>	PPE shell with vents Lining material: Plastic Chin strap included Color as per plumber requirement		25	25
2.	<b>Safety Shoes</b>	with metal guard and rubber sole 41, 42, 43, 44, and 45 sizes in length		25 pairs	12 pairs
3.	<b>Fire Extinguisher</b>	Co2 and AFFF of 10kg		15	10
4.	<b>Fire Blanket</b>	08 FT IN MINIMUM SIZE		10	05
5.	<b>Face Shield</b>	Full face and Fire Resistant		15	10
6.	<b>Rubber Gloves</b>	Thick sole and arm and hand proctor large size		25	25 pairs
7.	<b>Water proof and heat resistant</b>	Shield the Heat proof, weather proof and Electricity arc proof		25	25
8.	<b>Safety Over all</b>	In full size and heat resistant		25	25
9.	<b>Volt Meter cum Apprises meter</b>	Offering Rpm Cum Hour Meter Ampere Volt frequency Fully Digital		15	05









10.	<b>Safety goggles;</b>	Safety goggles Plastic with glass		25	25
11.	<b>Safety Gloves,</b>	Leather Size: Medium Width of Palm: Min 7 cm Length of Palm: Min 18cm		25	5
12.	<b>First Aid Kit;</b>	Contents List: <ul style="list-style-type: none"> <li>• 20pcs Alcohol Pads</li> <li>• 9pcs Soap Wipes</li> <li>• 100pcs Wound Plasters</li> <li>• 1 pair of scissors</li> <li>• 4pcs Sterile Gauze Pad (3"x3")</li> <li>• 4pcs Sterile Gauze Pad (4"x4")</li> <li>• 4pcs Sterile Eye Pads</li> <li>• 2pcs Sterile ABD, 1 thermometer</li> <li>• 1pc Burn Dressing,</li> <li>• Ethanol spirit 01 bottle small</li> <li>• Payod in 01 bottle small</li> <li>• Tablets Disprin 2 strip, Panadol 2 strip, brofeen 2 strip, Flegel 2 strip</li> </ul>		05	02
13.	<b>Screw Fast</b>	12 V		15	12
14.	<b>Electronic Leak detector with sensing device</b>			05	02
15.	<b>Adjustable wrench:</b>	Set of 5 Pcs Material: High carbon Steel Surface Treatment: Chrome Type: Adjustable set of 5 Pcs 6,8,10,12,15, Inches		10 sets	05 sets
16.	<b>Barricade Tape China Venial Elastic</b>			15	10 Each
17.	<b>Safety Harness Full Body</b>			10	05













18.	<b>Hand Lifter</b>	1 Ton minim weight lifted capacity		2	01
19.	<b>Gas welding plant</b>	Acetylene and oxygen cylinders 20 kg minimum		1	01
20.	<b>Copper, aluminum, and Zinc Electrodes for welding</b>			10 each	4 Each
21.	<b>Hilti Medium Sized</b>	Lasselle Medium in size 1300 watt		5	02
22.	<b>Pipe Bender Machine;</b>	Hydraulic, Max working pressure 44 (mpa), Max. Working movement(mm) 250, curvature radius 4D, Hydraulic Oil N15, Pipe External Diameter Series Min 42x3.25 48X3.5 60X3.		5	03
23.	<b>Chisel; Flat Chisel</b>	(Min set of two) SDS Shank Min 1 inch width x 12- and 8-inch overall length Material: Made from forged high-grade steel		10	06
24.	<b>Marshal trowel;</b>	Size:10"/250mm Diameter of connecting rod:9.5mm		10	05 Nos
25.	<b>Drill Machine Rotary Hammer; Electric Drill Machine</b>	Voltage:220-240V~50/60Hz Input power:650W No-load speed:0-1700rpm Impact rate:0-5500bpm Impact energy:1.7J Max. drilling capacity: Concrete:22mm Steel:10mm Wood:25mm SDS plus chuck system with 3 SDS-PLUS drills		10	05
26.	<b>Ratchet Set;</b>	Die Fix 1/2,3/4,1 and 1x1/4 complete set with lever Set of		10 sets	03 set







27.	<b>Extension board;</b>	four ways extension socket maximum current 13 ampere with 10meter wire		20	15
28.	<b>Angle Grinder</b>	Voltage:220-240V~50/60Hz Input power:710W No-load speed:11000rpm Disc diameter:100mm Spindle thread:M10 With 1pcs auxiliary handle Guard, Auxiliary Handle, Inner (Clamping) Flange, Outer (Round Nut) Flange, Spanner Wrench,		5	03
29.	<b>Grip plier;</b>	Vice Grip Pliers Size: Min 230mm		10	06
30.	<b>Hammer Set;</b>	Iron head with wood handle set of four (250g, 500g, 1000 g and set of 3		5 each	03 Each
31.	<b>Bit; Set</b>	of Min eleven vital pieces Sizes required: 2.5 mm, 3mm, 4mm, 5mm, 6mm, 7mm, 8mm, 9mm, 10mm, 11mm & 12mm Material: High speed steel (HSS) Heat and corrosion resistance		10 sets	05 sets
32.	<b>Hacksaw;</b>	Min 12" heavy duty hacksaw frame with adjustable aluminum handle Blade Length: Min 300mm Material: Steel		25	25
33.	<b>Spirit Level;</b>	Aluminum box frame with milled edges/Plastic end caps 3 solid vials (horizontal, vertical 45 Degree) Length: Min 12"		10	06
34.	<b>L-Key Set;</b>	Set of Min 9 pcs 2,3,4,5,6,7 ,8,9 & 10mm Heat Treated, Tempered Alloy Steel		5 each	03 Each
35.	<b>Richet Socket set</b>	5mm to 32mm steel		10	05
36.	<b>Measuring tape;</b>	Combined measuring and marking edges that quickly and easily measure and mark both external and internal lengths. Tape Length: Min 5 Meter. Tape		25	25

		Width: Min 25mm.			
37.	<b>Pipe wrench set;</b>	Adjustable Chrome Finish Spanner Heat Treated Thumb Screw Movement Precision Marked Scale set of four 8", 10", 12" and 14 " (Set of 4)		5 sets	03 sets
38.	<b>Pipe Cutter;</b>	Can cut copper pipe & aluminum pipe & steel pipe Cutting diameter: 10-42mm		15	05
39.	<b>PPRC/GI pipe Cutter</b>	; Length: 225mm Cutting diameter: 3-42mm Auto-open function		15	10
40.	<b>PPRC Heater</b>	Main Fuse Value 16 A Stainless Steel made Thermostat Regulation: Min 50-300 C Pins hole: Min 3 Capacity: At least 750W to 1000W		15	5
41.	<b>Screw driver set</b>	Material: Chrome vanadium Handle Material: Plastic / Rubber Magnetic Screwdriver Tips Min 6" straight screwdriver Set of 8 Pcs, (4 flat-head and 4 Philips head) size 6", 8" 10" and 12"		5 sets	3 sets
42.	<b>Screw Driver Set;</b>	Set of 2 star and flat metallic head mechanical screw driver 12" long		10	05
43.	<b>Spanner set</b>	Double End opened Spanner Vanadium steel made Chrome plated 12 degree offset bi-hex ring for access Sizes 6x7; 8x9; 10x11; 12x13; 14x15; 16x17; 18x19; 20x22; 21x23; 24x27; 25x28; 30x32		10 sets	5 sets
44.	<b>Water Pressure Leakage Tester Pump;</b>	Main Material: Brass and iron Max. Pressure: 350 psi minimum Hose Thread: Min 1/2" BSP Water Tank Size: 5-liter Handle Length: Min 12"		5	03
45.	<b>Tools box</b>	Size: 495x200x290mm 3 layers Steel thickness : 0.6~0.8mm		25	5

46.	<b>Compass;</b>	Spring type Material: Stainless Steel Size: Min 250 mm		10	05
47.	Pipe Insulation Material			20 roles	12 roles
48.	<b>Sealing Tape,</b>	Teflon tape roll		60	30
49.	<b>Bench Vice;</b>	Jaw width min 125mm size Maximum jaw opening min 130mm Jaw depth 70mm Made of cast steel, hardened jaws, gunmetal nut, square thread spindle		10	05
50.	<b>Oil Can;</b>	Fluid Capacity: Min 150 ml Galvanized plate, reinforced hose, hose nozzle min 10 cm			10
51	<b>Center Punch;</b>	Length: 4- & 6-inch Material: Mild steel Point: hardened and tempered Body: Heavy knurled body for easy grip set of 2		15 each	5sets
52	<b>Wire Brush,</b>	Type: Brass wire brush Style: Scourer Shape: Long Length: Min 250mm For all kinds of weld seams Brush Handle Material: Wood Wooden base: Min 15mm thickness		25	25
53.	<b>Pipe Reamer;</b>	Reaming capacity 1/4-inch to 2-inch pipes with 01 nos ratchet spanner key		10	06
54.	<b>Tap Set;</b>	1/8", 1/4", 3/8", 1/2", 3/4", 1" with handle, Master (steel materials)		5 each	02 Each
55.	<b>Air Compressor</b>	Voltage:220-240V~50Hz Input power: 600W (0.8HP) Tank:24L(6.3Gal) Oil free system Noise: 60db Copper wire motor No-load speed:1440rpm Operation pressure:max.8bar		1	1

56.	<b>Tri square set,</b>	Stainless steel, sharp edges, size: 6" and 12" set of 2		10 each	3 each
57.	<b>Pipe Vice;</b>	Holding Pipe Size up to 50mm with Pipe tripod stand. Min tripod stands with standard height" Material pipe vice: of malleable cast iron Jaws: Hardened carbon steel Spindles: Chrome plated		10	06
58.	<b>Cutter plier;</b>	8" High Leverage Diagonal Cutting Pliers Full Body Hardened & Tempered. Insulated grip		10	3
59.	<b>Combination Plier;</b>	8" with insulated grip Material: fully drop forged Carbon steel Surface: cutting edges induction quenched Cutting hardness: less than HRC3		10	3
60.	<b>Pedestal grinder;</b>	Voltage:220-240V~50Hz Input power:150W No-load speed:2950rpm Wheel size:150 mm (6") Heavy Duty Aluminum Base Adjustable work rest Including 1 set eye shield and base for grinder minimum height 36 inch		3	1
61.	<b>File Set;</b>	Length:8"/200mm, T12 Steel Flat steel file 1pcs Half round steel file 1pcs Round steel file 1pcs Triangle steel file 1pcs Square steel file 1pcs		10	5
62.	<b>Vernier Calipers:</b>	Digital Vernier caliper 0-200mm Four-way measurement Metric and inch conversion Measuring is clarity and with accurate Suitable for measuring internal diameter, outside diameter, step and depth with fine adjustment device and depth indicator made of carbon steel		5	3
63.	<b>Socket Set;</b>	24pcs Socket set 1/2" Include : 18pcs 1/2" CRV DR. Sockets: 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,27,30,32 2pcs 1/2" DR. Extension bar 1pcs 1/2" DR. Sliding T bar 1pcs 1/2" DR. Universal joint 1pcs 1/2" DR. Speeder handle 1pcs 1/2" DR. Quick ratchet handle Packed by metal box		5	3








64.	<b>Electro Mechanical Machine Threading</b>	TM20 DRKL TOKYO		5	02
65.	<b>HDPE Pipe welding machine</b>	Tokyo 220 v Alloy Mattel		3	02
66.	<b>Pencil Grinder</b>	Falcon Tool Company		10	06
67.	<b>4" Baby Grinder</b>	Falcon Tool Company		10	06
68.	<b>Plumb Bob</b>	Local but Alloy		10	06
69.	<b>Pipe chain age clamp</b>	Edge Lounge Company		05	03
70-	<b>Pipe Filler gauge</b>	China Water resistant 4" dia		10	06
71.	<b>Chain Puller</b>	Mild Steel corrosion proof		10	06
72.	<b>Chain Block</b>	Mild Steel Corrosion proof		01	01
73.	<b>Wire Cutter</b>	INCO Company medium size		15	12
74.	<b>Monkey Plier</b>	6"to 14" in size Inco		25	25
75.	<b>Safety Reflectors</b>	EYE Cacher		25	25



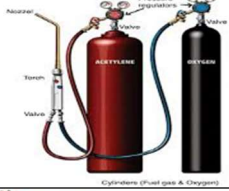






76.	<b>Air Plugs Cum Air Muff</b>	Local China but 85 to 90 DBA		20	10
77.	<b>Hand Hack Saw Steel</b>	Local with Mild Steel		15	12
78.	<b>Bench Grinder</b>	Tittel China		2	02
79.	<b>Rubber Shoes</b>	Honk site Mitter		10 pairs	6 pairs
80.	<b>Hydraulic Crum ping Tool</b>	INCO		04	02
81.	<b>Cross Fit Key</b>	Mild steel with Spray painted		05	02
82.	<b>Hand Drill Machine</b>	With wooden and lean Handle		05	03
83.	<b>Wire Shi elder</b>	2mm to 20 mm wire shielded size jaw		05	03
84.	<b>Drill bit Set</b>	Diamond, Concreate and Steel From 1mm to 20mm minimum in size		5 set each	3 set each

## Lab 13: Plumbing cum Solar Water Heating Requirement of TVET Lab workshop

(FOR CLASS OF 15 to 25 Students)

Sr.#	Item	Description	Picture	CBT	Non-CBT
1.	<b>Safety Helmet</b>	PPE shell with vents Lining material: Plastic Chin strap included Color as per plumber requirement		25	25
2.	<b>Safety Shoes</b>	with metal guard and rubber sole 41, 42, 43, 44, and 45 sizes in length		25 pairs	12 pairs
3.	<b>Fire Extinguisher</b>	Co2 and AFFF of 10kg		15	10
4.	<b>Fire Blanket</b>	08 FT IN MINIMUM SIZE		10	05
5.	<b>Face Shield</b>	Full face and Fire Resistant		15	10
6.	<b>Rubber Gloves</b>	Thick sole and arm and hand proctor large size		25	25 pairs
7.	<b>Water proof and heat resistant</b>	Shield the Heat proof, weather proof and Electricity arc proof		25	25
8.	<b>Safety Over all</b>	In full size and heat resistant		25	25
9.	<b>Volt Meter cum Apprises meter</b>	Offering Rpm Cum Hour Meter Ampere Volt frequency Fully Digital		15	05










10.	<b>Safety goggles;</b>	Safety goggles Plastic with glass		25	25
11.	<b>Safety Gloves,</b>	Leather Size: Medium Width of Palm: Min 7 cm Length of Palm: Min 18cm		25	5
12.	<b>First Aid Kit;</b>	Contents List: <ul style="list-style-type: none"> <li>• 20pcs Alcohol Pads</li> <li>• 9pcs Soap Wipes</li> <li>• 100pcs Wound Plasters</li> <li>• 1 pair of scissors</li> <li>• 4pcs Sterile Gauze Pad (3"x3")</li> <li>• 4pcs Sterile Gauze Pad (4"x4")</li> <li>• 4pcs Sterile Eye Pads</li> <li>• 2pcs Sterile ABD, 1 thermometer</li> <li>• 1pc Burn Dressing,</li> <li>• Ethanol spirit 01 bottle small</li> <li>• Payod in 01 bottle small</li> <li>• Tablets Disprin 2 strip, Panadol 2 strip, brofeen 2 strip, Flegel 2 strip</li> </ul>		05	02
13.	<b>Screw Fast</b>	12 V		15	12
14.	<b>Electronic Leak detector with sensing device</b>			05	02
15.	<b>Adjustable wrench:</b>	Set of 5 Pcs Material: High carbon Steel Surface Treatment: Chrome Type: Adjustable set of 5 Pcs 6,8,10,12,15, Inches		10 sets	05 sets
16.	<b>Barricade Tape China Venial Elastic</b>			15	10 Each










17.	<b>Safety Harness Full Body</b>			10	05
18.	<b>Hand Lifter</b>	1 Ton minim weight lifted capacity		2	01
19.	<b>Gas welding plant</b>	Acetylene and oxygen cylinders 20 kg minimum		1	01
20.	<b>Copper, aluminum, and Zinc Electrodes for welding</b>			10 each	4 Each
21.	<b>Hilti Medium Sized</b>	Lasselle Medium in size 1300 watt		5	02
22.	<b>Pipe Bender Machine;</b>	Hydraulic, Max working pressure 44 (mpa), Max. Working movement(mm) 250, curvature radius 4D, Hydraulic Oil N15, Pipe External Diameter Series Min 42x3.25 48X3.5 60X3.		5	03
23.	<b>Chisel; Flat Chisel</b>	(Min set of two) SDS Shank Min 1 inch width x 12- and 8-inch overall length Material: Made from forged high-grade steel		10	06
24.	<b>Marshal trowel;</b>	Size:10"/250mm Diameter of connecting rod:9.5mm		10	05 Nos
25.	<b>Drill Machine Rotary Hammer; Electric Drill Machine</b>	Voltage:220-240V~50/60Hz Input power:650W No-load speed:0-1700rpm Impact rate:0-5500bpm Impact energy:1.7J Max. drilling capacity: Concrete:22mm Steel:10mm Wood:25mm SDS plus chuck system with 3 SDS-PLUS drills		10	05

26.	<b>Ratchet Set;</b>	Die Fix 1/2,3/4,1 and 1x1/4 complete set with lever Set of		10 sets	03 set
27.	<b>Extension board;</b>	four ways extension socket maximum current 13 ampere with 10meter wire		20	15
28.	<b>Angle Grinder</b>	Voltage:220-240V~50/60Hz Input power:710W No-load speed:11000rpm Disc diameter:100mm Spindle thread:M10 With 1pcs auxiliary handle Guard, Auxiliary Handle, Inner (Clamping) Flange, Outer (Round Nut) Flange, Spanner Wrench,		5	03
29.	<b>Grip plier;</b>	Vice Grip Pliers Size: Min 230mm		10	06
30.	<b>Hammer Set;</b>	Iron head with wood handle set of four (250g, 500g, 1000 g and set of 3		5 each	03 Each
31.	<b>Bit; Set</b>	of Min eleven vital pieces Sizes required: 2.5 mm, 3mm, 4mm, 5mm, 6mm, 7mm, 8mm, 9mm, 10mm, 11mm & 12mm Material: High speed steel (HSS) Heat and corrosion resistance		10 sets	05 sets
32.	<b>Hacksaw;</b>	Min 12" heavy duty hacksaw frame with adjustable aluminum handle Blade Length: Min 300mm Material: Steel		25	25
33.	<b>Spirit Level;</b>	Aluminum box frame with milled edges/Plastic end caps 3 solid vials (horizontal, vertical 45 Degree) Length: Min 12"		10	06
34.	<b>L-Key Set;</b>	Set of Min 9 pcs 2,3,4,5,6,7,8,9 & 10mm Heat Treated, Tempered Alloy Steel		5 each	03 Each


35.	<b>Richet Socket set</b>	5mm to 32mm steel		10	05
36.	<b>Measuring tape;</b>	Combined measuring and marking edges that quickly and easily measure and mark both external and internal lengths. Tape Length: Min 5 Meter. Tape Width: Min 25mm.		25	25
37.	<b>Pipe wrench set;</b>	Adjustable Chrome Finish Spanner Heat Treated Thumb Screw Movement Precision Marked Scale set of four 8", 10", 12" and 14 " (Set of 4)		5 sets	03 sets
38.	<b>Pipe Cutter;</b>	Can cut copper pipe & aluminum pipe & steel pipe Cutting diameter:10-42mm		15	05
39.	<b>PPRC/GI pipe Cutter</b>	; Length:225mm Cutting diameter:3-42mm Auto-open function		15	10
40.	<b>PPRC Heater</b>	Main Fuse Value 16 A Stainless Steel made Thermostat Regulation: Min 50-300 C Pins hole: Min 3 Capacity: At least 750W to 1000W		15	5
41.	<b>Screw driver set</b>	Material: Chrome vanadium Handle Material: Plastic / Rubber Magnetic Screwdriver Tips Min 6" straight screwdriver Set of 8 Pcs, (4 flat-head and 4 Philips head) size 6", 8" 10" and 12"		5 sets	3 sets
42.	<b>Screw Driver Set;</b>	Set of 2 star and flat metallic head mechanical screw driver 12" long		10	05
43.	<b>Spanner set</b>	Double End opened Spanner Vanadium steel made Chrome plated 12 degree offset bi-hex ring for access Sizes 6x7; 8x9; 10x11; 12x13; 14x15; 16x17; 18x19; 20x22; 21x23; 24x27; 25x28; 30x32		10 sets	5 sets

44.	<b>Water Pressure Leakage Tester Pump;</b>	Main Material: Brass and iron Max. Pressure: 350 psi minimum Hose Thread: Min 1/2" BSP Water Tank Size: 5-liter Handle Length: Min 12"		5	03
45.	<b>Tools box</b>	Size:495x200x290mm 3 layers Steel thickness : 0.6~0.8mm		25	5
46.	<b>Compass;</b>	Spring type Material: Stainless Steel Size: Min 250 mm		10	05
47.	Pipe Insulation Material			20 roles	12 roles
48.	<b>Sealing Tape,</b>	Teflon tape roll		60	30
49.	<b>Bench Vice;</b>	Jaw width min 125mm size Maximum jaw opening min 130mm Jaw depth 70mm Made of cast steel, hardened jaws, gunmetal nut, square thread spindle		10	05
50.	<b>Oil Can;</b>	Fluid Capacity: Min 150 ml Galvanized plate, reinforced hose, hose nozzle min 10 cm			10
51.	<b>Center Punch;</b>	Length: 4- & 6-inch Material: Mild steel Point: hardened and tempered Body: Heavy knurled body for easy grip set of 2		15 each	5sets
52.	<b>Wire Brush,</b>	Type: Brass wire brush Style: Scourer Shape: Long Length: Min 250mm For all kinds of weld seams Brush Handle Material: Wood Wooden base: Min 15mm thickness		25	25
53.	<b>Pipe Reamer;</b>	Reaming capacity 1/4-inch to 2-inch pipes with 01 nos ratchet spanner key		10	06

54.	<b>Tap Set;</b>	1/8", 1/4", 3/8", 1/2", 3/4", 1" with handle, Master (steel materials)		5 each	02 Each
55.	<b>Air Compressor</b>	Voltage:220-240V~50Hz Input power: 600W (0.8HP) Tank:24L(6.3Gal) Oil free system Noise: 60db Copper wire motor No-load speed:1440rpm Operation pressure:max.8bar		1	1
56.	<b>Tri square set,</b>	Stainless steel, sharp edges, size: 6" and 12" set of 2		10 each	3 each
57.	<b>Pipe Vice;</b>	Holding Pipe Size up to 50mm with Pipe tripod stand. Min tripod stands with standard height" Material pipe vice: of malleable cast iron Jaws: Hardened carbon steel Spindles: Chrome plated		10	06
58.	<b>Cutter plier;</b>	8" High Leverage Diagonal Cutting Pliers Full Body Hardened & Tempered. Insulated grip		10	3
59.	<b>Combination Plier;</b>	8" with insulated grip Material: fully drop forged Carbon steel Surface: cutting edges induction quenched Cutting hardness: less than HRC3		10	3
60.	<b>Pedestal grinder;</b>	Voltage:220-240V~50Hz Input power:150W No-load speed:2950rpm Wheel size:150 mm (6") Heavy Duty Aluminum Base Adjustable work rest Including 1 set eye shield and base for grinder minimum height 36 inch		3	1
61.	<b>File Set;</b>	Length:8"/200mm, T12 Steel Flat steel file 1pcs Half round steel file 1pcs Round steel file 1pcs Triangle steel file 1pcs Square steel file 1pcs		10	5
62.	<b>Vernier Calipers:</b>	Digital Vernier caliper 0-200mm Four-way measurement Metric and inch conversion Measuring is clarity and with accurate Suitable for		5	3

		measuring internal diameter, outside diameter, step and depth with fine adjustment device and depth indicator made of carbon steel			
63.	<b>Socket Set;</b>	24pcs Socket set 1/2" Include : 18pcs 1/2" CRV DR. Sockets: 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,27,30,32 2pcs 1/2" DR. Extension bar 1pcs 1/2" DR. Sliding T bar 1pcs 1/2" DR. Universal joint 1pcs 1/2" DR. Speeder handle 1pcs 1/2" DR. Quick ratchet handle Packed by metal box		5	3
64.	<b>Electro Mechanical Machine Threading</b>	TM20 DRKL TOKYO		5	02
65.	<b>HDPE Pipe welding machine</b>	Tokyo 220 v Alloy Mattel		3	02
66.	<b>Pencil Grinder</b>	Falcon Tool Company		10	06
67.	<b>4" Baby Grinder</b>	Falcon Tool Company		10	06
68.	<b>Plumb Bob</b>	Local but Alloy		10	06
69.	<b>Pipe chain age clamp</b>	Edge Lounge Company		05	03
70.	<b>Pipe Filler gauge</b>	China Water resistant 4" dia		10	06
71.	<b>Chain Puller</b>	Mild Steel corrosion proof		10	06

72.	<b>Chain Block</b>	Mild Steel Corrosion proof		01	01
73.	<b>Wire Cutter</b>	INCO Company medium size		15	12
74.	<b>Monkey Plier</b>	6"to 14" in size Inco		25	25
75.	<b>Safety Reflectors</b>	EYE Cacher		25	25
76.	<b>Air Plugs Cum Air Muff</b>	Local China but 85 to 90 DBA		20	10
77.	<b>Hand Hack Saw Steel</b>	Local with Mild Steel		15	12
78.	<b>Bench Grinder</b>	Tittel China		2	02
79.	<b>Rubber Shoes</b>	Honk site Mitter		10 pairs	6 pairs
80.	<b>Hydraulic Crum ping Tool</b>	INCO		04	02
81.	<b>Cross Fit Key</b>	Mild steel with Spray painted		05	02
82.	<b>Hand Drill Machine</b>	With wooden and lean Handle		05	03
83.	<b>Wire Shi elder</b>	2mm to 20 mm wire shielded size jaw		05	03

84.	<b>Drill bit Set</b>	Diamond, Concreate and Steel From 1mm to 20mm minimum in size		5 set each	3 set each
85.	<b>Water Level Tube</b>	100ft 8mm thickness		04	02








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## Lab 14: Tools and Equipment of HVACR









(For Class Of 15 To 25 Students)



S.No	Item	Specification	Image	CBT	Non-CBT
1	<b>Split Air Conditioners</b>	Cooling Capacity 1 ton		6	3
2	<b>Window Air Conditioning Units</b>	Power Input 1500 W, 1.5 ton		5	3
3	<b>Portable Air Conditioning Units</b>	Cooling Capacity 1 ton		3	2
4	<b>Water-cooler</b>	8 liters, Metal body		4	2
5	<b>Condenser Coils</b>	Aluminum		8	5
6	<b>Evaporator Coils</b>	Copper		8	3
7	<b>Expansion Valves</b>	Hand expansion		10	6

S.No	Item	Specification	Image	CBT	Non-CBT
8	<b>Refrigerant Charging Equipment</b>	r-22, r-410, r-134a		10	5
9	<b>Vacuum Pumps</b>	0.30 inch of mercury		8	3
10	<b>Chillers</b>	5-6 ton		2	1
11	<b>Fan Coil Units</b>	Dual fan		3	1
12	<b>Compressors 1/4</b>	Copper winding 1/4 horse power Brand: National		5	3
13	<b>Compressors 1/5</b>	Copper winding 1/5 Horse power Brand: National		3	3
14	<b>Compressors 1/6</b>	Copper winding 1/6horse power Brand: National		3	3
15	<b>Compressors 1/8</b>	Copper winding 1/8 horse power Brand: National		3	3

S.No	Item	Specification	Image	CBT	Non-CBT
16	<b>Refrigerators</b>	6-8 cubic feet Double door		4	2
17	<b>Leak Detection Equipment</b>			4	2
18	<b>Thermometers</b>	Lesar sensor		25	13
19	<b>Temperature and Humidity Meters</b>	Humidity controller hydro		10	6
20	<b>Multimeters</b>	Watt, volt, amp, ohm's		24	15
21	<b>Leak Detectors</b>	Senser torch detection		10	5
22	<b>Vacuum Gauges</b>	High-low pressure		10	4

S.No	Item	Specification	Image	CBT	Non-CBT
23	Electrical Testers	220 Volt		24	17
24	Air Velocity Meters	Air high low velocity		10	06
25	Pipe Benders	1/4, 3/8, 5/8		10	04
26	Soldering Iron	100watt		9	04
27	Refrigerant Recovery Machines	r-22, r-410, r-134		3	1
28	Refrigerant Scales	Up to 30kg		5	4
29	Flaring and Swaging Tools	All nozzle's		15	10
30	Tubing Cutters	Adjustable		20	10


S.No	Item	Specification	Image	CBT	Non-CBT
31	<b>Filling Stations for Refrigerant</b>	Single phase		3	1
32	<b>Insulation Materials</b>	For copper pipes and ducts		25	15
33	<b>Leak Sealing Tools</b>	For 5/8 pipe		12	08
34	<b>Fire Extinguishers</b>	Powder		5	4
35	<b>First Aid Kits</b>	All purpose		3	1
36	<b>Safety glasses</b>	Visible		25	18
37	<b>gloves</b>	All purpose		50	25
38	<b>Emergency Shutoff Valves</b>	Semi sealed		5	3

S.No	Item	Specification	Image	CBT	Non-CBT
39	Cooling Load Calculators	All purpose		10	05
40	Hammers	Matel		10	5
41	Screwdrivers Flathead	6-7"		15	8
42	Screwdrivers Phillips	6-7"		15	8
43	Adjustable Wrench 8"	8"		10	4
44	Adjustable Wrench 10"	10"		10	4
45	Adjustable Wrench 12"	12"		10	4
46	Pipe Wrench 8"	8"		5	2
47	Pipe Wrench 10"	10"		5	2

S.No	Item	Specification	Image	CBT	Non-CBT
48	<b>Torque Wrench</b>	Adjustable		5	2
49	<b>Pliers -Nose</b>	Insulated		5	2
50	<b>Pliers Grip</b>	Insulated		5	2
51	<b>Plier Punch</b>	Insulated		5	2
52	<b>Plier</b>	Insulated		5	4
53	<b>Tape Measure</b>	20-30 feet		8	4
54	<b>Utility Knife</b>	Reuseable		7	03
55	<b>Allen Key set</b>	15 pieces		10	05
56	<b>Hack Saw</b>	Matel		12	06

S.No	Item	Specification	Image	CBT	Non-CBT
57	Pipe Cutters	Adjustable		6	02
58	Level	4 feet		10	06
59	Wire Cutters	Insulated		15	06
60	Pipe Reamer	3/8, 5/8 Diameter		4	2
61	Hole Saw	3 Inches Diameter		4	1
62	File Set	All shapes		8	03
63	Rivet Gun	Heavy duty		3	1
64	Gas welding station	High efficiency		4	01

S.No	Item	Specification	Image	CBT	Non-CBT
65	Drill machine	Hilti		5	02
66	Drill bit set concrete	Concrete		4	2
67	Drill bit set wooden	Wooden		4	2
68	Drill bit set metal	Metal		5	2
69	Spanner set	8-24"		8	03
70	Hack saw blades	All shapes		24	15
71	Bench vise	5 no		10	05
72	Grinder	Medium		5	02
73	Fan motor	3 speeds		25	15

S.No	Item	Specification	Image	CBT	Non-CBT
74	Car air conditioning trainer			3	2

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## Lab 15: Tools and Equipment of Advance HVACR

(For Class Of 15 To 25 Students)









S.No	Item	Specification	Image	CBT	Non-CBT
1	<b>Air Handling Unit (AHU)</b>	Contains fans, filters, heating/cooling coils, humidifiers		5	2
2	<b>Chillers</b>	<b>Water-cooled or air-cooled</b> systems that remove heat from water.		7	3
3	<b>Cooling Towers</b>	Works with chillers in central cooling plants.		4	3
4	<b>Boilers</b>	Provides heating by producing steam or hot water.		4	2
5	<b>Variable Refrigerant Flow (VRF/VRV) Systems</b>	Inverter-driven compressor adjusts refrigerant flow based on demand.		7	3
6	<b>Heat Pumps</b>	Air-source or ground-source (geothermal).		6	4
7	<b>Sensors &amp; Smart Thermostats</b>	Measure temperature, humidity, CO2, occupancy, VOCs.		9	5









S.No	Item	Specification	Image	CBT	Non-CBT
8	<b>Ductless Mini-Split Systems</b>	Multi-zone capability, inverter-driven compressors.		7	3
9	<b>Hydronic Systems</b>	Use water or steam to heat/cool spaces via radiators or underfloor tubing.		6	4
10	<b>VAV (Variable Air Volume) Systems</b>	Supply air volume varies based on zone needs.		6	4
11	<b>Split Air Conditioners</b>	Cooling Capacity 1 ton		6	3
12	<b>Window Air Conditioning Units</b>	Power Input 1500 W, 1.5 ton		5	3
13	<b>Portable Air Conditioning Units</b>	Cooling Capacity 1 ton		3	2
14	<b>Water-cooler</b>	8 liters, Metal body		4	2
15	<b>Condenser Coils</b>	Aluminum		8	5











S.No	Item	Specification	Image	CBT	Non-CBT
16	<b>Evaporator Coils</b>	Copper		8	3
17	<b>Expansion Valves</b>	Hand expansion		10	6
18	<b>Refrigerant Charging Equipment</b>	r-22, r-410, r-134a		10	5
19	<b>Vacuum Pumps</b>	0.30 inch of mercury		8	3
20	<b>Chillers</b>	5-6 ton		2	1
21	<b>Fan Coil Units</b>	Dual fan		3	1
22	<b>Compressors 1/4</b>	Copper winding 1/4 horse power Brand: National		5	3
23	<b>Compressors 1/5</b>	Copper winding 1/5 Horse power Brand: National		3	3

S.No	Item	Specification	Image	CBT	Non-CBT
24	<b>Compressors 1/6</b>	Copper winding 1/6horse power Brand: National		3	3
25	<b>Compressors 1/8</b>	Copper winding 1/8 horse power Brand: National		3	3
26	<b>Refrigerators</b>	6-8 cubic feet Double door		4	2
27	<b>Leak Detection Equipment</b>			4	2
28	<b>Thermometers</b>	Lesar sensor		25	13
29	<b>Temperature and Humidity Meters</b>	Humidity controller hydro		10	6
30	<b>Multimeters</b>	Watt, volt, amp, ohm's		24	15
31	<b>Leak Detectors</b>	Senser torch detection		10	5

S.No	Item	Specification	Image	CBT	Non-CBT
32	<b>Vacuum Gauges</b>	High-low pressure		10	4
33	<b>Electrical Testers</b>			24	17
34	<b>Air Velocity Meters</b>	Air high low velocity		10	06
35	<b>Pipe Benders</b>	1/4 3/8 5/8		10	04
36	<b>Soldering Iron</b>	100watt		9	04
37	<b>Refrigerant Recovery Machines</b>	r-22, r-410, r-134		3	1
38	<b>Refrigerant Scales</b>	Up to 30kg		5	4
39	<b>Flaring and Swaging Tools</b>	All nozzle's		15	10

S.No	Item	Specification	Image	CBT	Non-CBT
40	<b>Tubing Cutters</b>	Adjustable		20	10
41	<b>Filling Stations for Refrigerant</b>	Single phase		3	1
42	<b>Insulation Materials</b>	For copper pipes and ducts		25	15
43	<b>Leak Sealing Tools</b>	For 5/8 pipe		12	08
44	<b>Fire Extinguishers</b>	Powder		5	4
45	<b>First Aid Kits</b>	All purpose		3	1
46	<b>Safety glasses</b>	Visible		25	15-18
47	<b>gloves</b>	All purpose		50	20-25

S.No	Item	Specification	Image	CBT	Non-CBT
48	<b>Emergency Shutoff Valves</b>	Semi sealed		5	3
49	<b>Cooling Load Calculators</b>	All purpose		10	05
50	<b>Hammers</b>	Matel		10	5
51	<b>Screwdrivers Flathead</b>	6-7"		15	8
52	<b>Screwdrivers Phillips</b>	6-7"		15	8
53	<b>Adjustable Wrench 8"</b>	8"		10	4
54	<b>Adjustable Wrench 10"</b>	10"		10	4
55	<b>Adjustable Wrench 12"</b>	12"		10	4
56	<b>Pipe Wrench 8"</b>	8"		5	2

S.No	Item	Specification	Image	CBT	Non-CBT
57	Pipe Wrench 10"	10"		5	2
58	Torque Wrench	Adjustable		5	2
59	Pliers -Nose	Insulated		5	2
60	Pliers Grip	Insulated		5	2
61	Plier Punch	Insulated		5	2
62	Plier	Insulated		5	4
63	Tape Measure	20-30 feet		8	4
64	Utility Knife	Reuseable		7	03
65	Allen Key set	15 pieces		10	05
66	Hack Saw	Matel		12	06

S.No	Item	Specification	Image	CBT	Non-CBT
67	Pipe Cutters	Adjustable		6	02
68	Level	4 feet		10	06
69	Wire Cutters	Insulated		15	06
70	Pipe Reamer	3/8 5/8		4	2
71	Hole Saw	3"		4	1
72	File Set	All shapes		8	03
73	Rivet Gun	Heavy duty		3	1
74	Gas welding station	High efficiency		4	01

S.No	Item	Specification	Image	CBT	Non-CBT
75	Drill machine	Hilti		5	02
76	Drill bit set concrete	Concrete		4	2
77	Drill bit set wooden	Wooden		4	2
78	Drill bit set metal	Metal		5	2
79	Spanner set	8-24"		8	03
80	Hack saw blades	All shapes		24	15
81	Bench vise	5 nos		10	05
82	Grinder	Medium		5	02
83	Fan motor	3 speeds		25	15
84	Car air conditioning trainer			3	2

## Lab 15: Consumable Materials of Advance HVACR

(For Class Of 15 To 25 Students)

S. No	Item	Specification	Image	CBT	Non-CBT
1	<b>Air filters</b>	HEPA, MERV-rated		50	18-20
2	<b>Fan belts</b>	32,36,38,40 size		20-25	10-Dec
3	<b>Glycol/water mixtures</b>			5cans	2cans
4	<b>Water treatment chemicals</b>	biocides, anti-corrosives, scale inhibitors		80liter	50 liter
5	<b>Drift eliminators</b>	within a frame, used to regulate airflow or suppress vibrations		140	80
6	<b>Blowdown valves</b>	boiler water, ensuring efficient and safe boiler operation.		13	6
7	<b>Condensate drain tablets</b>	Pan-Treat condensate tablets		8packs	5 packs
8	<b>Control relays</b>	binary actuator		08-Oct	6


S. No	Item	Specification	Image	CBT	Non-CBT
9	<b>Actuator replacements</b>	electric, pneumatic, or hydraulic		25-30	15-18
10	<b>Dampers</b>	(can degrade over time)			
11	<b>Refrigerant Gas</b>	R-22		3 cylinders	1
12	<b>Refrigerant Gas</b>	R-410		3 cylinders	1
13	<b>Refrigerant Gas</b>	R-134a		3 cylinders	1
14	<b>Refrigerant Gas</b>	R-32		2 cylinders	1
15	<b>Refrigerant Oil</b>	synthetic oil		5 cans	2
16	<b>Vacuum Pump Oil</b>			2 cans	1

S. No	Item	Specification	Image	CBT	Non-CBT
17	<b>Foam Insulation</b>	foam rubber		25 lengths	Dec-15
18	<b>Rubber Insulation</b>	foam rubber		25 lengths	Dec-15
19	<b>Silicone Sealant</b>	flexible sealant		4 tubes	2
20	<b>Coil Cleaner</b>	Ctc		50 bottles	20-25
21	<b>Rubber Gaskets</b>	Rubber		10 meters	4-5 meter
22	<b>Screws 1.5"</b>	Steel		2 box	1box
23	<b>Bolts 1.5"</b>	Steel		2 box	1box
24	<b>Clamps</b>	Steel		24	Dec-15

S. No	Item	Specification	Image	CBT	Non-CBT
25	<b>Copper Fittings Elbows</b>	24guage		24	Dec-15
26	<b>Copper Fittings tees</b>	24guage		24	Dec-15
27	<b>Copper Fittings unions</b>	24guage		24	Dec-15
28	<b>Threaded Rods</b>	Metal		24	Dec-15
29	<b>Soldering Flux</b>	paste		10 box	3-4 box
30	<b>Welding Rods</b>	8 no		3 box	1 box
31	<b>Grinder Discs</b>	5"		24	Dec-15
32	<b>Flaring Tool Inserts</b>			15	08-Oct

S. No	Item	Specification	Image	CBT	Non-CBT
33	Battery Packs	9volts		10	03-Apr
34	Duct Insulation Tape	Pvc foam		12	06-Aug
35	Electrical Wiring and Cable	Mar-29		2 boxes	1 box
36	Air Filters			15	6
37	Cleaning Cloths and Brushes			50	20-25
38	Copper pipe 1/4	24 gauge		2rolls	1 roll
39	Copper pipe 3/8	24 gauge		2rolls	1 roll
40	Copper pipe 5/8	22 gauge		2 rolls	1roll

S. No	Item	Specification	Image	CBT	Non-CBT
41	Thermostat	Vt 9		12	6
42	Thermostat	Vc 1		12	6
43	Relays mix	¼ hp		50	20
44	Capacitor	50uf		12	6
45	Capacitor	35uf		12	6
46	Capacitor	Fan 3.5 uf		12	6
47	Overloads	1/4hp		70	30
48	Steel nails	1.5"		8dozen	4dozen
49	Copper rod	Normal gauge		10kg	6kg




S. No	Item	Specification	Image	CBT	Non-CBT
50	<b>Brass rod</b>	Normal gauge		10kg	6kg

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### 3. Manufacturing Sector

#### Lab 01: Tools and Equipment of Machinist

(For Class Of 15 To 25 Students)

S.no	Item	Specification	Images	CBT	Non-CBT
1	<b>Vertical Milling Machine</b>	Table size 1000x250 mm, R8 spindle		2	1
2	<b>Milling Vices</b>	6-inch precision vice		4	2
3	<b>Clamping Kit</b>	Standard T-slot clamp kit		2 sets	1 set
4	<b>Parallel strips Sets</b>	Ground steel, 1/8" to 1" height		2 sets	1 set
5	<b>Dividing Head</b>	Manual indexing, suitable for 3-jaw chuck		1	1
6	<b>Lathe Machine</b>	6-8 feet bed length, geared headstock		4	2
7	<b>3-Jaw Chuck</b>	200 mm dia		4	2
8	<b>4-Jaw Independent Chuck</b>	250 mm diameter		2	2










S.no	Item	Specification	Images	CBT	Non-CBT
9	Faceplate	Standard set		1 set	1 set
10	Lathe Dog	Standard set		1 set	1 set
11	Drill Press	Pillar type, up to 25 mm drilling capacity		2	1
12	Drill Vice	5-inch		4	2
13	Surface Grinder	Magnetic chuck 300x150 mm		1	1
14	Shaper Machine	Stroke length 450 mm		1	1
15	Tool Grinder	Double wheel with adjustable rests		1	1
16	Bench Vices	6-inch heavy-duty		10	5





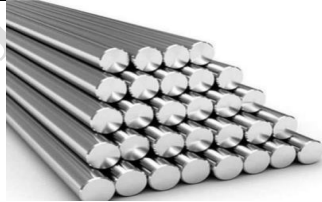
S.no	Item	Specification	Images	CBT	Non-CBT
17	<b>Workbenches</b>	Steel frame with wooden top		5	3
18	<b>Vernier Calipers</b>	0-150mm, 0.01mm resolution, IP54		10	5
19	<b>Micrometers</b>	0-25mm, 25-50mm, 50-75mm, 75-100mm		5 each	3 each
20	<b>Internal Micrometer</b>	0-25mm, 25-50mm, 50-75mm, 75-100mm		5 each	3 each
21	<b>Dial Indicators set</b>	0.01mm resolution, magnetic base		5	3
22	<b>Height Gauges</b>	300mm travel, carbide tip		2	1
23	<b>Thread Pitch Gauges</b>	Metric/imperial		5 sets	3 set
24	<b>Radius Gauges</b>	1-15mm		2 sets	2 set
25	<b>White Board</b>	As required		1	1

## Lab 01: Consumable Materials of Machinist

(For Class Of 15 To 25 Students)

S.no	Tool/Item	Specification	Images	CBT	Non-CBT
1	<b>Lathe Tool Blanks</b>	12x12x100 mm (HSS and Carbide), HRC 55-60		50	20
2	<b>End Mills</b>	6mm, 10mm, 12mm, 16mm (HSS and Carbide), HRC 55-60		5 each	3 each
3	<b>Drill Bits</b>	3mm to 20mm (step of 1mm) (HSS and Carbide), HRC 55-60		2 sets	2 sets
	<b>Centre drills</b>	ø2-ø5mm HSS or Carbide		2 each	2 each
4	<b>Carbide Inserts CNMG</b>	120408 – CVD coated		50	20
5	<b>Carbide Inserts CCMT</b>	060204 – PVD coated (Specs can be changed as per requirements and availability)		20	15
6	<b>Threading Inserts</b>	16ER AG60 (Specs can be changed as per requirements and availability)		20	10

S.no	Tool/Item	Specification	Images	CBT	Non-CBT
7	<b>Taps and dies</b>	M2-M20		10 set each	5 sets each
8	<b>Parting Inserts</b>	MGMN300-M (Specs can be changed as per requirements and availability)		20	10
9	<b>Cutting Oil</b>	General purpose soluble oil		30 Liters	15 liters
10	<b>Grinding Wheels</b>	6-inch and 8-inch		4 each	2 each
11	<b>Clamps and Studs</b>	Standard T-slot set		2 sets	2 sets
12	<b>Emery Cloth</b>	120, 240 grit		20 sheets each	15 sheets each
13	<b>Machine Cleaning Supplies</b>	Brushes, rags, cleaning solvent		20	10
14	<b>Marking Tools</b>	Scriber, punches		5 each	3 each
15	<b>Wooden Blocks</b>	100x100x50 mm		25	15



S.no	Tool/Item	Specification	Images	CBT	Non-CBT
16	<b>Acrylic Sheets</b>	150x100x20 mm		25	15
17	<b>Aluminum Blocks</b>	100x100x50 mm		30	15
18	<b>Mild Steel Blocks</b>	100x100x50 mm		25	15
19	<b>Teflon rods</b>	ø20-ø50 x1000mm		20	10
20	<b>Aluminum Stock (6061)</b>	ø10-ø50mm x 500mm		30	15

## Lab 02: Tools and Equipment of CNC Operator

(For Class Of 15 To 25 Students)

S.no	Item	Specification	Images	CBT	Non-CBT
1	<b>3-Axis CNC Milling Machine</b>	XYZ Travel: 800x600x800 mm, BT40 spindle, 8000 RPM		1	1
2	<b>CNC Lathe Machine</b>	Max Turning Diameter: 300 mm, Max Length: 500 mm		1	1
3	<b>Tool Holders and Collets</b>	BT40/ER32or ER25 or ER16 collet set		10	5
4	<b>3D Tester or dial probe</b>	4mm probe dia		1	1
5	<b>Cutting Tools Set</b>	End mills, drills, taps – HSS and Carbide		10	5
6	<b>Work Holding Devices</b>	Machine vice, clamps, fixtures, chucks		2	2
7	<b>Clamping Kit</b>	Standard T-slot clamp kit		2 sets	1 set


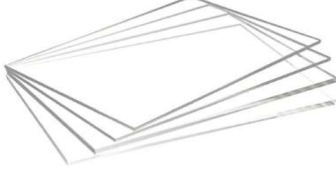






S.no	Item	Specification	Images	CBT	Non-CBT
8	<b>Surface Plate</b>	600 x 600 mm, Grade 1		1	1
9	<b>Parallel strips Sets</b>	Ground steel, 1/8" to 1" height		2 sets	1 set
10	<b>Vernier Calipers</b>	0-150mm, 0.01mm resolution, IP54		10	5
11	<b>Micrometers</b>	0-25mm, 25-50mm, 50-75mm, 75-100mm		5 each	3
12	<b>Internal Micrometer</b>	0-25mm, 25-50mm, 50-75mm, 75-100mm		5 each	3 each
13	<b>Dial Indicators set</b>	0.01mm resolution, magnetic base		5	2
14	<b>Height Gauges</b>	300mm travel, carbide tip		2	1
15	<b>Thread Pitch Gauges</b>	Metric/imperial		5 sets	3 sets

S.no	Item	Specification	Images	CBT	Non-CBT
16	<b>Radius Gauges</b>	1-15mm		2 sets	2 sets
17	<b>White Board</b>	As required		1	1

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## Lab 02: Consumable Materials of CNC Operator

(For Class Of 15 To 25 Students)






S. No	Item	Specification	Images	CBT	Non-CBT
1	<b>Wooden Blocks</b>	100x100x50 mm		25	15
2	<b>Acrylic Sheets</b>	150x100x20 mm		25	15
3	<b>Aluminum Blocks</b>	100x100x50 mm		30	20
4	<b>Mild Steel Blocks</b>	100x100x50 mm		25	15
5	<b>Teflon rods</b>	ø20-ø50 x1000mm		20	10
6	<b>Aluminum Stock (6061)</b>	ø10-ø50mm x 500mm		30	20
7	<b>Coolant and Lubricants</b>	Water-soluble coolant, 30L can		2	2
8	<b>End mills</b>	ø4-ø30mm (HSS and Carbide), HRC 55-60		30	20





S. No	Item	Specification	Images	CBT	Non-CBT
9	Face mill	ø20-ø80mm (HSS and Carbide), HRC 55-60		10	5
10	Drill bit sets	(HSS and Carbide), HRC 55-60		5 Sets	3 Sets
11	Centre drills	ø2-ø5mm HSS or Carbide		2	2
12	Taps and dies	M2-M20		10	5
13	Ball nose	ø4-ø12mm (HSS and Carbide), HRC 55-60		10	5
14	External Turning Tool Holder	ISO PCLNR 2525 M12 (Specs can be changed as per requirements and availability)		5	3
15	Internal Boring Bar	SCLCR 1010H06 (Specs can be changed as per requirements and availability)		5	3









S. No	Item	Specification	Images	CBT	Non-CBT
16	<b>Parting Tool Holder</b>	SER1010E11 (Specs can be changed as per requirements and availability)		5	3
17	<b>Threading Tool Holder</b>	SER1010H11+SNR001 0K11 (Specs can be changed as per requirements and availability)		5	3
18	<b>Inserts (Turning + threading+ boring)</b>	CNMG 120408 – Grade: CVD coated (Specs can be changed as per requirements and availability)		5 boxes each	3 boxes each
19	<b>Safety Gear</b>	Apron, Gloves, goggles, ear plugs, Safety Shoes		25	15
20	<b>Machine Cleaning Supplies</b>	Brushes, rags, cleaning solvent		20	10
21	<b>Marking Tools</b>	Scriber, punches		5	3
22	<b>Emery Cloth</b>	120, 240 grit		20 sheets each	10 sheets each
23	<b>Fire Extinguishers</b>	Class D (for metal fires)		2	2
24	<b>First Aid Kits</b>	ANSI-compliant		2	2

## Lab 03: Tools and Equipment of Industrial Mechatronics

(For Class Of 15 To 25 Students)




S. No	Name of item	Specification	Images	CBT	Non-CBT
1.	<b>Basic Pneumatic Training Package 101</b>	Festo Training Package		8	1
2.	<b>Basic Principles of Pneumatic and Fundamental Course Book</b>	Teach ware TP 101 Course Book		9	1
3.	<b>Basic Pneumatic Training Book TP 101</b>	Teach ware TP 101 Training Book		1	1
4.	<b>Fluid Sim Pneumatic Software</b>	Fluid Sim 5 Software		1	1
5.	<b>Advanced Pneumatic Training Package 102</b>	Festo TP 102 Training Package		8	1
6.	<b>Advanced Pneumatic Training Book</b>	Teach ware TP 102 Training Book		1	1




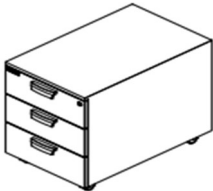
S. No	Name of item	Specification	Images	CBT	Non-CBT
7.	<b>Basic Electro-Pneumatic Training Package 201</b>	Teach ware TP 201 Training Package		8	1
8.	<b>Basic Electro-Pneumatic Training Book TP 201</b>	Teach ware TP 201 Training Book		1	1
9.	<b>Advanced Electro-Pneumatic Training Package 202</b>	Festo TP 202 Training Package		8	1
10.	<b>Advanced Electro-Pneumatic Training Book 202</b>	Teach ware TP 202 Training Book		1	1
11.	<b>Edu Trainer S7-1512C-1 PN with Power Supply</b>	Festo Edu Trainer SPS Trainer		8	1
12.	<b>Power Supply Cable</b>	Festo Edu Trainer SPS Cable		8	4
13.	<b>Sy slink Connection Box for PLC to I/P Communication</b>	Festo Edu Trainer Sy slink Trainer		8	1
14.	<b>A/D Simulator Box for signaling to PLC</b>	Festo Simulator A/D Simulator		8	1
15.	<b>I/O Data Cable with Sy slink Connectors</b>	Festo Simulator A/D Simulator		16	4
16.	<b>I/O Data Cable Analog</b>	Festo Simulator A/D Cable		8	2
17.	<b>STEP 7 Trainer Software</b>	Siemens SIMATIC 7 Trainer Trainer		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
18.	<b>Pneumatics Sensors Set TP 240</b>	Festo TP 240 Training Package		2	1
19.	<b>Sensors in Pneumatic Training Book TP 240</b>	Teach ware TP 240 Training Book		1	1
20.	<b>Basic Hydraulic Training Package 501</b>	Festo TP 501 Training Package		4	1
21.	<b>Protective Cover for weight, 9kg</b>	Festo Cover Component		4	2
22.	<b>Hose line with quick release coupling</b>	Festo 600 MM NG4		28	5
23.	<b>Hose line with quick release coupling</b>	Festo 1000 MM NG4		12	3
24.	<b>Hose line with quick release coupling</b>	Festo 1.5 meter		16	3
25.	<b>Pressure Relieve Unit</b>	Festo Component		4	1
26.	<b>Pressure Gauge</b>	Festo Component		4	1







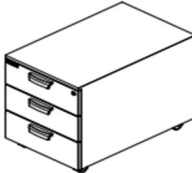

S. No	Name of item	Specification	Images	CBT	Non-CBT
27.	<b>Differential Cylinder</b>	Festo Cylinder		4	1
28.	<b>Fundamentals of Hydraulics Course Book</b>	Festo Teach ware Course Book		5	1
29.	<b>Basic Hydraulic Training Book</b>	Festo TP 501 Training Book		1	1
30.	<b>Fluid Sim Hydraulics Software CD</b>	Festo Fluid Sim 5 Hydraulics Software		1	1
31.	<b>Advanced Hydraulics Training Package 502</b>	Festo TP 502 Training Package		4	1
32.	<b>Advanced Hydraulics Training Book</b>	Festo Teach ware Training Book		1	1
33.	<b>Basic Electro-Hydraulic Training Package TP 601</b>	Festo TP 601 Training Package		4	1





S. No	Name of item	Specification	Images	CBT	Non-CBT
34.	<b>4/2 way Solenoid valve spring return</b>	Festo Magnetic valve		4	1
35.	<b>4/3 way Solenoid valve mid position closed</b>	Festo Magnetic valve		4	1
36.	<b>Pressure Switch Electronic</b>	Festo Switch		4	1
37.	<b>Mounting Kit for Cylinders</b>	Festo Component		4	1
38.	<b>Basic Electro-Hydraulic Training Book TP 601</b>	Festo Teach ware Training Book		1	1
39.	<b>Advanced Electro-Hydraulics Training Package 602</b>	Festo TP 602 Training Package		4	1
40.	<b>Advanced Electro-Hydraulics Training Book 602</b>	Festo Teach ware Training Book		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
41.	<b>Sensors for object detection</b>	Festo TP 1311 Training Package		2	2
42.	<b>Sensors for object detection Course Book 1311</b>	Festo Teach ware Training Book		1	1
43.	<b>Conveyor Belt Station</b>	Festo MPS 500 Industrial model		1	1
44.	<b>Distribution Station including trolley and Control Panel</b>	Festo MPS 500 Industrial model		1	1
45.	<b>Testing Station including trolley and Control Panel</b>	Festo MPS 500 Industrial model		1	1
46.	<b>Edu Trainer S7-1512 ET 200 SP with Power Supply</b>	Siemens SPS 7 Edu Trainer		2	1
47.	<b>Power Cable</b>	Festo Cable		2	2
48.	<b>Handling Station including trolley and Control Panel</b>	Festo MPS 500 Industrial model		1	1
49.	<b>Sorting Station including trolley and Control Panel</b>	Festo MPS 500 Industrial model		1	1
50.	<b>Processing Station including trolley and Control Panel</b>	Festo MPS 500 Industrial model		1	1
51.	<b>Robot Assembly with Mitsubishi RV-2FB (MPS)</b>	Mitsubishi Electric Mounting Station		1	1
52.	<b>Safety Housing for Robot Assembly (MPS)</b>	Festo MPS 500 Safety Box		1	1
53.	<b>Station Quality Control with Vision</b>	Festo MPS 500 Check Station		1	1
54.	<b>Automatic Warehouse Station AS/RS 20</b>	Festo MPS 500 High Rack Storage Area		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
55.	<b>MPS 500 Industrial Package 4.0</b>	Festo MPS 500 Industrial model		1	1
56.	<b>CIROS 6.0 Studio (in combination with Education)</b>	Festo Automation		1	1
57.	<b>Compressor 24-50 230 V</b>	Festo Compressor		1	1
58.	<b>Compressor Accessories</b>	Festo Components		1	1
59.	<b>Simulation Box Digital</b>	Festo Simulator		1	1
60.	<b>Tool Set in Sustainer</b>	Festo MPS 500 Tool Set		1	1
61.	<b>Workpiece Set for Cylinder Assembly</b>	Festo Assembly components		1	1
62.	<b>Mobile Laboratory Workbench</b>	Festo Workbench		4	1
63.	<b>Fixed Drawer Unit for Installation</b>	Festo Drawer		8	2
64.	<b>Wheeled Drawer Unit for Stationary</b>	Festo Drawer		8	2
65.	<b>Oil Receptacle/ Protective Mat</b>	Festo Safety Mat		8	2
66.	<b>Hydraulic Power Pack with two constant pumps</b>	Festo Pumps		2	1
67.	<b>Hydraulic Oil</b>	Oil		4	2
68.	<b>Funnel</b>	Equipment		1	1
69.	<b>Hose Clamp (up to 20 Hydraulic Hoses)</b>	Festo Holder		4	2

S. No	Name of item	Specification	Images	CBT	Non-CBT
70.	<b>Cable Clamp (for Laboratory Cables)</b>	Festo Holder		8	4
71.	<b>Power Supply Unit for mounting frame</b>	Festo Supply Unit		8	4
72.	<b>4mm Safety Laboratory Cables</b>	Festo Cables		8	4
73.	<b>Tube Cutter</b>	Cutter		8	2
74.	<b>Dell Laptops for Trainees</b>	Dell Laptops		8	2
75.	<b>External Monitors</b>	Dell Monitors		8	3
76.	<b>Computer Projector HD</b>	Projector		1	1
77.	<b>Laser Printer A4, network version</b>	Cannon Printer		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
78.	<b>Wireless LAN Router with Cables</b>	Router		1	1
79.	<b>Digital Multimeter</b>	Multi meter		8	3
80.	<b>Work table for Students</b>	Festo Workbench		10	5
81.	<b>Chair for Students</b>	Chairs		10	5
82.	<b>Trainer Worktable</b>	Festo Workbench		1	1
83.	<b>Trainer Chair</b>	Chair		1	1
84.	<b>Wheeled Drawer Unit for Stationary (Teacher)</b>	Festo Drawer		1	1
85.	<b>Locker for Tech ware &amp; Software</b>	Locker		2	1








S. No	Name of item	Specification	Images	CBT	Non-CBT
86.	<b>Whiteboard approx. 1.5 wide, moveable</b>	Whiteboard		1	1
87.	<b>75" Touch Display, Auflösung: 4K UHD including Mobile Carrier</b>	Interactive Intelligent Panel		1	1
88.	<b>Laptop Charger</b>	Dell Chargers		8	2
89.	<b>Licensing Dongle CIROS &amp; MES</b>	Festo Flash Drive		1	1

## Lab 04: Tools and Equipment of Welding

(For Class Of 15 To 25 Students)

S. No	Name of Tools	Items Specification	Images	CBT	Non-CBT
1	<b>Safety Boots</b>	Material: Leather or steel-toe composite, Sole: Slip-resistant rubber, Height: Mid-calf or ankle-length		15-25	5 to 8
2	<b>Welding Helmet</b>	Lens Shade: Variable 9-13, Material: Impact-resistant plastic, Auto-darkening: Yes, with sensitivity adjustment		15-25	5 to 8
3	<b>Welding Gloves</b>	Material: Leather, Kevlar, or aluminized fabric, Lining: Heat-resistant, Length: 12-14 inches		15-25	5 to 8
4	<b>Welding Apron</b>	Material: Leather, fire-retardant fabric, Length: 24-36 inches, Adjustable Straps: Yes		15-25	5 to 8
5	<b>Safety Glasses</b>	Lens Material: Polycarbonate or tempered glass, UV Protection: Yes, ANSI Rating: Z87.1-2003		15-25	5 to 8
6	<b>Welding Uniform</b>	Fabric: 100% cotton, cotton blends, or flame-resistant treated materials like Nomex, Kevlar, or FR cotton		15-25	5 to 8
7	<b>Chipping Hammer</b>	Material: Steel head with wooden or fiberglass handle, Length: 8-12 inches, Type: Single or double-ended		5	2

S. No	Name of Tools	Items Specification	Images	CBT	Non-CBT
8	<b>Welding Magnet</b>	Pull Strength: 50-300 lbs, Material: Neodymium or ceramic, Angle: 45°, 90°, 135° positioning		5 to 10	2
9	<b>Wire Brush</b>	Bristles: Steel, brass, Handle: Wood or plastic, Length: 10-14 inches		5 to 10	2
10	<b>Welding Cart</b>	Material: Steel or HSLA, Capacity: 200-400 lbs, Wheels: Heavy-duty casters		1	1
11	<b>Fire Extinguisher</b>	Type: ABC dry chemical, Capacity: 2.5-10 lbs, Rating: 2A:10B:C or higher		2 to 4	1
12	<b>Welding Cable</b>	Voltage Rating: 600V, Insulation: Rubber, PVC, Gauge: 2 AWG to 1/0 AWG		5 to 10	2
13	<b>Ground Clamp</b>	Material: Copper or Aluminum, Clamp Capacity: 500-1000 Amps, Type: Heavy-duty		15-25	5
14	<b>Cutting Torch</b>	Gas: Oxygen and acetylene, Max Cutting Thickness: 1-6 inches, Nozzle Size: 0.5-3 mm		5	2

S. No	Name of Tools	Items Specification	Images	CBT	Non-CBT
15	<b>Oxygen Tank</b>	Tank Capacity: 40-80 cubic feet, Pressure: 2000-3000 PSI, Material: Steel		2	1
16	<b>Acetylene Tank</b>	Tank Capacity: 40-80 cubic feet, Pressure: 2000-3000 PSI, Material: Steel		2	1
17	<b>Argon Tank</b>	Tank Capacity: 40-80 cubic feet, Material: Steel		2	1
18	<b>Carbon dioxide Tank</b>	Tank Capacity: 40-80 cubic feet, Material: Steel		2	1
19	<b>Flashback arrestors</b>	Body: Brass or stainless steel, Temperature sensor: Polyethylene, End Connections: 1/4 in FNPT, Standard: EN 730/ISO 5175		10	2 to 5
20	<b>Welding Table</b>	Material: Steel or stainless steel, Dimensions: 24"x36" to 48"x72", Weight Capacity: 500-1000 lbs		5 to 10	3
21	<b>C-Clamps</b>	Jaw Capacity: 4-12 inches, Material: Steel or cast iron, Type: Regular or quick-release		5 to 10	2

S. No	Name of Tools	Items Specification	Images	CBT	Non-CBT
22	<b>Welding Curtains</b>	Material: Flame-resistant vinyl or fiberglass, Size: 5'x5' to 10'x10', Color: Red or green		12 sets	2 sets
23	<b>Stick Electrode Holder</b>	Amperage: 75-500 Amps, Material: Copper or steel, Cable Length: 6-12 feet		3 to 5	2
24	<b>Angle Finder</b>	Range: 0°-180°, Material: Steel or plastic, Accuracy: $\pm 0.5^\circ$		15-25	5
25	<b>Metal Shears</b>	Cutting Capacity: 14 gauge to 1/4" thick, Blade Type: Straight or curved, Material: High-carbon steel		3 to 5	1
26	<b>Welding Tongs</b>	Material: Steel or cast iron, Length: 12-18 inches, Jaw Capacity: 1-2 inches		3	1
27	<b>Welding Pliers</b>	Length: 8-10 inches, Material: Steel, Jaw Type: Serrated or flat		3	1
28	<b>Welding Machine</b>	Output: 120-600 Amps, Type: MIG, TIG, Stick, Power Supply: 120V, 240V, or multi-voltage		3	1
29	<b>Angle Grinder (Baby)</b>	Power: 4 to 5.5 Amps, Disc Size: 4 to 5 inches, Speed: 5000-7000 RPM		3 to 5	1

S. No	Name of Tools	Items Specification	Images	CBT	Non-CBT
30	<b>Angle Grinder</b>	Power: 6.5-7.5 Amps, Disc Size: 7 to 9 inches, Speed: 7000-10000 RPM		2	1
31	<b>Hand Cutter</b>	Material: High-carbon steel or forged steel, Cutting Capacity: 1/16" to 1/4" thick metal, Handle: Ergonomic, non-slip grip, Length: 8 to 12 inches		2	1

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## Lab 04: Consumables Materials of Welding

(For Class Of 15 To 25 Students)



S. No	Consumables	Items Specification	Images	CBT	Non-CBT
1	<b>Welding Rods (Electrode)</b>	MT-12-6013		40-60 Box	20-30 Box
2	<b>Welding Rods (Electrode)</b>	MT-12-7018		15-25 Box	10 Box
3	<b>Cutting Disc</b>	12"x1/8"x1"		20-30	10
4	<b>Grinder Cutting Disc</b>	7 inches with Groove		20-30	10
5	<b>Baby Grinder Disc</b>	4 inches		40-60	15-20
6	<b>Baby Grinder Cutting Disc</b>	4 inches		40-60	15-20
7	<b>Baby Grinder Cutting Disc</b>	4 inch (1 milli disc)		40-60	15-20

S. No	Consumables	Items Specification	Images	CBT	Non-CBT
8	<b>Jublie Clips</b>	(1/2 inch) and (1 inch)		20	10
9	<b>Oxygen Cylinder</b>	Material: Steel, Capacity: 40 - 80 cubic feet, Pressure: 2000-3000 PSI		5	2
10	<b>Acetylene Cylinder</b>	Material: Steel, Capacity: 40-60 cubic feet, Pressure: 200-250 PSI		5	2
11	<b>Argon Cylinder</b>	Material: Steel, Capacity: 40-80 cubic feet, Pressure: 2000-3000 PSI		5	2
12	<b>Carbon Dioxide Cylinder</b>	Material: Steel, Capacity: 20-50 cubic feet, Pressure: 800-1800 PSI		5	2
13	<b>Steel Plates</b>	Length (6 inch), Width (3 inch) and Thickness (5 mm)		200	80

## Lab 05: Tools and Equipment of Advance Welding

(For Class Of 15 To 25 Students)







Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
1	<b>Safety Boots</b>	Material: Leather or steel-toe composite, Sole: Slip-resistant rubber, Height: Mid-calf or ankle-length		15-25	5 to 8
2	<b>Welding Helmet</b>	Lens Shade: Variable 9-13, Material: Impact-resistant plastic, Auto-darkening: Yes, with sensitivity adjustment		15-25	5 to 8
3	<b>Welding Gloves</b>	Material: Leather, Kevlar, or aluminized fabric, Lining: Heat-resistant, Length: 12-14 inches		15-25	5 to 8
4	<b>Welding Apron</b>	Material: Leather, fire-retardant fabric, Length: 24-36 inches, Adjustable Straps: Yes		15-25	5 to 8
5	<b>Safety Glasses</b>	Lens Material: Polycarbonate or tempered glass, UV Protection: Yes, ANSI Rating: Z87.1-2003		15-25	5 to 8
6	<b>Welding Uniform</b>	Fabric: 100% cotton, cotton blends, or flame-resistant treated materials like Nomex, Kevlar, or FR cotton		15-25	5 to 8
7	<b>Chipping Hammer</b>	Material: Steel head with wooden or fiberglass handle, Length: 8-12 inches, Type: Single or double-ended		5	2


Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
8	<b>Welding Magnet</b>	Pull Strength: 50-300 lbs, Material: Neodymium or ceramic, Angle: 45°, 90°, 135° positioning		5 to 10	2
9	<b>Wire Brush</b>	Bristles: Steel, brass, Handle: Wood or plastic, Length: 10-14 inches		5 to 10	2
10	<b>Welding Cart</b>	Material: Steel or HSLA, Capacity: 200-400 lbs, Wheels: Heavy-duty casters		1	1
11	<b>Fire Extinguisher</b>	Type: ABC dry chemical, Capacity: 2.5-10 lbs, Rating: 2A:10B:C or higher		2 to 4	1
12	<b>Welding Cable</b>	Voltage Rating: 600V, Insulation: Rubber, PVC, Gauge: 2 AWG to 1/0 AWG		5 to 10	2
13	<b>Ground Clamp</b>	Material: Copper or Aluminum, Clamp Capacity: 500-1000 Amps, Type: Heavy-duty		15-25	5
14	<b>Cutting Torch</b>	Gas: Oxygen and acetylene, Max Cutting Thickness: 1-6 inches, Nozzle Size: 0.5-3 mm		5	2

Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
15	<b>Oxygen Tank</b>	Tank Capacity: 40-80 cubic feet, Pressure: 2000-3000 PSI, Material: Steel		2	1
16	<b>Acetylene Tank</b>	Tank Capacity: 40-80 cubic feet, Pressure: 2000-3000 PSI, Material: Steel		2	1
17	<b>Argon Tank</b>	Tank Capacity: 40-80 cubic feet, Material: Steel		2	1
18	<b>Carbon dioxide Tank</b>	Tank Capacity: 40-80 cubic feet, Material: Steel		2	1
19	<b>Flashback arrestors</b>	Body: Brass or stainless steel, Temperature sensor: Polyethylene, End Connections: 1/4 in FNPT, Standard: EN 730/ISO 5175		10	2 to 5
20	<b>Welding Table</b>	Material: Steel or stainless steel, Dimensions: 24"x36" to 48"x72", Weight Capacity: 500-1000 lbs		5 to 10	3
21	<b>C-Clamps</b>	Jaw Capacity: 4-12 inches, Material: Steel or cast iron, Type: Regular or quick-release		5 to 10	2

Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
22	<b>Welding Curtains</b>	Material: Flame-resistant vinyl or fiberglass, Size: 5'x5' to 10'x10', Color: Red or green		12 sets	2 sets
23	<b>Stick Electrode Holder</b>	Amperage: 75-500 Amps, Material: Copper or steel, Cable Length: 6-12 feet		3 to 5	2
24	<b>Angle Finder</b>	Range: 0°-180°, Material: Steel or plastic, Accuracy: ±0.5°		15-25	5
25	<b>Metal Shears</b>	Cutting Capacity: 14 gauge to 1/4" thick, Blade Type: Straight or curved, Material: High-carbon steel		3 to 5	1
26	<b>Welding Tongs</b>	Material: Steel or cast iron, Length: 12-18 inches, Jaw Capacity: 1-2 inches		3	1
27	<b>Welding Pliers</b>	Length: 8-10 inches, Material: Steel, Jaw Type: Serrated or flat		3	1
28	<b>Welding Machine</b>	Output: 120-600 Amps, Type: MIG, TIG, Stick, Power Supply: 120V, 240V, or multi-voltage		3	1

Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
29	<b>Angle Grinder (Baby)</b>	Power: 4 to 5.5 Amps, Disc Size: 4 to 5 inches, Speed: 5000-7000 RPM		3 to 5	1
30	<b>Angle Grinder</b>	Power: 6.5-7.5 Amps, Disc Size: 7 to 9 inches, Speed: 7000-10000 RPM		2	1
31	<b>Hand Cutter</b>	Material: High-carbon steel or forged steel, Cutting Capacity: 1/16" to 1/4" thick metal, Handle: Ergonomic, non-slip grip, Length: 8 to 12 inches		2	1
32	<b>TIG Welding Machine</b>	Output Current: 1A to 500A Power Supply: 220V or 380V, 1-phase or 3-phase Frequency: 50-60 Hz Duty Cycle: 60-100% Cooling System: Water-cooled or air-cooled torches		2 to 5	1
33	<b>MIG Welding Machine</b>	Voltage Range: 18V to 30V Wire Feed Speed: 2-12 m/min Power Supply: 220V or 380V, 1-phase or 3-phase Amperage Range: 30A to 500A Duty Cycle: 60% at 500A		2 to 5	1
34	<b>Spot Welder</b>	Power Supply: 220V or 380V, 1-phase or 3-phase Welding Current: 500A to 50kA Electrode Pressure: Adjustable pneumatic or hydraulic Weld Time: 0.1 - 2 seconds		2 to 5	1
35	<b>Plasma Cutter</b>	Power Supply: 220V - 480V, 1-phase or 3-phase Cutting Thickness: 1-30 mm Cutting Speed: 2000-10000 mm/min Precision: $\pm 0.5$ mm Material Compatibility: Steel, Aluminum, stainless steel		2	1

Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
36	<b>Heat Treatment Furnace</b>	Temperature Range: 200°C to 1200°C Heating Method: Electric or gas-fired Chamber Size: 100L to 2000L Cooling Rate: 1°C/min to 30°C/min (adjustable)		2	1
37	<b>Weld Test Equipment</b>	Technology: Ultrasonic, visual, and X-ray inspection Accuracy: $\pm 0.1$ mm Software: AI defect analysis and reporting Material Compatibility: Steel, Aluminum, stainless steel		1 Each	1
38	<b>Welding Jig and Fixture</b>	Material: Steel, Aluminum, or heavy-duty alloys Accuracy: $\pm 0.2$ mm Design: Customizable for specific parts Clamping Method: Pneumatic, hydraulic, or mechanical clamps Adjustment: Manual or automated adjustment features for positioning Max Load: 100-1000 kg depending on design		5 to 10	2
39	<b>Flux Core Arc Welding (FCAW) Machine</b>	Power supply ranging from 220V to 480V, either 1-phase or 3-phase, and supports a wide range of wire diameters from 0.8 mm to 2.4 mm, depending on the material and application		3 to 5	1
40	<b>Automated Welding Torch</b>	Power Output: 100A to 600A Torch Type: MIG, TIG, or Stick Cooling System: Air-cooled or water-cooled Control: Automated height control, automatic gas flow adjustment		3 to 5	1
41	<b>Automated Metal Cutting System</b>	Cutting Speed: 2000-15000 mm/min Cutting Method: Plasma, laser, or abrasive water jet Power Supply: 220V or 480V, 3-phase Material Compatibility: Steel, stainless steel, Aluminum		2	1

Sr. No	Tools	Items Specification	Images	CBT	Non-CBT
42	<b>Welding Slag Removal System</b>	Technology: Mechanical scraping or air blow Speed: 1000-5000 mm/min Material Compatibility: Steel, stainless steel Power Supply: Pneumatic or electric-powered		2	1

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## Lab 05: Consumables Materials of Advance Welding

(For Class Of 15 To 25 Students)

Sr. No	Consumables	Items Specification	Images	CBT	Non-CBT
1	<b>Welding Rods (Electrode)</b>	MT-12-6013		40-60 Box	20-30 Box
2	<b>Welding Rods (Electrode)</b>	MT-12-7018		15-25 Box	10 Box
3	<b>Cutting Disc</b>	12"x1/8"x1"		20-30	10
4	<b>Grinder Cutting Disc</b>	7 inches with Groove		20-30	10
5	<b>Baby Grinder Disc</b>	4 inches		40-60	15-20
6	<b>Baby Grinder Cutting Disc</b>	4 inches		40-60	15-20



Sr. No	Consumables	Items Specification	Images	CBT	Non-CBT
7	<b>Baby Grinder Cutting Disc</b>	4 inch (1 milli disc)		40-60	15-20
8	<b>Jubilee Clips</b>	(1/2 inch) and (1 inch)		20	10
9	<b>Oxygen Cylinder</b>	Material: Steel, Capacity: 40 - 80 cubic feet, Pressure: 2000-3000 PSI		5	2
10	<b>Acetylene Cylinder</b>	Material: Steel, Capacity: 40-60 cubic feet, Pressure: 200-250 PSI		5	2
11	<b>Argon Cylinder</b>	Material: Steel, Capacity: 40-80 cubic feet, Pressure: 2000-3000 PSI		5	2
12	<b>Carbon Dioxide Cylinder</b>	Material: Steel, Capacity: 20-50 cubic feet, Pressure: 800-1800 PSI		5	2
13	<b>Steel Plates</b>	Length (6 inch), Width (3 inch) and Thickness (5 mm)		200	80

Sr. No	Consumables	Items Specification	Images	CBT	Non-CBT
14	<b>MIG Welding Wire</b>	Types: Solid wire Material: Mild steel, stainless steel, Aluminum, copper alloys Diameter: 0.8mm to 2.4mm Coating: Non-coated or with copper coating		15-25 Coils	5-10 Coils
15	<b>TIG Filler Rods</b>	Types: Tungsten inert gas welding filler rods Material: Stainless steel, Aluminum, titanium, nickel alloys Diameter: 0.8mm to 3.2mm Packaging: Sticks or coils		15-25 Packs	5-10 Packs
16	<b>Flux-Cored Welding Wire</b>	Types: Gas nozzles for MIG, TIG, and plasma cutting Material: Copper, ceramic, or brass Size: Varies depending on torch model		7-10 Coils	3-5 Coils
17	<b>Tungsten Electrodes</b>	Types: Pure tungsten, Thoriated tungsten, Carinated tungsten Diameter: 0.4mm to 6.4mm		7-10 Packs	2-3 Packs
18	<b>Welding Nozzles</b>	Types: Gas nozzles for MIG, TIG, and plasma cutting Material: Copper, ceramic, or brass Size: Varies depending on torch model		50-75 Nozzles	15-25 Nozzles
19	<b>Welding Backing Bars</b>	Material: Stainless steel or Aluminum Application: Used to support welds for out-of-position welding, prevents distortion		10 to 15	5 to 7
20	<b>Welding Copper Back-Up Strips</b>	Material: Copper or copper alloy		7 to 10	5 to 7

Sr. No	Consumables	Items Specification	Images	CBT	Non-CBT
21	<b>Welding Shields and Covers</b>	Types: Protective covers for shielding during arc welding Material: Stainless steel, Aluminum, heat-resistant materials Size: Custom or standard sizes based on job requirements		5	2
22	<b>MIG Gun Contact Tips</b>	Material: Copper or brass Size: 0.8mm to 1.6mm		15-25	7 to 12
23	<b>Fume Extractor</b>	Type: Portable or fixed systems Filtration: HEPA or activated carbon filters Airflow Rate: 1000-5000 CFM (depending on system)		3 to 5	2
24	<b>TIG Welding Tungsten Sharpening Tool</b>	Material: Tungsten grinding tool Application: For sharpening tungsten electrodes for TIG welding Features: Precise sharpening to maintain a clean arc		1	1
25	<b>Welding Positioners</b>	Material: Steel Capacity: 500 kg to 5000 kg		15-25	7 to 12
26	<b>Welding Preheat Torch</b>	Material: Steel, brass nozzle Fuel Type: Propane, acetylene Temperature Range: 400°C to 900°C		2	1








## Lab 06: Tools and Equipment of Blacksmith/Foundry

(For Class Of 15 To 25 Students)

S. No	Tools	Item Specification	Images	CBT	Non-CBT
1	<b>Safety Boots</b>	Material: Leather or steel-toe composite, Sole: Slip-resistant rubber, Height: Mid-calf or ankle-length		15-25	5-8.
2	<b>Face Shields</b>	Material: Impact-resistant plastic		15-25	5-8.
3	<b>Gloves</b>	Material: Leather, Kevlar, or aluminized fabric, Lining: Heat-resistant, Length: 12-14 inches		15-25	5-8.
4	<b>Apron</b>	Material: Leather, fire-retardant fabric, Length: 24-36 inches, Adjustable Straps: Yes		15-25	5-8.
5	<b>Safety Glasses</b>	Lens Material: Polycarbonate or tempered glass, UV Protection: Yes, ANSI Rating: Z87.1-2003		15-25	5-8.
6	<b>Uniform</b>	Fabric: 100% cotton, cotton blends, or flame-resistant treated materials like Nomex, Kevlar, or FR cotton		15-25	5-8.
7	<b>Forge</b>	Type: Coal, gas, or electric forge Material: Steel or cast iron Temperature Range: Up to 1500°C (2700°F) Fuel Type: Coal, propane, or natural gas		5	2

S. No	Tools	Item Specification	Images	CBT	Non-CBT
8	<b>Anvil</b>	Material: Steel with a hardened face Weight: 50 kg to 200 kg (depending on use) Size: 200 mm to 600 mm face width		5	2
9	<b>Hammer</b>	Types: Claw hammer, cross-peen hammer, rounding hammer Material: Steel with a wooden or fiberglass handle Weight: 0.5 kg to 2 kg		3 Sets	1 Set
10	<b>Tongs</b>	Material: Steel Type: Various designs for gripping hot metal (flat, round, square) Length: 500 mm to 900 mm		4	1
11	<b>Chisels</b>	Material: High-carbon steel or tool steel Sizes: 6 mm to 50 mm Type: Pointed, flat, or hot-cut chisels		4	1
12	<b>Pry Bar</b>	Material: Steel Length: 400 mm to 900 mm Application: Used for lifting or separating hot metal pieces		2	1
13	<b>Swage Block</b>	Material: Steel or cast iron Size: 300 mm to 600 mm Shape: Multi-functional with various shaped cavities for shaping metal		10	3
14	<b>Tapping Tool</b>	Material: Steel Application: Used for threading or tapping holes in metal		3	1
15	<b>Wire Brush</b>	Material: Steel or brass bristles Handle: Wooden or plastic Size: 200 mm to 300 mm length Application: For cleaning metal surfaces		8-10.	02-May



S. No	Tools	Item Specification	Images	CBT	Non-CBT
16	<b>Blacksmithing Clamps</b>	Material: Steel Size: 300 mm to 600 mm Type: Spring, C-clamps, or locking clamps for holding metal in place during work		8-10.	3-5 n
17	<b>Tapering Tool</b>	Material: Steel Size: 20 mm to 100 mm diameter Application: For creating tapered ends in metal bars or rods		3-5.	1
18	<b>Heat Treatment Oven</b>	Temperature Range: Up to 1000°C Material: Steel with refractory linings Purpose: Used for hardening, tempering, or annealing metal		1	1
19	<b>Casting Flask</b>	Material: Steel, iron, or cast iron Size: Varies depending on casting size Application: Container used in sand casting to hold the mold		3-5n	2
20	<b>Rammer (Mold Rammer)</b>	Material: Steel or wood Weight: 2 kg to 5 kg Application: Used to compact sand or other materials in mold making		3	1
21	<b>Sprue Bushing</b>	Material: Steel or cast iron Size: Typically, 50 mm to 150 mm Application: Used to channel molten metal from the pouring basin into the mold cavity		3	1
22	<b>Mold Making Tools</b>	Types: Rammers, trowels, sprue pins, and mold boards Material: Steel, wood, or Aluminum Application: For preparing molds for metal casting		7-10n	3-5.









S. No	Tools	Item Specification	Images	CBT	Non-CBT
23	<b>Brazing Torch</b>	Material: Steel Fuel Type: Propane or acetylene Application: Used for heating and brazing metals		3-5n	2
24	<b>Grinding Wheel</b>	Material: Abrasive material like Aluminum oxide or silicon carbide Size: 150 mm to 300 mm diameter Speed: Typically, 3000 RPM or higher Application: For grinding or finishing metal pieces		2	1
25	<b>Sand Blaster</b>	Material: Steel Size: Portable or stationary versions Application: For cleaning metal surfaces by abrasive blasting		1	1
26	<b>Casting Pattern</b>	Material: Wood, metal, or plastic Application: Used to form the mold cavity for casting metal shapes		15-25	5-10n
27	<b>Chill Plate</b>	Material: Steel or cast iron Size: Custom sizes Application: Used to control cooling rates of molten metal during casting		2	1
28	<b>Foundry Sand Mixer</b>	Material: Steel Capacity: 50 kg to 500 kg Application: Used for mixing sand and binder for mold-making in casting		1	1
29	<b>Foundry Moulding Box</b>	Material: Steel or wood Size: Varies based on mold dimensions Application: Holds the sand or other materials to form the mold during casting		6-10n	2-5n




## Lab 06: Consumables Materials of Blacksmith/Foundry

(For Class Of 15 To 25 Students)

S. No	Consumables	Items Specification	Images	CBT	Non-CBT
1	Cutting Disc	12"x1/8"x1"		15-30	10 to 12
2	Grinder Cutting Disc	7 inches with Groove		15-30	10 to 12
3	Baby Grinder Disc	4 inches		40-60	15-20
4	Baby Grinder Cutting Disc	4 inches		40-60	15-20
5	Baby Grinder Cutting Disc	4 inch (1 milli disc)		40-60	15-20
6	Oxygen Cylinder	Material: Steel, Capacity: 40 - 80 cubic feet, Pressure: 2000-3000 PSI		3 to 5	2

S. No	Consumables	Items Specification	Images	CBT	Non-CBT
7	<b>Acetylene Cylinder</b>	Material: Steel, Capacity: 40-60 cubic feet, Pressure: 200-250 PSI		3 to 5	2
8	<b>Coal (for Forge)</b>	Type: Bituminous coal or anthracite Size: Small lumps or powdered Usage: Fuel for traditional coal forges in blacksmithing		80-120kg per day	30-70kg per day
9	<b>Flux</b>	Material: Borax, sodium carbonate, or other chemicals Usage: Used to prevent oxidation, reduce impurities, and help with the welding process		0.5 kg per month	0.5 kg per month
10	<b>Foundry Binder</b>	Type: Clay, sodium silicate, or bentonite clay Usage: Mixed with sand to bind it for moulding purposes in casting		10kg per month	5 kg per month
11	<b>Welding Rods</b>	Material: Mild steel, stainless steel, or specialized alloy Size: 2 mm to 6 mm diameter Usage: For welding metal parts together, often used in blacksmithing for repairs		20-30 Box	10-15 Box
12	<b>Casting Wax</b>	Material: Paraffin or beeswax-based Usage: Used for creating patterns in investment casting		50-80 kg per month	20-45 kg per month
13	<b>Molten Metal Additives</b>	Types: Silicon, magnesium, carbon, and others Usage: Added to molten metal to improve its properties like strength, hardness, and machinability		30-70 kg per month	10-20kg per month

S. No	Consumables	Items Specification	Images	CBT	Non-CBT
14	<b>Mold Release Agent</b>	Material: Oil-based or water-based Usage: Coats mold surfaces to prevent the mold from sticking to the metal during casting		1 liter per month	0.5 liter per month
15	<b>Graphite Powder</b>	Material: Natural graphite Usage: Used as a lubricant for mold release, and to reduce friction during metal casting		1.5kg per month	0.5-1kg per month
16	<b>Heat Treatment Salt</b>	Material: Sodium nitrate or sodium chloride Usage: Used for heat treatment processes, like hardening or tempering metals		5 kg per month	1-2 kg per month
17	<b>Sandblasting Abrasive</b>	Material: Silica sand, glass beads, or Aluminum oxide Usage: Used for cleaning or finishing metal parts, often prior to welding or painting		5-10kg per month	2-3kg per month
18	<b>Polishing Compound</b>	Type: Abrasive paste or powder Usage: Used to smooth and finish the surface of metal parts after forging or casting		1kg per month	0.5 kg per month
19	<b>Metal Dross Remover</b>	Material: Chemical agents or flux. Usage: Removes impurities or slag (dross) from the surface of molten metal during casting or forging		3-5 kg per month	2 kg per month
20	<b>Refractory Materials</b>	Material: Alumina, silica, zirconia Usage: Used to line furnaces, kilns, or for casting molds to withstand high temperatures without melting		30 kg for Six Months	10 kg for Six Months
21	<b>Iron/Steel Scrap</b>	Material: Recycled iron or steel Size: Varies Usage: Used for melting and casting new metal parts or for repairs in blacksmithing		30-50 kg per month	10-20 kg per month

S. No	Consumables	Items Specification	Images	CBT	Non-CBT
22	<b>Cement for Core Making</b>	Material: Sodium silicate or other binders Usage: Used to bind sand particles together for making cores that form internal cavities in metal castings		3-10kg per month	2-3 kg per month
23	<b>Casting Gating System</b>	Material: Sand or metal gating systems Usage: Directs molten metal from the pouring basin into the mold cavity in metal casting processes		20-30 kg per month	10-15 kg per month
24	<b>Casting Sand</b>	Material: Silica sand, clay, or other minerals Application: Used in the mold-making process for creating molds for metal casting		250kg per Student	100kg per Student

## 4. Textile Sector

### Lab 01: Tools and Equipment of Fashion Designing









(For Class Of 15 To 25 Students)

S. No	Tool Name	Specification	Image	CBT	Non-CBT
1	<b>Measuring Tape</b>	Prym, Dritz, Birch 60 inches, flexible fiberglass		26	15
2	<b>Tailor's Chalk</b>	Local Market Multi-color, triangular		50	20
3	<b>Fabric Scissors</b>	Fiskars, Kai, Gingher 8 inches, stainless steel		26	15
4	<b>Thread Clipper</b>	Raza, Kohinoor, Singer PK Small, spring action		26	15
5	<b>Tracing Wheel</b>	Clover, Dritz hand-held tool with a spiked rotating wheel		26	15
6	<b>Bobbins</b>	Singer, Brother Plastic or metal, machine-compatible		26	15
7	<b>Bobbin Case</b>	Singer, Brother Plastic or metal, machine-compatible		26	15
8	<b>Hand Sewing Needles</b>	John James, Pony, Clover Universal #14/90		25	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
9	<b>Seam Ripper</b>	Clover, Dritz Ergonomic handle, sharp blade		26	15
10	<b>Steam Iron</b>	Sewing, Philips, Rowenta, Panasonic Steam iron with temperature control		04	02
11	<b>Ironing Board</b>	Local Market flat board wooden		04	01
12	<b>Rulers (Straight, L-square)</b>	Local Market 18" straight, 24" L-scale		26	15
13	<b>Draping Pins</b>	Local Market Ball-head pins		26	15
14	<b>Draping Tape</b>	Local Market Narrow 1/4" twill tape		200 yards	100 Yards15
15	<b>Twill Tape</b>	Local Market Cotton/poly blend, pre-shrunk		300 Yards	100 Yards
16	<b>Pin cushions</b>	Dritz, Prym pin Holder		26	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
17	<b>Fabric Marker Pen</b>	Local Market Washable, air erasable ink		26	15
18	<b>Draping Mannequin</b>	Local Market Size 42 Adjustable size, padded		05	03
19	<b>Display Mannequin</b>	Local Market size 42 mannequin		05	03
20	<b>Display Rack</b>	Amazon Basics Metal rack with rod		03	02
21	<b>Hangers</b>	Amazon Basics Metal rod		200	100
22	<b>Packing Bags</b>	Local Market Plastic (PVC, LDPE) – transparent, waterproof		500	100
23	<b>Pattern Notcher</b>	Dritz, Sew Easy Metal, notch cutting edge		26	10


S. No	Tool Name	Specification	Image	CBT	Non-CBT
24	<b>Pattern Puncher</b>	Local Market Metal, Paper Hole maker		26	10
25	<b>Pattern Paper</b>	Local Market Wide roll for pattern making		2 Rim	1 Rim
26	<b>Industrial Steam Iron</b>	Local Market Heavy-duty, high steam output		02	02
27	<b>Loop Turner</b>	Local Market Steel rod with hook		26	15
28	<b>Tailor's Ham</b>	Local Market For pressing curved seams		04	03
29	<b>Sleeve Board</b>	Local Market Mini ironing board for sleeves		02	02
30	<b>Rotary Cutter</b>	Local Market 45mm blade, ergonomic		26	15
31	<b>Pattern Master Ruler</b>	Local Market Multi-function drafting ruler		26	15










S. No	Tool Name	Specification	Image	CBT	Non-CBT
32	<b>Pinking Shears</b>	Local Market Zigzag edge blade		26	15
33	<b>Fabric Weights</b>	Local Market Metal weights, assorted shapes		26	15
34	<b>Garment Steamer</b>	Jiffy, Rowenta Portable, for vertical steaming		02	01
35	<b>Buttonhole Cutter</b>	Local Market Sharp, small chisel tip		26	15
36	<b>Bodkin</b>	Local Market Blunt needle-like tool		05	02
37	<b>Bias Tape Maker</b>	Local Market For folding bias tape		26	15
38	<b>Awl</b>	Local Market Sharp point, wood/plastic handle		26	15
39	<b>Fabric Shears</b>	Local Market 8–10-inch, heavy-duty steel (e.g. Gingher)		25	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
40	<b>Paper Scissors</b>	Local Market Lightweight, sharp stainless steel		25	15
41	<b>paper cutter</b>	local market sharp steel endge cutter		25	15
42	<b>Self-Healing Cutting Mat</b>	Olfa, Dahle, Alvin Grid marked, A1 or A2 size		25	15
43	<b>Sewing Machine</b>	Local Market Straight stitch + zigzag, domestic or industrial (Jack /Jukie / Brothers)		02	02
44	<b>Serger / Overlock Machine</b>	Local Market 3-thread or 4-thread		05	01
45	<b>Boxboard sheet</b>	Local Market thick, stiff paperboard		150	100
46	<b>Button Maker Machine</b>	Local Market cut and stitch clean buttonholes		02	02
47	<b>Buttons shells</b>	Local Market Aluminum, brass, or plastic		2 packs	2 packs

S. No	Tool Name	Specification	Image	CBT	Non-CBT
48	<b>Thimble</b>	Local Market Steel, leather, or silicone	 4 Pieces	25	15
49	<b>Embroidery Hoop + Floss</b>	Local Market Wooden or plastic hoop + stranded thread		26	15
50	<b>Beading Tools</b>	Local Market Beading needle, beading mat		100 packs	10 packs
51	<b>Fabric Glue</b>	Local Market Washable or permanent		26	15
52	<b>Hot Glue Gun</b>	Local Market Mini or full-size, low temp		05	02
53	<b>Snap, Hooks &amp; Eyes, Velcro</b>	Local Market Stainless or plastic		3 packs	3 packs
54	<b>Eyelet / Grommet Setter</b>	Local Market Punch + pliers		03	02
55	<b>Label &amp; Tag Gun</b>	Local Market Pin-style tag applicator		06	05

S. No	Tool Name	Specification	Image	CBT	Non-CBT
56	<b>Pattern Table</b>	Local Market Wooden flat Surface		10	05
57	<b>Light Table</b>	Local Market flat surface with built-in lighting		02	01
58	<b>Tracing Table</b>	Local Market wooden tables		05	02
59	<b>Pattern Cutting Table</b>	Local Market large, flat, sturdy table wooden		05	02
60	<b>French Curves</b>	Kering Drawing smooth curves		26	15
61	<b>Hip Curve Ruler</b>	Fashionary, Fair gate Specific to body contour drawing		26	15
62	<b>L-Square / Set Square</b>	Fair gate, Sew Easy For right angles and balance		25	15
63	<b>Japanese Scale</b>	Kering 60 CM Plastic scale		26	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
64	<b>Pencils (HB, 2H, 2B, etc.)</b>	Faber-Castell, Staedtler For sketching fashion figures and clothing designs		26	26
65	<b>Erasers</b>	Staedtler, Faber-Castell For correcting mistakes		26	20
66	<b>Pencil Sharpener</b>	Faber-Castell, Staedtler Keeps pencil tips fine		26	20
67	<b>Mechanical Pencils</b>	Local Market For precision drawing		26	05
68	<b>Paint Brushes</b>	Faber-Castell, Staedtler flat and round brushes		12 pack	05 pack
69	<b>Poster Paint</b>	Faber-Castell, Staedtler Water-based, vibrant opaque colors		15 sets	05 sets
70	<b>Colored Pencils</b>	Faber-Castell, Staedtler For adding color to designs		15 sets	05 sets
71	<b>Markers (e.g., Copic, Touch, Propmaker)</b>	Faber-Castell, Staedtler For professional rendering of garments		12	08
72	<b>Watercolors / Watercolor Pencils</b>	Local Market For soft, fluid coloring effects		15 sets	05 sets





S. No	Tool Name	Specification	Image	CBT	Non-CBT
73	<b>Pastels (Oil or Chalk)</b>	Local Market For texture and soft shading		25	15
74	<b>Acrylic Paints</b>	Local Market For bold and textured illustrations		25	15
75	<b>Fine liners / Technical Pens (e.g., 0.1mm to 0.8mm)</b>	Local Market For outlining sketches		30	20
76	<b>Black Ink Pens / Gel Pens</b>	Local Market For final design outlines		30	20
77	<b>Brush Pens</b>	Local Market For dynamic lines and bold strokes		12	05
78	<b>Squeegee</b>	Speedball, Hunt rubber blade and wooden handle.		26	15
79	<b>Screens for Screen printing</b>	Local Market Wooden boundary with mesh screen		26	15
80	<b>Embroidery Stand / Floor Frame</b>	Local Market Hands-free frame mounted on a stand wooden		10	05
81	<b>Calico Fabric</b>	Local Market Plain-woven, unbleached cotton fabric		300 Yards	100 Yards

## Lab 02: Tools and Equipment of Dress Making

(For Class Of 15 To 25 Students)

S. No	Tool Name	Specification	Image	CBT	Non-CBT
1	<b>Measuring Tape</b>	Measuring Tools		30	20
2	<b>Tailor's Ruler/ Curve</b>	Measuring Tools		25	15
3	<b>Fabric Scissors</b>	Cutting Tools		25	15
4	<b>Paper Scissors</b>	Cutting Tools		25	15
5	<b>Rotary Cutter</b>	Cutting Tools		25	15
6	<b>Seam Ripper</b>	Stitching Tools		25	15
7	<b>Pins / Pin Cushion</b>	Pinning Tools		25	15







S. No	Tool Name	Specification	Image	CBT	Non-CBT
8	<b>Tailor's Chalk / Marker</b>	Marking Tools		25	15
9	<b>Needle Set</b>	Sewing Tools		25	15
10	<b>Sewing Machine</b>	Sewing Equipment		25	15
11	<b>Bobbins</b>	Sewing Supplies		25	15
12	<b>Ironing Board</b>	Finishing tool		10	05
13	<b>Iron</b>	Finishing Tools		05	02
14	<b>Pressing Ham</b>	Finishing Tools		25	15
15	<b>Pattern Paper</b>	Drafting Tools		25	15








S. No	Tool Name	Specification	Image	CBT	Non-CBT
16	Tracing Wheel & Carbon	Marking Tools		10l	05
17	Thimble	Hand Sewing Tools		25	15
18	Fabric (Various Types)	Materials		200 Yards	100 Yards
19	Zippers, Buttons, Hooks	Notions		5 Packets	2 Packets
20	Fusing	Materials		10 Yards	5 Yards
21	Threads	Material		5 Packets	3 Packets







## Lab 03: Tools and Equipment of ISMO

(For Class Of 15 To 25 Students)






S. No	Tool Name	Specification	Image	CBT	Non-CBT
1	<b>Measuring Tape</b>	60 inches, flexible fiberglass		26	10
2	<b>Tailor's Chalk</b>	Multi-color, triangular		50	20
3	<b>Fabric Scissors</b>	8 inches, stainless steel		26	15
4	<b>Thread Clipper</b>	Small, spring action		26	15
5	<b>Tracing Wheel</b>	hand-held tool with a spiked rotating wheel		26	15
6	<b>Bobbins</b>	Plastic or metal, machine-compatible		26	20



S. No	Tool Name	Specification	Image	CBT	Non-CBT
7	<b>Bobbin Case</b>	Plastic or metal, machine-compatible		26	20
8	<b>Hand Sewing Needles</b>	Universal #14/90		25	25
9	<b>Seam Ripper</b>	Ergonomic handle, sharp blade		26	20
10	<b>Steam Iron</b>	Steam iron with temperature control		04	2
11	<b>Ironing Board</b>	flat board wooden		04	2
12	<b>Pin cushions</b>	pin Holder		26	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
13	<b>Fabric Marker Pen</b>	Washable, air erasable ink		26	15
14	<b>Display Mannequin</b>	size 42 mannequin		05	5
15	<b>Display Rack</b>	Metal rack with rod		03	2
16	<b>Hangers</b>	Metal rod		200	200
17	<b>Pattern Paper</b>	Wide roll for pattern making		2 Rim	2 Rim
18	<b>Loop Turner</b>	Steel rod with hook		26	20
19	<b>Pinking Shears</b>	Zigzag edge blade		26	20

S. No	Tool Name	Specification	Image	CBT	Non-CBT
20	<b>Paper Scissors</b>	Lightweight, sharp stainless steel		25	15
21	<b>Sewing Machine</b>	Straight stitch + zigzag, domestic or industrial (Jack /Jukie / Brothers)		02	2
22	<b>Serger / Overlock Machine</b>	3-thread or 4-thread		06	02
23	<b>Button Maker Machine</b>	cut and stitch clean buttonholes		02	02
24	<b>Buttons shells</b>	Aluminum, brass, or plastic		2 packs	2 packs
25	<b>Thimble</b>	Steel, leather, or silicone		25	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
26	<b>Embroidery Hoop + Floss</b>	Wooden or plastic hoop + stranded thread		26	15
27	<b>Eyelet / Grommet Setter</b>	Punch + pliers		03	01
28	<b>Label &amp; Tag Gun</b>	Pin-style tag applicator		06	01
29	<b>Pattern Table</b>	Wooden flat Surface		10	05
30	<b>Light Table</b>	flat surface with built-in lighting		02	01
31	<b>Pattern Cutting Table</b>	large, flat, sturdy table wooden		05	02
32	<b>French Curves</b>	Drawing smooth curves		26	15

S. No	Tool Name	Specification	Image	CBT	Non-CBT
33	<b>Hip Curve Ruler</b>	Specific to body contour drawing		26	15
34	<b>Japanese Scale</b>	60 CM, Plastic scale		26	15
35	<b>Pencils (HB, 2H, 2B, etc.)</b>	For sketching fashion figures and clothing designs		26	20
36	<b>Erasers</b>	For correcting mistakes		26	20
37	<b>Pencil Sharpener</b>	Keeps pencil tips fine		26	20
38	<b>Paint Brushes</b>	flat and round brushes		12 pack	09 pack
39	<b>Poster Paint</b>	Water-based, vibrant opaque colors		15 sets	15 sets






S. No	Tool Name	Specification	Image	CBT	Non-CBT
40	<b>Black Ink Pens / Gel Pens</b>	For final design outlines		30	20
41	<b>Calico Fabric</b>	Plain-woven, unbleached cotton fabric		300 Yards	200 Yards





NAVTTC




## 5. Services Sector






### Lab 01: Tools and Equipment of Beautician

(For Class Of 15 To 25 Students)

S.NO	Item Description	Brand Name & Specification	Picture	CBT	Non-CBT
1	<b>Balayage Board</b>	Highlighting with Teeth Medium making hair coloring a breeze Its ultra-light construction prevents hand fatigue comfortable and safe hair dyeing		5	2
2	<b>Hair Cutting Scissors</b>	SD Pro Shears Flex Line series 5.5" Inches specialized high quality 100% stainless steel Easy to do a clean cut,		15	5
3	<b>Hair Cutting Thinning and Texturizing Scissors</b>	Made of stainless steel, ideal for professional hairdresser. 30 sharp teeth on one side, 20-25%thinning rate, 6.5-inch overall length scissors		10	5
4	<b>Professional Metal Cordless Ergonomic Hair Clipper Trimmer with Digital Brushless Motor</b>	Hair Trimmer Charging base Limit Comb 1/2/3/4/5/6mm USB Charging Cable Cleaning Brush		5	3
5	Sharp Ceramic Hair Straightener Sharp Ceramic Hair Straightener	Slim Plate Its slim plates provide precise, sleek results. ensures quick and even heat distribution. Achieve smooth and straight hairstyles with ease.		5	3

S.NO	Item Description	Brand Name & Specification	Picture	CBT	Non-CBT
6	<b>Professional High Temperature Hair Straightener 1.5 Inch</b>	Adjustable Temperature: 80°C-230°C (170°F-450°F) Rapid heat-up in seconds Ceramic plates for a silky-smooth finish Plate sizes: 40x107mm (1.5inch) LCD temperature display for precise styling control 360° tangle-free cable Auto shut off after 35 min		8	5
7	<b>Professional High Heat Straightener</b>	Titanium Plates Dual voltage 10ft swivel cord LED display Temperature control keys Max temperature of 480°F (250° C)		5	3
8	<b>Professional Hair Dryer</b>	2800 Watt Life span of this hair dryer has been prolonged by 2 Times Powerful wind Concentrated capacity Also available in B 2800 Watt Life span of this hair dryer has been prolonged by 2 Times than the normal one Powerful wind Concentrated capacity Also available in Black color lack color		5	3
9	<b>Professional Hair Dryer</b>	3000W Power – 2400 W Voltage – 220-240 V Frequency – 50/60 Hz Easy to handle – Light Weight Unique Air Duct – Wind Power Reduced Noise – Silent Cool shot button easy temperature shift Comes with 2 convenient concentrators attachments Smoothly changes between 2-speed setting		5	3



S.NO	Item Description	Brand Name & Specification	Picture	CBT	Non-CBT
		and 2 temperature setting . Super-hot temperature goes from 270°F (130°C) to 340°F (170°F) Extremely powerful reduces the drying time by 60% Extra-long power cord 3 meter			
10	Round blow dry Brush	32ABS Handle Ceramic Coated for hair shiny smooth healthy and reduce frizz. Tourmaline technology: tourmaline crystals emit negative ions, creating smooth, silky, shiny hair. Ceramic coating combines with aluminum barrel: Distributes heat evenly & faster		20	5
11	Round blow dry Brush	43ABS Handle Ceramic Coated for hair shiny smooth healthy and reduce frizz. Tourmaline technology: tourmaline crystals emit negative ions, creating smooth, silky, shiny hair. Ceramic coating combines with aluminum barrel: Distributes heat evenly & faster		20	5
12	Professional Electric Hair Curler	25mm Ceramic Curling Wand PTC heater with fast heat up. Temperature Control. Rated Voltage: 220V-240V		10	4


S.NO	Item Description	Brand Name & Specification	Picture	CBT	Non-CBT
13	<b>Professional Electric Hair Curler</b>	7mm Ceramic Curling Wand PTC heater with fast heat up. Temperature Control. Rated Voltage: 220V-240V		7	3
14	<b>Professional Electric Hair Curler</b>	19mm Ceramic Curling Wand PTC heater with fast heat up. Temperature Control. Rated Voltage: 220V-240V		7	3
16	<b>Electric Hot Hair Curlers Rollers</b>	3 Size 20 PCS Fuzzy Curling Barrel Material: Plastic Temperate: Hot Suitable for: Home, Salon, Travel, Home Use		3	1
17	<b>Professional High Heat Crimper</b>	Stylish hair crimper that helps you get your desired look Normal plate crimper allows hair to glide smoothly Ergonomic design for easy handling and comfortable grip Features Heat Protect technology for even heat distribution Prevents and protects hair from overheating		5	3
18	<b>Neck Snap Haircut Cape</b>	Large Black Silicone		10	5





## Lab 02: Tools and Equipment of Advanced Beauty Therapy Skin Care & Hair Styling

(For Class Of 15 To 25 Students)

S.NO	Item Description	Specification	Picture	CBT	Non-CBT
1	Reception desk	Customized <b>Width</b> 48.4" / 123cm <b>Depth</b> 23.6" / 60cm <b>Bench Height</b> 35.4" / 90cm <b>Height</b> 43.3" / 110cm <b>Material</b> Silk Black MDF <b>Color</b> Black		1	1
2	Reception chairs	Boss <b>Size (1):</b> 175x63x76cm <b>Color</b> Any		1	1
3	Magazine rack Office/ Reception Room Literature Magazine Rack Holder	Customized Size: L100cm/39.4in)		2	2
4	Mini Washing Machine with Spin Dryer, Electric Compact Laundry Machines Portable Durable Design Washer Energy Saving, Rotary Controller	Dawlance/ Hire Washing Capacity 5.5lbs,		3	2




S.NO	Item Description	Specification	Picture	CBT	Non-CBT
5	<b>Appointment booking / scheduling</b>	ANY Stationary item		1	1
6	<b>Salon POS System / cash register</b> <ul style="list-style-type: none"> <li>• Large Multi-line operator display</li> <li>• Spill-proof full-size keyboard with 119 flat keys</li> <li>• SD Card slot for data backup</li> <li>• Data export to PC via SD card</li> <li>• easy programming</li> </ul>	SHARP Model Number XEA217B Product Dimensions 42.5 x 36 x 36.5 cm; 12.6 kg Item Weight 12.6 k		1	1
7	<b>Hydraulic Styling Chair</b> 1-Heavy duty steel frame 2-Heavy duty hydraulic pump& adjustable height and easy lock 3-Small cell high density foam provides extra comfortable	Flag beauty 2-Salon Designer <b>Color</b> Black <b>Product Dimensions</b> 12"D x 22.5"W x 26"H <b>Size</b> 1 Count (Pack of 1) <b>Back Style</b> Solid Back <b>Frame Material</b> Alloy Steel		15	5
8	<b>Barber Chair</b> <b>Reclining Salon Chair for Hair Stylist,</b> <b>Height Adjustable</b> <b>Hydraulic Hair Salon Chair with Headrest</b>	<b>Color</b> Grey 03 <b>Product Dimensions</b> 18.8"D x 18.8"W x 45.6"H <b>Back Style</b> High <b>Special Feature</b> Adjustable Height Adjustable Headrest Adjustable Backrest, Foot Rest		15	5




S.NO	Item Description	Specification	Picture	CBT	Non-CBT
9	<b>Microdermabrasion Machine Diamond Microdermabrasion Machine Mcwdoit 65-68cmHg Suction Power Professional Dermabrasion for Skin Peeling Rejuvenation Lifting Tightening Beauty Device</b>	Brand Mcwdoit  <b>Product Benefits</b> Removes dead skin, acne, scars, blackheads and pigmentation; lifts wrinkles and tightens skin <b>Material Feature</b> Diamond-tipped exfoliation heads		2	1
10	<b>Gel Polish Lamp Nail Dryer</b>	LAKIE UV/LED lamp Specifications: - 58 watt - Timer: 30/60/99 seconds - Ideal shape - With sensor - 21 UV/LED lights - Color white - Dimensions: 13 cm x 21 cm x 6.5 cm - Cord length: 140 cm		2	1
11	<b>Manicure Table set</b>	Customized		1	1
12	<b>Beauty stool for cutting and styling</b>	Beauty right • Contemporary • Low Back Stool • Rounded Back Design • 360 Degree • Swivel Seat w/ Foot Rest • Height Adjustable • Seat with Gas Lift • Base Diameter: 17.625"		15	5

S.NO	Item Description	Specification	Picture	CBT	Non-CBT
13	<b>Butterfly Pedicure Stool</b>	Pibbs 545 • Padded & Upholstered • Seat & Back • Ergonomically Designed • Back Rest • Adjustable • Height from 15" to 18" • 5-Star Base • Durable Casters • Great Mobility		5	2
14	<b>Manicure pedicure sofa</b>	Eco sleek Removal trays for manicure • Adjustable shelves height and direction • Comfortable headrest • Sleek design to fit any spa room • Customizable color		5	1
15	<b>Spa Pedicure foot basin ceramic oval white</b>	Eco sleek Pedicure Foot Basin Ceramic Oval with Accessories in White. Crafted from high-quality ceramic. Durability and easy maintenance. Oval shape. Ergonomic design and smooth surface		5	1
16	<b>Facial &amp; Massage Bed</b>	Eco Professional Luxury Height Adjustment Range: 1.5 ft Reclining for back adjustment, from 115 to 180° Width: 2 ft Length: 6ft Material: High quality Leather		3	1

S.NO	Item Description	Specification	Picture	CBT	Non-CBT
17	<b>Shampoo Unit Recline Seat Adjustment</b>	<p>Eco sleek</p> <p>Ergonomic Design: The cushioned seat with padded armrests ensure maximum comfort</p> <p>Durable Construction: Made with high-quality materials,</p> <p>Built-In Ceramic Sink: The deep ceramic basin with an adjustable faucet and drain system</p> <p>Easy Maintenance: Water-resistant upholstery and a smooth surface</p> <p>Sleek Aesthetic: The sophisticated black finish complements</p>		3	1
18	<b>Salon Trolley</b>	<p>Eco sleek</p> <p>Durable &amp; Stylish: Made from high-quality plastic for long-lasting use.</p> <p>-5 Spacious Drawers</p> <p>-Top Tray with Tool Holder:</p> <p>-360° Rotating Wheels</p> <p>-Lightweight &amp; Portable:</p> <p>-Multi-Purpose Use</p>		15	5
19	<b>Trolley Table</b>	<p>Eagle Fortress</p> <p>Multi-Tool Storage</p> <p>Heat-Resistant Holders</p> <p>Adjustable Height</p> <p>Durable &amp; Stable Base</p> <p>Space-Saving Design</p>		5	2
20	<b>Portable Laundry Cart with Wheels</b>	<p>Eco sleek</p> <p>Large capacity for storing towels It can be pressed fold storage space saving,</p> <p>Fiber handles lightweight,</p> <p>Made of high-quality of cloth and plastic</p> <p>Suitable for salon use or home use.</p>		1	1

S.NO	Item Description	Specification	Picture	CBT	Non-CBT
21	<b>Facial Trolley</b>	Eco sleek Stainless steel serving trolley Designed without sharp edges. Steel Frame Wooden Shelves Easy to clean Multipurpose trolley		2	1
22	<b>Towel Warmer Cabinet Single</b>	Eco sleek Adjust the temperature The single compartment holds an ample number of towels long-lasting performance		1	1
23	<b>Wax Warmer</b>	Eco sleek Paraffin wax warmer		3	1
24	<b>Hood Dryer</b>	Salon Designer Adjustable Temperature Timer Control Customize heat settings for various hair types and treatments. -360° Airflow Enclosure -Height-Adjustable Stand -Durable & Stable Design Sturdy supporting column plastic feet ensure balance and safety. -Professional-Grade Heater Delivers consistent warmth		3	1
25	<b>Facial Steamer</b>	Salon Designer Deep Cleansing & Hydration Opens pores for effective skin detoxification -Ozone Function Purifies steam -Adjustable Arm & Nozzle Provides flexibility precise steam direction. -Durable & Stable Design Features a sturdy base with		3	1

S.NO	Item Description	Specification	Picture	CBT	Non-CBT
		rolling wheels for easy mobility.			
26	<b>Hydra Machine 7 in 1</b> <b>1. RF/Radio Frequency Handle</b> <b>2. Ultrasonic Handle</b> <b>3. Cold Hammer</b> <b>4. Skin Scrubber</b> <b>5. Hydro Oxygen Spray Gun</b> <b>6. Water Micro Dermabrasion Pen</b> <b>7. LED Mask</b>	the Star Seller Polymer atomizing pen: moisturizing, Quickly penetrates the skin increases the skin vitality. Ultrasonic handle: 10-300000 vibration, deep penetration repairs the skin below. Cold hammer handle: bleaches and rejuvenates the skin, shrinks pores reduces sensitivity. Skin scrubber grip: remove dead skin cells improve excess cuticle and fine skin. Hydra Dermabrasion Pen: deep cleansing, removes grease, blackheads, acne, dirt and increases the elasticity of the skin. RF lifting head: stimulates collagen, lifts and tightens the skin.		1	1
27	<b>Magnifying Glass with Light and Wheels</b>	Eco sleek This lamp has a 37" extendable arm making it fully adjustable salon mag lamp is 6'3" at its highest point. base with wheels makes this lamp easy to move around It has an on/off light switch,		3	2
28	<b>Pedicure Manicure Cart Trolley Stool with Removable Accessory Tray</b>	Eco sleek trolley cart with a cushion pad made from sturdy stainless steel plastic material multiple shelves spacious area for pedicures.		3	2

S.NO	Item Description	Specification	Picture	CBT	Non-CBT
29	<b>Exhaust Fan</b>	Usha Fan Usha Exhaust Fan 100% Copper Motor Winding, 1280 Rpm   5 Plastic Blades, Wall Mounted, White Color, 1-year Warranty		2	2
30	<b>IPL Hair Removal:</b>	IPL energy density: 1-50J/ cm <sup>2</sup> IPL Frequency: 1-4s Wavelength: 640nm standard Laser energy: 1600mj Probe: 1064nm /532nm Instruction light: Imported infrared ray indicator Machine size: 44x53x89cm Gross weight: 68kgs		1	1
31	<b>9 IN 1 HYDRA FACIAL</b>	Skin Tightening, Whitening, Skin Rejuvenation, Acne Treatment, Dark Circles, Wrinkle Remover, Other, Pore Cleaner		1	1

## Lab 03: Tools and Equipment of Occupational Health & Safety






(For Class Of 15 To 25 Students)

S. No.	Item Name	Description	Image	CBT	Non-CBT
1	Lab Coats	Flame-resistant / chemical-resistant		25	25
2	Goggles	Safety Goggles or Chemical Splash Goggles		25	10
3	Face Shields	Different types subjected to work Environment		25	10
4	Gloves	Various types (Heat, Cutting, Chemicals Resistant)		25	20
5	Respirators	Half-face and full-face		25	10
6	Shoes	Various types		25	10
7	Hats	Hard Hats		25	10

S. No.	Item Name	Description	Image	CBT	Non-CBT
8	<b>Ear Plugs</b>	Various types		25	10
9	<b>Breathing Apparatus</b>	Any Model		10 Set	5 set
10	<b>Eye washer / Eye Wash Station</b>	Portable / Fix		5	2
11	<b>Antiseptic wipes</b>			5 pack	3 pack
12	<b>Bandages</b>	1 - 2 inch size		6 pack	6 pack
13	<b>Gauze</b>	Pack		6 pack	6 pack
14	<b>Scissors</b>			2	1







S. No.	Item Name	Description	Image	CBT	Non-CBT
15	Cotton	Role		2	2
16	Pyo dine	Antiseptic		5 Bottles	2 Bottles
17	First Aid Bandage	Sunny Plast		5 Pack	2 Pack
18	Fire extinguisher CO2	Portable		2 Cylinders (7 KG Each)	
19	Fire extinguisher Foam	Portable		2 Cylinder (9 Liter Each)	2 Cylinder (9 Liter Each)
20	Fire extinguisher DCP	Portable		2 Cylinder (9 Liter Each)	2 Cylinder (9 Liter Each)


S. No.	Item Name	Description	Image	CBT	Non-CBT
21	<b>Fire extinguisher Water Type</b>	Portable		2 Cylinder (9 Ltr Each)	2 Cylinder (9 Ltr Each)
22	<b>Fire Blanket &amp; Welding Curtains</b>	Portable		2 Blankets (1.2 x 1.8m)	2 Blankets (1.2 x 1.8m)
23	<b>Fire Buckets</b>	Portable		2 Buckets	2 Buckets
24	<b>Fire Extinguisher ball</b>	Portable		2	2
25	<b>Sprinkler Systems</b>	Model		one Sample	one Sample
26	<b>Fire Hoses</b>	Model		2 Sample	2 Sample

S. No.	Item Name	Description	Image	CBT	Non-CBT
27	<b>Fire Hose Reel</b>	Model		2 Sample	2 Sample
28	<b>Fire Hydrants</b>	Model		1	1
29	<b>Smoke Detector</b>	Device (Model)		2 Sample	2 Sample
30	<b>Heat Detector</b>	Device (Model)		2 Sample	2 Sample
31	<b>Fire Alarm System</b>	Device (Model)		1 set	1 set
32	<b>Safety signs and symbols posters</b>	Different types subjected to Environment		2 poster Each	2 poster Each
33	<b>Fire Cylanders Usage Posters</b>	Different types subjected to Environment		2 poster Each	2 poster Each

## Lab 04: Tools and Equipment of Auto Mechanic





(For Class Of 15 To 25 Students)

S. No	Tool	Specification	Image	CBT	Non-CBT
1	<b>IRON TOOL TROLLEY</b>	162 Pcs Tool Chest Set Chest part: With 7 pcs drawers Overall size : 765 x 465 x 812 mm Overall with casters size : 765 x 465 x 976 mm		3 - 5	2
2	<b>Open-End Spanner</b>	Sizes: 6–32mm 12pcs double open-end spanner set Size: 6-32mm 6x7mm to 30X32mm chrome vanadium steel (Cr-V steel)		3-5set	2
3	<b>Box Spanner</b>	DURATECH Offset Box Wrench Set, Metric, 9-Piece, 6-32mm, 75-Degree, Chrome Vanadium Steel Construction with Rolling Pouch		3-5set	2
4	<b>Combination Spanner</b>	23Pcs Combination Spanner Set x Manufactured from high quality carbon steel with a bright chrome plated finish x Size range: 6mm, to 32mm		3-5set	2
5	<b>Ratchet Spanner</b>	Sidchrome 12 Piece 467 Pro Series Metric Ratchet Spanner Set – Metric Sizes: 8-19mm Built from durable Chrome Vanadium steel		3-5set	2
6	<b>Flex-Head Ratchet Wrench</b>	TR TOOL ROCK 12pcs Flex Head Ratcheting Wrench Set- Metric Sizes: 8-19mm Ratchet Combination Wrenches CrV Gear Spanner Set		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
7	<b>Adjustable Wrench</b>	CRAFTSMAN Adjustable Wrench, 6", 8", 12" Alloy Steel		5piece	3piece
8	<b>Standard Adjustable Wrench</b>	Proferred Standard Adjustable Wrench, Phosphate Finish, 6 to 12"		5piece	3piece
9	<b>Pipe Wrench</b>	Jetech size 36-inch Heavy Duty Straight Pipe Wrench, Adjustable Aluminum Plumber with Floating Hook Jaw and I-Beam Handle, Red		5piece	3piece
10	<b>Line Wrench Kit</b>	Includes 7 wrenches (sizes 13mm, to 19mm), catering to a wide range of sizes. High-Quality Chrome		3-5set	2
11	<b>Adjustable Digital Torque Wrench</b>	Tapha Tools Adjustable Digital Torque Wrench 19.9 to 99.5 ft-lbs (27-135 N-m) Torque Range, 5-27 mm Adjustable Jaw, LED and Buzzer Notification, Preset Memory		5	3
12	<b>Socket Set (Metric)</b>	Normal 6 to 32mm (6point) Stalwart 40-Piece Ratcheting Socket Wrench Set with Metric and Standard Sockets, Torque Handle, and Insulated Driver - Durable Hard-Plastic Case		3-5set	2
13	<b>Socket Set (Metric)</b>	Standard Metric Socket Set (12-point) 6mm to 32mm Material Chrome Vanadium Steel (Cr-V)		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
14	<b>Socket Set (Metric)</b>	Deep socket 6 to 32mm (6point) 1/2" Drive Deep Impact Socket Set, 38-Piece Socket Set SAE 3/8 to 1-1/4 inch and Metric 10-32mm chrome vanadium steel with a black phosphate finish		3-5set	2
15	<b>Socket Set (Metric)</b>	LACKROBOT 32-Piece 1/2" Drive Metric Socket Set, 6-Point(8mm-32mm) 12-Point(10mm-19mm), Socket Ratchet Wrench Mechanic Tool Set, CR-V Steel		3-5set	2
16	<b>Socket Set 3/4"</b>	Normal 6 to 12mm (12point) KATSU 3/4" Socket Set 21 Pieces, 19-50mm Metric 12 Point Ratchet Wrench 24 Teeth in Steel Case		3-5set	2
17	<b>Ratchets (1/4", 3/8", 1/2", and 3/4" drives)</b>	1/4" drive deep sockets in: 6mm,7mm,8mm,10mm,12mm Chromium-vanadium Steel		3-5set	2
18	<b>Impact wrench (electrical)</b>	Takuoo Cordless 1/2 inch Brushless Impact Wrench, Max Torque (1000N.m) 740Ft-lbs Electric Impact Gun w/2x 4000mAh Battery, Charger & 6 Sockets		3-5set	2
19	<b>Air impact wrench</b>	INGCO AIW12562 1/2" Drive Air Impact Wrench		3-5set	2
20	<b>Air flexible hose pipe</b>	Compressed Air Spiral Hose WENTS Coiled air Hose 6 m with Connector High Pressure Flexible Hose Spiral Duct red		5piece	3piece

S. No	Tool	Specification	Image	CBT	Non-CBT
21	<b>Impact Sockets Set</b>	SP Tools SP20320 Imp. socket Set 1/2 Drive 15 Piece Long Series – Metric		3-5set	2
22	<b>Rubber Insert Spark Plug Socket</b>	Magnetic or rubber insert to hold plugs (14mm , 15mm ,16mm , 21mm) Powerbuilt 2 Piece Magnetic Spark Plug Socket Set - 641870		5piece	3piece
23	<b>Locking Pliers (Vice Grips)</b>	Deli Curved Jaw Locking Pliers Material high-quality chrome vanadium steel (Cr-V) or high carbon steel 5 inch (125 mm) 7 inch (175 mm) 10 inch (250 mm)		3-5set	2
24	<b>Needle-Nose Pliers</b>	SHOWWAY 3pcs Jewelry Pliers Wire Cutter Pliers Needle Nose Pliers for Home Jewelry Making Wire Wrapping DIY Crafts (Size 5 inches 125 mm) PVC or rubber-coated		3-5set	2
25	<b>Slip-Joint Pliers</b>	Insulated Slip-Joint Pliers - Straight Jaws Chrome-vanadium steel body. Size (Common Lengths): 6 inch (150 mm) 8 inch (200 mm) Chrome Vanadium Steel (Cr-V)		3-5set	2
26	<b>Diagonal Wire Cutter</b>	Dykes 4.5" Side Cutter Diagonal Wire Cutting Pliers Diagonal Wire Cutter Side Cutting Pliers (wire cutter)		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
27	<b>Bolt Cutting Plier</b>	Bolt Cutter Pliers Set, Industrial 14" Bolt Cutter + Mini 8" Bolt Cutter + 8" High Leverage Cable Cutter with Easily Cut Locks Chromium vanadium steel		3-5set	2
28	<b>Snap-Ring Pliers Set</b>	INGCO 4pcs Snap Ring Pliers Set 7 Inch Circlip Pliers Set Heavy Duty Internal/External Pliers Kit Straight/Bent Jaw Size: Each plier is 7 inches (180mm) in length Material: Constructed from carbon steel for durability and strength		3-5set	2
29	<b>Hose Clamp Pliers</b>	Hose Clamp Pliers Swivel Flat Band Flat-Band Ring-Type Car Water Pipe Removal Tool Size: Length: Typically, these pliers measure approximately 8 to 9 inches (200 to 230 mm)high-quality carbon steel		3-5set	2
30	<b>Flathead Screw Driver Set</b>	Kobalt-18-Piece-Plastic-Handle-Magnetic-Assorted-Screwdriver-Set 1/8 inch x 2-1/2 inch 3/16 inch x 4 inch 3/16 inch x 6 inch (Cabinet) 1/4 inch x 4 inch 1/4 inch x 6 inch 5/16 inch x 8 inch 3/8 inch x 8 inch		5-10 set	8
31	<b>Phillips Screw Driver Set</b>	STANLEY Cushion Grip Screwdriver PH0 x 60 mm  PH1 x 75 mm PH2 x 100 mm PH3 x 150 mm		5-10 set	8

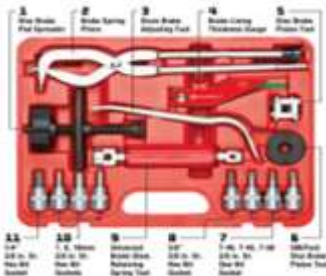






S. No	Tool	Specification	Image	CBT	Non-CBT
32	<b>Torx socket set</b>	DURATECH 23-Piece Torx Bit Socket and External Torx Socket Set, 8 Star Sockets, 7 Female E-Torx		3-5set	2
33	<b>Precision Screwdrivers</b>	Miniature flat/Torx/Phillips sets Precision Screwdriver Set 32 pieces SL1.0, SL1.5, SL2.0, SL2.5, SL3.0, SL3.5, SL4.0 mm PH000, PH00, PH0, PH1 PZ0, PZ1 T4, T5, T6, T7, T8, T9, T10, T15, T20 H0.7, H0.9, H1.3, H1.5, H2.0, H2.5, H3.0, H4.0 mm Tip Extension Support ergonomic handle screwdriver Chrome Vanadium Steel (Cr-V)		3-5set	2
34	<b>Ball-Peen Hammers</b>	hammer with a rounded end on the other side of the normal flat face. features 2.5lb head sizes between 8-48 oz.		5piece	3piece
35	<b>Rubber Mallets</b>	Rubber Hammer 16OZ 24OZ		5piece	3piece
36	<b>Brass Hammers</b>	Brass Hammer Sledge, 2lbs, Fiber glass Handle		5piece	3piece







S. No	Tool	Specification	Image	CBT	Non-CBT
37	<b>Dead Blow Hammers</b>	65mm Dead-Blow Hammer Made of Nitrile rubber		5piece	3piece
38	<b>Hydraulic Floor Jacks</b>	GEC Low Profile Hydraulic Floor Jack 3.5 Ton 2 Pump 105-520mm Height		2piece	1piece
39	<b>Jack Stands</b>	BIG RED T46202 Torin Steel Jack Stands: 6 Ton (12,000 lb) Capacity, Red		6	3piece
40	<b>Transmission Jacks</b>	Dragway Tools 1000 LB 2 Stage Hydraulic Transmission Jack Lift Hoist with Foot Pump		1 piece	1piece
41	<b>Piston Ring Compressors tool set</b>	TOPTUL Piston Ring Compressor 53-125 mm		3-5set	2
42	<b>T handle set</b>	Autoly T Handle Wrench Set 8mm, 10mm, 12mm, 14mm Hex Socket Key Wrench Set Chrome Vanadium Steel		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
43	<b>Feeler Gauges</b>	Mitutoyo 184-307S Thickness Feeler Gage Set, Straight Leaves, 0.03-0.5 mm Thickness, 100mm Length		3-5set	2
44	<b>Magnetic Trays</b>	Made of premium Stainless Steel Ideal tray for storing small parts, tools, nuts, bolts, screws and etc.		10 pieces	8piece
45	<b>Gear Oil gun</b>	NATIONAL SPENCER 321 5G GEAR OIL PUMP vinyl hose with curved nozzle Buna N seal		2set	1set
46	<b>Pick and Hook Sets</b>	Wadfow Pick and Hook Set - 4 Piece Set		3-5set	2
47	<b>Magnetic Pickup Tools</b>	GUTIMORE Flexible Magnetic Pickup Tool, 25" Long Bend-It Magnet Snake Pickup, Bendable Magnetic Pickup 2LB		5piece	3piece
48	<b>Grease Guns</b>	Lever or pistol-grip, 6000 PSI Grease gun Material : 1.2mm Steel tube + Aluminum-Cast		2piece	1piece




S. No	Tool	Specification	Image	CBT	Non-CBT
49	<b>Garage Creeper</b>	PM PERFORMOTOR 48" Folding 2 in 1 Rolling Z Creeper Alloy Steel		5piece	3piece
50	<b>Cooling System Pressure Tester</b>	28PCS Universal Radiator Pressure Tester & Vacuum Type Cooling System Kit Material: High-Quality Aluminum, Rubber, Plastic Suitcase Dimension: 23 "(L) x 18.9"(W) x 4.3"(H) Coolant Pipe Length: 59"(L)		2set	1set
51	<b>Engine Compression Tester (Petrol Engine)</b>	Compression Tester Kit 0-300 PSI Petrol Gas Engine Cylinder Pressure Gauge Automotive Tool for Motorcycle Car Truck From compatibility: vier Adapter (M10 x 1.0 mm, M12 x 1.25 mm, M14 x 1.25 mm, M18 x 1.5 mm)		2set	1set
52	<b>Engine Compression Tester (Diesel Engine)</b>	17pc Professional Diesel Engine Cylinder Compression Tester Tool Set Kit 1000PSI Case Size: Length: ~14 to 16 inches (355 to 406 mm) Width: ~10 to 12 inches (254 to 305 mm) Height: ~3 to 4 inches (76 to 102 mm)		2set	1set
53	<b>Fuel Pressure Tester Kit</b>	BETOOLL Fuel Pressure Test Kit - Fuel Pressure Gauge - 0- 100PSI Fuel Injection Pump Pressure Tester Gauge Kit for Car Case Size: Length: ~12 inches (305 mm) Width: ~9 inches (230 mm) Height: ~3 inches (76 mm)		2set	1set

S. No	Tool	Specification	Image	CBT	Non-CBT
54	<b>Engine Oil Pressure Tester</b>	Oil Pressure Tester Tool, Oil Pressure Gauge kit, 0-140 PSI Pressure Test Diagnostic Tools, Engine Oil Pressure Tester Tool kit, for car Truck (Blue)Case Size: Length: ~12 inches (305 mm) Width: ~9 inches (230 mm) Height: ~3 inches (76 mm)		2set	1set
55	<b>Wheel Balancing Machine</b>	BFH1000 Wheel Balancer Mount the wheel with patented Power Clamp Dimensions: Width: 64 inches (1626 mm) Depth: 64 inches (1626 mm) Height: 64 inches (1626 mm) Wheel Compatibility: Diameter Range: 8 to 30 inches Width Capacity: Up to 21 inches Maximum Assembly Weight: 154 lbs (70 kg)		1 no	1
56	<b>Wheel Alignment Machine</b>	Aston Wheel Alignment Machine Alignment Machine Wheel Alignment System Wheel aligner. 3D Fully Automatic. Dual Screens. Estimated Dimensions: Length: ~64 to 72 inches (1625 to 1830 mm) Width: ~72 to 80 inches (1830 to 2032 mm) Height: ~72 to 80 inches (1830 to 2032 mm)		1 no	1
57	<b>Siccor lift</b>	Bay Max 12K Specifications: Capacity: 12,000 lbs (5.4 tons) Overall Length: 242-3/4 inches (6,166 mm) Deck Length: 185 inches (4,700 mm) Overall Width: 91-1/2 inches (2,324 mm)		1 no	1
58	<b>Universal EFI Diagnostic Scanner</b>	Launch X431 PRO 5 OBD2 Scanner Diagnostic Tool Support ECU Programming 2025 Launch new exclusive released automotive diagnosis toll		2	1

S. No	Tool	Specification	Image	CBT	Non-CBT
59	<b>Brake Service Tool Kit</b>	Power built Brake Service Set, 15 Piece, Remove Springs, Adjust Vehicle Drum Brakes, Spread Disc Pads		2set	1set
60	<b>Oil Drain Pan</b>	FloTool 42003MI 16-Quart Drain Container		5piece	3piece
61	<b>Oil Filter Wrench</b>	QIBAOACR Belt Type Oil Filter Wrench Car Multi-Purpose Adjustable Filter removal Wrench Auto Engine Tools Motorcycle Repair Belt Wrench for Filter and Pipe 8 Inch Blue		3piece	2piece
62	<b>Safety Shoes</b>	Safe toe M-8356RB SBP SRC Electrical Hazard EH & Heat Resistant HRO High Ankle Safety Shoes		25 pairs	25 pairs
63	<b>Safety Goggles</b>	INGCO HSG02 Safety Goggles 16Pcs/Box Handyman		25 pairs	25 pairs
64	<b>Overall Apron (Dangri)</b>	Cotton Safety Dangri Suits		25 pairs	25 pairs
65	<b>Dotted Hand Gloves</b>	Gloves BLUE Dotted for Bikers & Winter season		25 pairs	25 pairs





S. No	Tool	Specification	Image	CBT	Non-CBT
66	<b>Respirator</b>	3M 6800 Plus 2 Filter Reusable Full Face Mask Respirator		5piece	3piece
67	<b>Safety Helmet</b>	Un breakable Polycarbonate Yellow Air Ventilated Safety Helmets		25 pairs	25 pairs
68	<b>Star Allen Key Set</b>	Harden 18Pcs Long Hex & Torx Key Wrench Set 540618 18Pcs Long Hex & Torx Key Wrench Set xHex key wrench size range: 1.5,2,2.5,3,4,5,6,8,10mm xTorx key wrench size range: T10, T15, T20, T25, T27, T30, T40, T45, T50		5set	3set
69	<b>Clutch Aligning Tool</b>	Clutch Alignment / Aligning Tool Fully Universal Metal - Metric 11 - 25mm & SAE sizes (1" and 1-1/8") f		2set	1set
70	<b>Allen Key Set</b>	Total Hex Keys Set Alloy Steel Package Dimensions 31.3 x 18.9 x 3.2 cm; 1.05 kg		5set	3set
71	<b>Ball Joint Puller</b>	Hazet 1779-1 Universal Ball Joint Puller Product Dimensions 6.5 x 3.99 x 8 cm; 45.36 g		2	1

S. No	Tool	Specification	Image	CBT	Non-CBT
72	<b>Two Post Lift</b>	Stainless Steel Two Post Car Service Lifts, 4-6 tons Max Lifting Height 1830 mm Min Lowering Height 110 mm Width Between Two Posts 2800 mm		1	1
73	<b>Air Compressor</b>	Pacific Ranger Large Size Electric Industrial Air Compressor Approx. measurements: 6'L x 45.5"H x 28"D Max. pressure: 175 PSI - Power: 600V, 3-phase, hardwire connectivity		1	1
74	<b>Impact Screwdriver Set</b>	1/2" Manual Hand Impact Driver Set Extractor-12 PCS Impact Screwdriver S2 Steel Much More Durable Disengage Rusted Fasteners or Frozen Bolts Manual Reversible Impact Driver Set 7.8"L x 2.5"W x 2"H		5set	3set
75	<b>Funnel Set</b>	Plastic Funnel Set Premium 4 Piece Funnel Set Red Plastic Package Dimensions 16.26 x 11.68 x 9.4 cm; 27.21 g		5set	3set
76	<b>Exhaust Gas Analyzer</b>	NOVA Plus – Portable Emission Analyzer Industrial combustion and emissions tuning, trouble-shooting or compliance reporting Simultaneous measurement up to 8 gases		1	1
77	<b>Injector Cleaner and Testing Machine</b>	Launch - CNC-603A 2 in 1 Automatic Injector Cleaner & Tester <b>Power: AC110V-127V, 50Hz/60Hz 3Amax or AC220V-230V, 50Hz/60Hz 1.5Amax</b>		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
78	<b>Spark Plug Test Machine</b>	LUTIFIX Automotive Spark Plug Tester, 110V Spark Plug Detector Diagnostic Tool Diagnostic Scanner Vehicle Detector for 12V Vehicles		1	1
79	<b>Bench Vice</b>	Wadflow WBV1A04 Bench Vice body cast iron Size 200mm (8")		6piece	3piece
80	<b>Brake Bleeder Kit</b>	WNZ Brake Bleeder kit Master Cylinder Bleeder kit Pressure Brake Bleeder Tool (5L) Product Dimensions 15 x 10 x 13 inches		1	1
81	<b>Brake Caliper Piston Puller</b>	Blue Spot Tools Brake Disc Caliper Piston Spreader Tool Blue Spot 3-in-1 Brake and Pipe Bender (6mm, 8mm, 10mm)		5	3
82	<b>Catch Pan (Tray) Set</b>	Oil-resistant plastic, 3–5 tray sizes, 5L+ capacity each		12piece	8piece
83	<b>Battery Tester</b>	KZYEE KS21 Battery Tester 12V 100-2000 CCA Auto Car Battery Load Test Digital Analyzer for Detect Health Faults, Cranking and Charging System		1	1
84	<b>Battery Jump Starter</b>	10Ah 12V Portable Power Station & Emergency Jump Start With 300PSI Air Compressor (Petrol 2500cc/Diesel 2000cc)		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
85	<b>Hack Saw Frame</b>	Polished Metal Hacksaw Frame, For Cutting Item Length: 300 millimeters, Item Weight: 0.3615 kilograms		12piece	8piece
86	<b>Hydraulic Press</b>	Capacity Stroke Space Interval Bed Rail Opening Post Opening Base Width Height Ship Weight 50 Tons 7" 5-1/2" 9" 32" 44" 68" 672 lbs.		1	1
87	<b>Fire Extinguisher</b>	Dry powder/CO <sub>2</sub> type, 4–9 kg capacity, ISI certified		8	5
88	<b>4-Stroke Engine Cycle Trainer Model</b>	4 Stroke Single Cylinder Petrol Engine The section model represents a real 4-stroke petrol engine, cut in every detail, carburetor, ignition, etc. The suction-exhaust-transfer channels are especially highlighted so as to make it easy to learn the cycle.		1	1
89	<b>2-Stroke Engine Cycle Trainer Model</b>	Two-stroke engine, cross-section model Cross-section models on bases Every model includes a flywheel, for illustrating valve control and fuel injection, with built-in lamps Base dimensions: approx. 205x210 mm, height: approx. 350 mm		1	1
90	<b>Carburetor Engine Trainer Model</b>	Engine Structure Training Equipment (Carburetor Type): Educational model featuring a 4-cylinder gasoline engine with carburetor for hands-on training.		2	1








S. No	Tool	Specification	Image		CBT	Non-CBT
91	<b>Diesel Engine Trainer Model</b>	Diesel Engine Bench – Trainer (TIER 4F) ConsuLab's Diesel Engine Training Bench HV-950-C4.4 is a fully functioning Caterpillar C4.4 Diesel Engine bench mounted on a mobile steel stand			2	1
92	<b>Diesel Engine (Half-Cut) Vehicle Trainer</b>	Diesel engine vehicle trainer is a valuable educational tool used in automotive training program (Diesel engine with gear box, complete electrical wiring, fuel system, turbo charger, lubrication system, cooling system, exhaust system)			1	1
93	<b>EFI Engine Trainer Model</b>	2018-2014 Corolla 1.8L engine trainer with AC The ConsuLab EM-140C-TYO2A engine trainer is a fully functional recycled engine mounted on a mobile stand. (All sensors, All actuators, Speed meter, Fuse box, relay box, with diagnoses connector starting condition)			2	1
94	<b>EFI Half-Cut Vehicle Trainer Model</b>	Efi half cut vehicle trainer part specifying model Engine Control Unit (ECU) ECU Electronic control Unit Relay Box Fuse Box Ignition Switch Sensors			1	1
95	<b>Turbocharger Trainer Model</b>	The Turbine Engine Trainer is a compact, educational model with a DC motor-driven compressor, providing over 12 kg of thrust for training purposes.			1	1
96	<b>Manual Transmission Cutaway Trainer Model</b>	5 Speed Gearbox With Clutch Cutaway Educational Trainer automotive training equipment for teaching and training purposes of automotive technology Operated: Manually (Through a Crank Handle) Equipment Layout: On Stand with Wheels			1	1





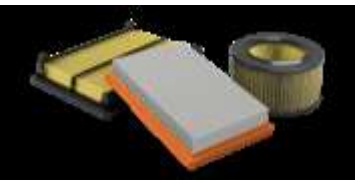


S. No	Tool	Specification	Image	CBT	Non-CBT
		Dimensions: 90 x 60 x 100(h) cm			
97	<b>Automatic Transmission Cutaway Trainer Model</b>	RWD 5 Speed Automatic Transmission Cutaway 4 Gears and Reverse Casing Torque converter Oil pump Stationary plate clutch Rotary plate clutch Planetary gear train Hydraulic circuit valve Centrifugal regulator		1	1
98	<b>Manual Transaxle Cutaway Trainer Model</b>	FWD 5 Speed Manual Gearbox with Differential Cutaway Operated: Manually (Through a Crank Handle) Equipment Layout: On Stand with Wheels Dimensions: 60 x 60 x 60(h) cm Net Weight: 40 kg Gross Weight: 60 kg		1	1
99	<b>Automatic Transaxle Cutaway Trainer Model</b>	Automatic Transmission Educational Trainer Specifications Dimensions: 900 x 600 x 1000 mm (35.43 x 23.62 x 39.37 in) Transmission type: rear-drive, 4 Forward gears + Reverse Components: torque converter, oil pump, stationary plate clutch, rotary plate clutch, planetary gear train, hydraulic circuit valve, centrifugal regulator		1	1
100	<b>Overall Computer System with Projector</b>	Desktop PC (i5/i7, 8GB+ RAM, 500GB SSD), HD projector (3000+ lumens, HDMI/VGA input), screen		1	1

## Lab 11: Consumable Materials of Auto Machanic







(For Class Of 15 To 25 Students)

S. No	Tool	Specification	Image	CBT	Non-CBT
1	Engine Oil (Havoline 20W-50)	Havoline		30 liters	25 liters
2	Carburetor Cleaner	NASA		10	8
3	WD 40	WD-40		10	8
4	Tappet Cover Gasket as per sample engine	M.D Japan		12	10
5	Complete Head Gasket	M.D Japan		12	10
6	Only Head Gasket (Double Size) as per sample engine	M.D Japan		6	3

S. No	Tool	Specification	Image	CBT	Non-CBT
7	<b>Petrol Fuel</b>	Local		100 liter	80 liter
8	<b>Diesel Fuel</b>	Local		100 liter	80 liter
9	<b>Kerosine Oil</b>	Local		100 liter	80liter
10	<b>Diesel Engine Oil (Delo 400MGX)</b>	CALTEX DELO 400MGX		30 liter	25 liter
11	<b>12 Volt Battery S50</b>	12 VOLT BATTERY S50		5	3
12	<b>12 Volt Battery S100</b>	12 VOLT BATTERY S100		5	3
13	<b>Silicon</b>	GMSA		24	20







S. No	Tool	Specification	Image	CBT	Non-CBT
14	<b>Grease</b>	Caltex		10	8
15	<b>Elfi</b>	GMSA 20gm		1 box	1 box
16	<b>Magic Super Glue</b>	GMSA 4gm		1 box	1 box
17	<b>Insulation Tape</b>	Local (as per sample engine)		3 dozen	2dozen
18	<b>Air Filter (as per sample)</b>	Local (as per sample)		5	3
19	<b>Petrol Pipe</b>	Local (as per sample)		50 ft	30ft
20	<b>Petrol Pipe Small, Medium Clips</b>	Local (as per sample engine)		3 dozen	2dozen








S. No	Tool	Specification	Image	CBT	Non-CBT
21	<b>Water Hose Pipe S,M</b>	Local (as per sample)		10	8
22	<b>Spark Plug Ngk 2 M.D Japan</b>	M.D Japan (as per sample)		1 box	1 box
23	<b>High Tension Leads</b>	M.D Japan (as per sample)		2box	2box
24	<b>Distributor Cap</b>	M.D Japan (as per sample)		2	2
25	<b>Piston Ring Set Size 25</b>	M.D Japan (as per sample)		10 pack	8 pack
26	<b>Carburetor Complete Gasket Kit</b>	M.D Japan (as per sample)		5pack	3pack
27	<b>Brake Oil Fuel Big Bottle</b>	GAURD DOT 3 500CC		2dozen	2dozen


S. No	Tool	Specification	Image	CBT	Non-CBT
28	<b>Battery Wire Black Color</b>	Local (as per sample engine)		50 ft	30ft
29	<b>Battery Wire Red Color</b>	Local (as per sample engine)		50 ft	30ft
30	<b>Bolt Size Kabli 17, 10, 14, 19</b>	Local (as per sample engine)		1 box	1 box
31	<b>Battery Terminal</b>	Local (as per sample engine)		1 box	1 box
32	<b>Horn Thimble</b>	Local (as per sample engine)		1 box	1 box
33	<b>Plane Washer</b>	8mm, 10mm, 12mm, 14mm, 17mm Local		1 box	1 box
34	<b>Engine Coolant</b>	Aisin		20 liter	15 liter

S. No	Tool	Specification	Image	CBT	Non-CBT
35	Oil Filter as per sample engine	GUARD		12	10
36	Power Steering Fluid	GUARD		1 box	1 box
37	Dangri	Kabli		25	25
38	Transmission Fluid	ZIC		20 liter	15 liter
39	Transmission Oil	ZIC		20 liter	15 liter
40	Wire Thimble Male & Female	Local (as per sample engine)		1 box	1 box
41	NUT	8mm, 10mm, 12mm, 14mm, 17mm, 19mm Local		3box	3box

S. No	Tool	Specification	Image	CBT	Non-CBT
42	<b>10 No Bolt 1 Inch Length</b>	Local (as per sample engine)		2box	2box
43	<b>12 No Bolt 1 Inch Length</b>	Local (as per sample engine)		2box	2box
44	<b>12 No Bolt 2 Inch Length</b>	Local (as per sample engine)		2box	2box
45	<b>14 No Bolt 2 Inch Length</b>	Local (as per sample engine)		2box	2box
46	<b>14 No Bolt 3 Inch Length</b>	Local (as per sample engine)		2box	2box
47	<b>17 No Bolt 4 Inch Length</b>	Local (as per sample engine)		2box	2box
48	<b>Battery Wire Positive Pole</b>	Local (as per sample engine)		2box	2box

S. No	Tool	Specification	Image	CBT	Non-CBT
49	<b>Diesel Fuel Pipe</b>	Local (as per sample engine)		50 ft	30ft
50	<b>Water Heater Hose Clamp Medium Size</b>	Local (as per sample engine)		1 box	1 box
51	<b>CB POINT as per sample engine</b>	DANSO Local (as per sample engine)		6	3
52	<b>Generator Belt</b>	Local (as per sample engine)		3	2
53	<b>Cotton Waste</b>	Local (as per sample engine)		100kg	80kg
54	<b>Automotive Dotted Gloves</b>	Local (as per sample engine)		25	25







S. No	Tool	Specification	Image	CBT	Non-CBT
55	<b>Embrey Paper (0,2,4,6 SIZE)</b>	Local (as per sample engine)		5pack	4pack
56	<b>THRUST BEARING STANDARD SIZE (as per sample engine)</b>	Local (as per sample engine)		2pack	2pack
57	<b>BIG END SHELL BEARING STANDARD SIZE (as per sample engine)</b>	Local (as per sample engine)		2pack	2pack
58	<b>FUSE (10AMP, 15 AMP,16AMP,20AMP)</b>	Local (as per sample engine)		2pack	2pack
59	<b>Fuel Filter</b>	Local (as per sample engine)		12	10
60	<b>Main oil seal (as per sample engine)</b>	Local (as per sample engine)		6	5
61	<b>Crankshaft oil seal (as per sample engine)</b>	Local (as per sample engine)		6	5







S. No	Tool	Specification	Image	CBT	Non-CBT
62	Timing belt (as per sample engine)	Local (as per sample engine)		3	2



NAVITTC







## Lab 05: Tools and Equipment of Auto Electrician

(For Class Of 15 To 25 Students)

S. No	Tool	Specification	Image	CBT	Non-CBT
1	<b>Iron Tool Trolley</b>	162 Pcs Tool Chest Set Chest part: With 7 pcs drawers Overall size:765 x 465 x 812 mm Overall with casters size : 765 x 465 x 976 mm		3 - 5	2
2	<b>Open-End Spanner</b>	Sizes: 6–32mm 12pcs double open-end spanner set Size: 6-32mm 6x7mm to 30X32mm <b>chrome vanadium steel (Cr-V steel)</b>		3-5set	2
3	<b>Box Spanner</b>	DURATECH Offset Box Wrench Set, Metric, 9-Piece, 6-32mm, 75-Degree, Chrome Vanadium Steel Construction with Rolling Pouch		3-5set	2
4	<b>Combination Spanner</b>	23Pcs Combination Spanner Set xManufactured from high quality carbon steel with a bright chrome plated finish xSize range: 6mm,to 32mm		3-5set	2
5	<b>Ratchet Spanner</b>	Sidchrome 12 Piece 467 Pro Series Metric Ratchet Spanner Set – Metric Sizes: 8-19mm Built from durable Chrome Vanadium steel		3-5set	2
6	<b>Flex-Head Ratchet Wrench</b>	TR TOOLROCK 12pcs Flex Head Ratcheting Wrench Set- Metric Sizes: 8-19mm Ratchet Combination Wrenches CrV Gear Spanner Set		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
7	<b>Adjustable Wrench</b>	CRAFTSMAN Adjustable Wrench, 6", 8", 12" Alloy Steel		5piece	3piece
8	<b>Standard Adjustable Wrench</b>	Preferred Standard Adjustable Wrench, Phosphate Finish, 6 to 12"		5piece	3piece
9	<b>Adjustable Digital Torque Wrench</b>	Tapha Tools Adjustable Digital Torque Wrench 19.9 to 99.5 ft-lbs (27-135 N-m) Torque Range, 5-27 mm Adjustable Jaw, LED and Buzzer Notification, Preset Memory		3 - 5	2
10	<b>Socket Set (Metric)</b>	Normal 6 to 32mm (6point) Stalwart 40-Piece Ratcheting Socket Wrench Set with Metric and Standard Sockets, Torque Handle, and Insulated Driver - Durable Hard-Plastic Case		3-5set	2
11	<b>Socket Set (Metric)</b>	Standard Metric Socket Set (12-point) 6mm to 32mm Metarial Chrome Vanadium Steel (Cr-V)		3-5set	2
12	<b>Socket Set (Metric)</b>	Deep socket 6 to 32mm (6point) 1/2" Drive Deep Impact Socket Set, 38-Piece Socket Set SAE 3/8 to 1-1/4 inch and Metric 10-32mm chrome vanadium steel with a black phosphate finish		3-5set	2






S. No	Tool	Specification	Image	CBT	Non-CBT
13	<b>Socket Set (Metric)</b>	LACKROBOT 32-Piece 1/2" Drive Metric Socket Set, 6-Point (8mm-32mm) 12-Point (10mm-19mm), Socket Ratchet Wrench Mechanic Tool Set, CR-V Steel		3-5set	2
14	<b>Socket Set 3/4"</b>	Normal 6 to 12mm (12point) KATSU 3/4" Socket Set 21 Pieces, 19-50mm Metric 12 Point Ratchet Wrench 24 Teeth in Steel Case		3-5set	2
15	<b>Ratchets (1/4", 3/8", 1/2", And 3/4" Drives)</b>	1/4" drive deep sockets in: 6mm, 7mm, 8mm, 10mm, 12mm Chromium-vanadium Steel		3-5set	2
16	<b>Impact Wrench (Electrical)</b>	Takuoo Cordless 1/2 inch Brushless Impact Wrench, Max Torque (1000N.m) 740Ft-lbs Electric Impact Gun w/2x 4000mAh Battery, Charger & 6 Sockets		3-5set	2
17	<b>Air Impact Wrench</b>	INGCO AIW12562 1/2" Drive Air Impact Wrench		3-5set	2
18	<b>Air Flexible Hose Pipe</b>	Compressed Air Spiral Hose WENTS Coiled air Hose 6 m with Connector High Pressure Flexible Hose Spiral Duct red		5piece	3piece
19	<b>Impact Sockets Set</b>	SP Tools SP20320 Imp. socket Set 1/2 Drive 15 Piece Long Series – Metric		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
20	<b>Rubber Insert Spark Plug Socket</b>	Magnetic or rubber insert to hold plugs (14mm, 15mm ,16mm, 21mm) Power built 2 Piece Magnetic Spark Plug Socket Set - 641870		5piece	3piece
21	<b>Locking Pliers (Vice Grips)</b>	Deli Curved Jaw Locking Pliers Material high-quality chrome vanadium steel (Cr-V) or high carbon steel 5 inch (125 mm) 7 inch (175 mm) 10 inch (250 mm)		3-5set	2
22	<b>Needle-Nose Pliers</b>	SHOWAY 3pcs Jewelry Pliers Wire Cutter Pliers Needle Nose Pliers for Home Jewelry Making Wire Wrapping DIY Crafts (Size 5 inches 125 mm) PVC or rubber-coated		3-5set	2
23	<b>Slip-Joint Pliers</b>	Insulated Slip-Joint Pliers - Straight Jaws Chrome-vanadium steel body. Size (Common Lengths): 6 inch (150 mm) 8 inch (200 mm) Chrome Vanadium Steel (Cr-V)		3-5set	2
24	<b>Diagonal Wire Cutter</b>	Dykes 4.5" Side Cutter Diagonal Wire Cutting Pliers Diagonal Wire Cutter Side Cutting Pliers (wire cutter)		3-5set	2
25	<b>Snap-Ring Pliers Set</b>	INGCO 4pcs Snap Ring Pliers Set 7 Inch Circlip Pliers Set Heavy Duty Internal/External Pliers Kit Straight/Bent Jaw Size: Each plier is 7 inches (180mm) in length Material: Constructed from carbon steel for durability and strength		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
26	<b>Hose Clamp Pliers</b>	Hose Clamp Pliers Swivel Flat Band Flat-Band Ring-Type Car Water Pipe Removal Tool Size: Length: Typically, these pliers measure approximately 8 to 9 inches (200 to 230 mm) high-quality carbon steel		3-5set	2
27	<b>Flathead Screw Driver Set</b>	Kobalt-18-Piece-Plastic-Handle-Magnetic-Assorted-Screwdriver-Set 1/8 inch x 2-1/2 inch 3/16 inch x 4 inch 3/16 inch x 6 inch (Cabinet) 1/4 inch x 4 inch 1/4 inch x 6 inch 5/16 inch x 8 inch 3/8 inch x 8 inch		5-10 set	8
28	<b>Phillips Screw Driver Set</b>	STANLEY Cushion Grip Screwdriver PH0 x 60 mm  PH1 x 75 mm PH2 x 100 mm PH3 x 150 mm		5-10 set	8
29	<b>Torx Socket Set</b>	DURATECH 23-Piece Torx Bit Socket and External Torx Socket Set, 8 Star Sockets, 7 Female E-Torx		3-5set	2
30	<b>Precision Screwdrivers</b>	Miniature flat/Torx/Phillips sets Precision Screwdriver Set 32 pieces SL1.0, SL1.5, SL2.0, SL2.5, SL3.0, SL3.5, SL4.0 mm PH000, PH00, PH0, PH1 PZ0, PZ1 T4, T5, T6, T7, T8, T9, T10, T15, T20 H0.7, H0.9, H1.3, H1.5, H2.0, H2.5, H3.0, H4.0 mm Tip Extension Support ergonomic handle screwdriver Chrome Vanadium Steel (Cr-V)		3-5set	2






S. No	Tool	Specification	Image	CBT	Non-CBT
31	<b>Ball-Peen Hammers</b>	hammer with a rounded end on the other side of the normal flat face. features 2.5lb head sizes between 8-48 oz.		5piece	3piece
32	<b>Rubber Mallets</b>	Rubber Hammer 16OZ 24OZ		5piece	3piece
33	<b>Brass Hammers</b>	Brass Hammer Sledge, 2lbs, Fiber glass Handle		5piece	3piece
34	<b>Dead Blow Hammers</b>	65mm Dead-Blow Hammer Made of Nitrile rubber		5piece	3piece
35	<b>Hydraulic Floor Jacks</b>	GEC Low Profile Hydraulic Floor Jack 3.5 Ton 2 Pump 105-520mm Height		2piece	1piece
36	<b>Jack Stands</b>	BIG RED T46202 Torin Steel Jack Stands: 6 Ton (12,000 lb) Capacity, Red		6	3
37	<b>T Handle Set</b>	Autoly T Handle Wrench Set 8mm, 10mm, 12mm, 14mm Hex Socket Key Wrench Set Chrome Vanadium Steel		3-5set	2
38	<b>Feeler Gauges</b>	Mitutoyo 184-307S Thickness Feeler Gage Set, Straight Leaves, 0.03- 0.5mm Thickness, 100mm Length		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
39	<b>Magnetic Trays</b>	Made of premium Stainless Steel Ideal tray for storing small parts, tools, nuts, bolts, screws and etc.		5-10 piece	8piece
40	<b>Pick And Hook Sets</b>	Wadrow Pick and Hook Set - 4 Piece Set		3-5set	2
41	<b>Magnetic Pickup Tools</b>	GUTIMORE Flexible Magnetic Pickup Tool, 25" Long Bend-It Magnet Snake Pickup, Bendable Magnetic Pickup 2LB		3-5set	2
42	<b>Garage Creeper</b>	PM PERFORMOTOR 48" Folding 2 in 1 Rolling Z Creeper Alloy Steel		3-5set	2
43	<b>Cooling System Pressure Tester</b>	28PCS Universal Radiator Pressure Tester & Vacuum Type Cooling System Kit Material: High-Quality Aluminum, Rubber, Plastic Suitcase Dimension: 23 "(L) x 18.9"(W) x 4.3"(H) Coolant Pipe Length: 59"(L)		2set	1set
44	<b>Engine Compression Tester (Petrol Engine)</b>	Compression Tester Kit 0-300 PSI Petrol Gas Engine Cylinder Pressure Gauge Automotive Tool for Motorcycle Car Truck From compatibility: vier Adapter (M10 x 1.0 mm, M12 x 1.25 mm, M14 x 1.25 mm, M18 x 1.5 mm)		2set	1set


S. No	Tool	Specification	Image	CBT	Non-CBT
45	<b>Fuel Pressure Tester Kit</b>	BETOOLL Fuel Pressure Test Kit - Fuel Pressure Gauge - 0-100PSI Fuel Injection Pump Pressure Tester Gauge Kit for Car Case Size: Length: ~12 inches (305 mm) Width: ~9 inches (230 mm) Height: ~3 inches (76 mm)		2set	1set
46	<b>Siccor Lift</b>	Bay Max 12K Specifications: Capacity: 12,000 lbs (5.4 tons) Overall Length: 242-3/4 inches (6,166 mm) Deck Length: 185 inches (4,700 mm) Overall Width: 91-1/2 inches (2,324 mm)		1	1
47	<b>Universal Efi Diagnostic Scanner</b>	Launch X431 PRO 5 OBD2 Scanner Diagnostic Tool Support ECU Programming 2025 Launch new exclusive released automotive diagnosis toll		2	1
48	<b>Key Programmer Device</b>	Launch X431 IMMO Key Programmer Remote Maker with 1 Super Chip and 4 Smart Key		1	1
49	<b>All Data Electrical Software Programmer Device</b>	ALLDATA DIAGNOSTICS 22.00cm x 20.00cm x 20.00cm		1	1






S. No	Tool	Specification	Image	CBT	Non-CBT
50	<b>Iprog Programmer</b>	Aramox IPROG Pro V87 ECU Programmer Package Dimensions 26.7 x 19.5 x 8.4 cm; 970 g		1	1
51	<b>Safety Shoes</b>	Safe toe M-8356RB SBP SRC Electrical Hazard EH & Heat Resistant HRO High Ankle Safety Shoes		25 pairs	25 pairs
52	<b>Safety Goggles</b>	INGCO HSG02 Safety Goggles 16Pcs/Box Handyman		25 pairs	25 pairs
53	<b>Overall Apron (Dangri)</b>	Cotton Safety Dangri Suits		25 pairs	25 pairs
54	<b>Dotted Hand Gloves</b>	Gloves BLUE Dotted for Bikers & Winter season		25 pairs	25 pairs
55	<b>Respirator</b>	3M 6800 Plus 2 Filter Reusable Full Face Mask Respirator		5piece	3piece
56	<b>Safety Helmet</b>	Uniba Polycarbonate Yellow Air Ventilated Safety Helmets		25 pairs	25 pairs
57	<b>Star Allen Key Set</b>	Harden 18Pcs Long Hex & Torx Key Wrench Set 540618 18Pcs Long Hex & Torx Key Wrench Set xHex key wrench size range: 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10mm xTorx key wrench size range: T10, T15, T20, T25, T27, T30, T40, T45, T50		3-5set	2



S. No	Tool	Specification	Image	CBT	Non-CBT
58	<b>Allen Key Set</b>	Total Hex Keys Set Alloy Steel Package Dimensions 31.3 x 18.9 x 3.2 cm; 1.05 kg		3-5set	2
59	<b>Complete Security Alarm System Trainer</b>	<b>Liuhawk Car Security Alarm System With Immobilizer KeyFit</b> For:12V battery car, van, pickup truck, SUV, etc., general purpose products Operating Voltage:12V±3V		3set	2set
60	<b>Air Compressor</b>	Pacific Ranger Large Size Electric Industrial Air Compressor Approx. measurements: 6'L x 45.5"H x 28"D Max. pressure: 175 PSI - Power: 600V, 3-phase, hardwire connectivity		1	1
61	<b>Impact Screwdriver Set</b>	1/2" Manual Hand Impact Driver Set Extractor-12 PCS Impact Screwdriver S2 Steel Much More Durable Disengage Rusted Fasteners or Frozen Bolts Manual Reversible Impact Driver Set 7.8"L x 2.5"W x 2"H		3-5set	2
62	<b>Funnel Set</b>	Plastic Funnel Set Premium 4 Piece Funnel Set Red plastic Package Dimensions 16.26 x 11.68 x 9.4 cm; 27.21 g		3-5set	2
63	<b>Exhaust Gas Analyzer</b>	NOVA Plus – Portable Emission Analyzer Industrial combustion and emissions tuning, troubleshooting or compliance reporting Simultaneous measurement up to 8 gases		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
64	<b>Injector Cleaner and Testing Machine</b>	Launch - CNC-603A 2 in 1 Automatic Injector Cleaner & Tester <b>Power: AC110V-127V, 50Hz/60Hz 3Amax or AC220V-230V, 50Hz/60Hz 1.5Amax</b>		1	1
65	<b>Spark Plug Test Machine</b>	LUTIFIX Automotive Spark Plug Tester, 110V Spark Plug Detector Diagnostic Tool Diagnostic Scanner Vehicle Detector for 12V Vehicles		1	1
66	<b>Bench Vice</b>	Wadflow WBV1A04 Bench Vice body cast iron Size200mm (8")		6piece	3piece
67	<b>Catch Pan (Tray) Set</b>	Oil-resistant plastic, 3–5 tray sizes, 5L+ capacity each		12piece	8piece
68	<b>Battery Tester</b>	KZYEE KS21 Battery Tester 12V 100-2000 CCA Auto Car Battery Load Test Digital Analyzer for Detect Health Faults, Cranking and Charging System		1	1
69	<b>Battery Jump Starter</b>	10Ah 12V Portable Power Station & Emergency Jump Start With 300PSI Air Compressor (Petrol 2500cc/Diesel 2000cc)		1	1
70	<b>Hack Frame</b>	Polished Metal Hacksaw Frame, For Cutting Item Length: 300 millimeters, Item Weight: 0.3615 kilograms		12piece	8piece



S. No	Tool	Specification	Image	CBT	Non-CBT
71	<b>Efi Electrical Trainer</b>	Battery ECU complete wiring with ecu, all connector, ignition switch with immobilizer system relay box, fuse box, Sensor, actuator, fuse box, diagnoses connector		1	1
72	<b>Fire Extinguisher</b>	Dry powder/CO <sub>2</sub> type, 4–9 kg capacity, ISI certified		8	4
73	<b>4-Stroke Engine Cycle Trainer Model</b>	4 Stroke Single Cylinder Petrol Engine The section model represents a real 4-stroke petrol engine, cut in every detail, carburetor, ignition, etc. The suction-exhaust-transfer channels are especially highlighted so as to make it easy to learn the cycle.		1	1
74	<b>2-Stroke Engine Cycle Trainer Model</b>	Two-stroke engine, cross-section model Cross-section models on bases Every model includes a flywheel, for illustrating valve control and fuel injection, with built-in lamps Base dimensions: approx. 205x210 mm, height: approx. 350 mm		1	1
75	<b>Carburetor Engine Trainer Model</b>	Engine Structure Training Equipment (Carburetor Type): Educational model featuring a 4-cylinder gasoline engine with carburetor for hands-on training.		2	1
76	<b>Diesel Engine Trainer Model</b>	Diesel Engine Bench – Trainer (TIER 4F) Consu Lab's Diesel Engine Training Bench HV-950-C4.4 is a fully functioning Caterpillar C4.4 Diesel Engine bench mounted on a mobile steel stand		2	1

S. No	Tool	Specification	Image	CBT	Non-CBT
77	<b>Diesel Engine (Half-Cut) Vehicle Trainer</b>	Diesel engine vehicle trainer is a valuable educational tool used in automotive training program (Diesel engine with gear box, complete electrical wiring, fuel system, turbo charger, lubrication system, cooling system, exhaust system)		1	1
78	<b>Efi Engine Trainer Model</b>	2018-2014 Corolla 1.8L engine trainer with AC The Consu Lab EM-140C-TYO2A engine trainer is a fully functional recycled engine mounted on a mobile stand. (All sensors, All actuators, Speed meter, Fuse box, relay box, with diagnoses connector starting condition)		1	1
79	<b>Efi Half-Cut Vehicle Trainer Model</b>	Efi half cut vehicle trainer part specifying model Engine Control Unit (ECU) ECU Electronic control Unit Relay Box Fuse Box Ignition Switch Sensors		1	1
80	<b>Automotive Back camera Model Trainer</b>	Car Sideview Backup Camera System Dimensions (L x W x T) (218 x 149 x 82mm)		1	1
81	<b>Oscilloscope</b>	PicoScope Automotive Oscilloscopes Multiple Measurements Voltage Current Pressure Noise and Vibration 12-bit oscilloscope 16x better than 8 bits		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
82	<b>Automatic Transmission Cutaway Trainer Model</b>	RWD 5 Speed Automatic Transmission Cutaway 4 Gears and Reverse Casing Torque converter Oil pump Stationary plate clutch Rotary plate clutch Planetary gear train Hydraulic circuit valve Centrifugal regulator		1	1
83	<b>Alternator Cut Way Trainer Model</b>	ALTERNATOR SINGLE-FLOW COOLING cutaway Educational Trainer		1	1
84	<b>Automatic Transaxle Cutaway Trainer Model</b>	Automatic Transmission Educational Trainer Specifications Dimensions: 900 x 600 x 1000 mm (35.43 x 23.62 x 39.37 in) Transmission type: rear-drive, 4 Forward gears + Reverse Components: torque converter, oil pump, stationary plate clutch, rotary plate clutch, planetary gear train, hydraulic circuit valve, centrifugal regulator		1	1
85	<b>Overall Computer System with Projector</b>	Desktop PC (i5/i7, 8GB+ RAM, 500GB SSD), HD projector (3000+ lumens, HDMI/VGA input), screen		1	1
86	<b>Digital multi-Meter</b>	UNI-T UT33D+ Plus Digital Multimeter 1 x UNI-T UT33D+ Digital Multimeter 2 x Test Leads 1 x Protective Cover		5piece	3piece

S. No	Tool	Specification	Image	CBT	Non-CBT
87	<b>Voltage Tester</b>	AWBLIN Automotive Test Light - Digital LED Circuit Tester Package Dimensions 10.16 x 2.44 x 1.65 inches (25.8 x 6.2 x 4.2 cm); 7.41 ounces (210.07 grams)		5piece	3piece
88	<b>Automotive Electrical Trainer</b>	Wiring System Trainer, Electronic Ignition		1	1
89	<b>Digital Battery Tester</b>	LAUNCH BST-860S Battery Tester with Printer, 12V 24V Dimensions: 29 x 23 x 9.4 cm; 500 g		5piece	3piece
90	<b>Battery Booster Jump Starter</b>	Car Battery Jump Starter - FlyAuto 1800 Amp 12V 24V Heavy Duty Product Dimensions (L x W x H) 11.5"D x 8.5"W x 14.5"H (29.2 x 21.6 x 36.8 cm)		1set	1set
91	<b>Soldering Station</b>	TOAUTO DS882 2-in-1 Soldering Station & Hot Air Rework Kit Package Dimensions 11.22 x 8.9 x 4.92 inches		2set	1set
92	<b>Battery Jumper Led</b>	NOONE Jumper Cables for Car Battery Starting Dead or Weak Batteries 10-Feet 10-Gauge		2set	1set

S. No	Tool	Specification	Image	CBT	Non-CBT
93	<b>Automotive Self-starter Cut Way Model</b>	Starter Motor for Cars Cutaway Operated: Manually Equipment Layout: On Base Dimensions: 25 x 20 x 20(h) cm Net Weight: 6 kg Gross Weight: 10 kg		1set	1set
94	<b>HVAC Diagnostic Kit (Guage Set)</b>	BACOENG AC Vacuum Pump and Gauge Set		3set	2set
95	<b>Panel Remover Tool</b>	Premium 19-Piece Trim Removal Tool Kit for Easy Car Panel Door Audio Trim Removal Product Dimensions 13 x 9 x 2 inches		5set	3set
96	<b>V block Light Duty</b>	V-Blocks Dual-Vee Magnetic Product Model V Block Width(mm) 63 Depth(mm) 75 Height(mm) 75		3	2
97	<b>Ecu Module Various Vehicle</b>	Different type Automotive ECU for training purpose Automotive Engine Control Module, Electronic Control Unit (ECM/ECU) Die-casting Aluminum		10piece	8piece
98	<b>Insulated Rubber Gloves</b>	Novax Novaxc00orn – Rubber Insulating Gloves (size 8,9,10,11)		25 pairs	25 pairs



S. No	Tool	Specification	Image	CBT	Non-CBT
99	<b>Ac Gas Installation &amp; Recovery Machine Launch</b>	Smart R134a Refrigerant Gas Charging Machine Car Single package size: 73X67X136 cm		1	1
100	<b>A/C Manifold Gauge Set</b>	R134a Aluminum Manifold Gauge Set - 60" Hose (3) 60" Nylon Barrier Hoses – SAE Approved (1) Blow-Molded Case		3set	2set

NAVTTC




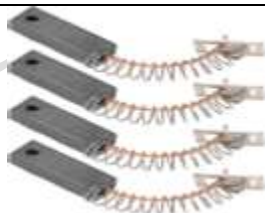



## Lab 05: Consumable Materials of Auto Electrician

(For Class Of 15 To 25 Students)

SR	Tool	Specification	Image	CBT	Non-CBT
1	12 Volt Battery S50	12 VOLT BATTERY S50		5	3
2	12 Volt Battery S100	12 VOLT BATTERY S100		5	3
3	Silicon	GMSA		24	20
4	Grease	Caltex		10	8
5	Elfi	GMSA 20gm		1 box	1 box
6	Magic Super Glue	GMSA 4gm		1 box	1 box
7	Insulation Tape	Local (as per sample engine)		3 dozen	2dozen

SR	Tool	Specification	Image	CBT	Non-CBT
8	<b>Petrol Pipe Small, Medium Clips</b>	Local (as per sample engine)		3 dozen	2dozen
9	<b>Spark Plug Ngk 2 M.D Japan</b>	M.D Japan (as per sample)		1 box	1 box
10	<b>High Tension Leads</b>	M.D Japan (as per sample)		2box	2box
11	<b>Wiring Harness Tape</b>	Electrical Tape Heat Resistant Harness Length: 15M Width: 9/15/19/25mm		2dozen	1dozen
12	<b>Anti Rust Spray</b>	DK Anti-Rust Lubricant Spray 100ML DK		1dozen	8piece
13	<b>Ac Gas R134A</b>	Best Cool Air Auto A/C Refrigerant Gas Specification 13.6kg/30lb		1cylinder	1cylinder
14	<b>Ac Compressor Oil</b>	HFC 134A Car Air Conditioner Compressor Oil Features and benefits Uniquely formulated for best performance. High-quality base oil and additives used.		1dozen	8piece

SR	Tool	Specification	Image	CBT	Non-CBT
15	<b>Battery Wire Black Color</b>	Local (as per sample engine)		50 ft	30ft
16	<b>Battery Wire Red Color</b>	Local (as per sample engine)		50 ft	30ft
17	<b>Nut</b>	8mm,10mm, 12mm, 14mm, 17mm, 19mm Local		3box	3box
18	<b>Battery Terminal</b>	Local (as per sample engine)		1 box	1 box
19	<b>Horn Thimble</b>	Local (as per sample engine)		1 box	1 box
20	<b>Automotive Wire Size 2Mm</b>	Auto Cable 2mm, For Wiring Plain Copper Conductors		3pack	3pack
21	<b>Automotive Wire Size 4Mm</b>	Auto Cable 4MM, For Wiring Plain Copper Conductors		3pack	3pack
22	<b>Automotive Wire Size 6Mm</b>	Auto Cable 6mm, For Wiring Plain Copper Conductors		3pack	3pack






SR	Tool	Specification	Image	CBT	Non-CBT
23	<b>Automotive Wire Size 10Mm</b>	Auto Cable 10MM, For Wiring Plain Copper Conductors		3pack	3pack
24	<b>Ignition Switch</b>	Local (as per sample engine)		6	4
25	<b>Self Starter Motor Carbon Bush</b>	Local (as per sample engine)		1dozen	1dozen
26	<b>Alternator Carbon Bush</b>	Local (as per sample engine)		1dozen	1dozen
27	<b>Thimble Eye Type</b>	Local (as per sample engine)		2box	2box
28	<b>Thimble Detachable</b>	Local (as per sample engine)		2box	2box
29	<b>Soldering Wire</b>	Local (as per sample engine)		2box	2box

SR	Tool	Specification	Image	CBT	Non-CBT
30	<b>Soldering Flux</b>	Local (as per sample engine)		1 box	1 box
31	Lamp 12V Dc Headlight 55 Watt Double Filament	Local (as per sample engine)		2dozen	1dozen
32	<b>Lamp Blub</b>	12V DC INDICATOR 21WATT Local (as per sample engine)		2dozen	1dozen
33	<b>Lamp Blub</b>	12 V DC BRAKE LIGHT 21 WATT Local (as per sample engine)		2dozen	1dozen
34	<b>Dashboard</b>	LIGHT 12V 5WATT Local (as per sample engine)		2dozen	1dozen
35	<b>10Mm No Bolt</b>	Local 1 Inch Length (as per sample engine)		2box	2box
36	<b>12Mm No Bolt</b>	12 NO BOLT 1 Inch Length Local (as per sample engine)		2box	2box

SR	Tool	Specification	Image	CBT	Non-CBT
37	<b>12Mm No Bolt</b>	12 NO BOLT 2 Inch Length Local (as per sample engine)		2box	2box
38	<b>14Mm No Bolt</b>	14 NO BOLT 2 Inch Length Local (as per sample engine)		2box	2box
39	<b>14 Mm No Bolt</b>	14 NO BOLT 3 INCH LENGTH Local (as per sample engine)		2box	2box
40	<b>17 Mm No Bolt</b>	17 NO BOLT 4 INCH LENGTH Local (as per sample engine)		2box	2box
41	<b>Plane Washer</b>	8mm,10mm,12mm,14mm,17 mmLocal		1 box	1 box
42	<b>Fuse Blade Type Small</b>	Blade type small (10AMP, 15AMP,20AMP,30AMP Local (as per sample engine)		2pack	2pack
42	<b>Fuse Blade Type Normal</b>	Blade type normal (10AMP, 15AMP,20AMP,30AMP Local (as per sample engine)		2pack	2pack








## Lab 06: Tools and Equipment of Advance Auto Mechanic (Automotive Mechatronics)







(For Class Of 15 To 25 Students)








S. No	Tool	Specification	Image	CBT	Non-CBT
1	<b>Iron Tool Trolley</b>	162 Pcs Tool Chest Set Chest part: With 7 pcs drawers Overall size : 765 x 465 x 812 mm Over all with casters size : 765 x 465 x 976 mm		03	2
2	<b>Open-End Spanner</b>	Sizes: 6–32mm 12pcs double open-end spanner set Size: 6-32mm 6x7mm to 30X32mm chrome vanadium steel (Cr-V steel)		3-5 set	2
3	<b>Box Spanner</b>	DURATECH Offset Box Wrench Set, Metric, 9-Piece, 6-32mm, 75-Degree, Chrome Vanadium Steel Construction with Rolling Pouch		3-5 set	2
4	<b>Combination Spanner</b>	23Pcs Combination Spanner Set X Manufactured from high quality carbon steel with a bright chrome plated finish X Size range: 6mm, to 32mm		3-5set	2
5	<b>Ratchet Spanner</b>	Sidchrome 12 Piece 467 Pro Series Metric Ratchet Spanner Set – Metric Sizes: 8-19mm Built from durable Chrome Vanadium steel		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
6	<b>Flex-Head Ratchet Wrench</b>	TR TOOL ROCK 12pcs Flex Head Ratcheting Wrench Set- Metric Sizes: 8-19mm Ratchet Combination Wrenches CrV Gear Spanner Set		3-5set	2
7	<b>Adjustable Wrench</b>	CRAFTSMAN Adjustable Wrench, 6", 8", 12" Alloy Steel		5piece	3piece
8	<b>Standard Adjustable Wrench</b>	Proffered Standard Adjustable Wrench, Phosphate Finish, 6 to 12"		5piece	3piece
9	<b>Pipe Wrench</b>	Jetech size 36-inch Heavy Duty Straight Pipe Wrench, Adjustable Aluminum Plumber with Floating Hook Jaw and I-Beam Handle, Red		5piece	3piece
10	<b>Line Wrench Kit</b>	Includes 7 wrenches (sizes 13mm, to 19mm), catering to a wide range of sizes. High-Quality Chrome		3-5set	2
11	<b>Adjustable Digital Torque Wrench</b>	Tapaha Tools Adjustable Digital Torque Wrench 19.9 to 99.5 ft-lbs (27-135 N-m) Torque Range, 5-27 mm Adjustable Jaw, LED and Buzzer Notification, Preset Memory		5	3
12	<b>Socket Set (Metric)</b>	Normal 6 to 32mm (6point) Stalwart 40-Piece Ratcheting Socket Wrench Set with Metric and Standard Sockets, Torque Handle, and Insulated Driver - Durable Hard-Plastic Case		3-5set	2




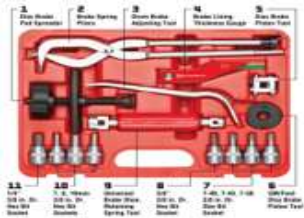

S. No	Tool	Specification	Image	CBT	Non-CBT
13	<b>Socket Set (Metric)</b>	Standard Metric Socket Set (12-point) 6mm to 32mm Material Chrome Vanadium Steel (Cr-V)		3-5set	2
14	<b>Socket Set (Metric)</b>	Deep socket 6 to 32mm (6point) 1/2" Drive Deep Impact Socket Set, 38-Piece Socket Set SAE 3/8 to 1-1/4 inch and Metric 10-32mm chrome vanadium steel with a black phosphate finish		3-5set	2
15	<b>Socket Set (Metric)</b>	LACK ROBOT 32-Piece 1/2" Drive Metric Socket Set, 6-Point(8mm-32mm) 12-Point(10mm-19mm), Socket Ratchet Wrench Mechanic Tool Set, CR-V Steel		3-5set	2
16	<b>Socket Set 3/4"</b>	Normal 6 to 12mm (12point) KATSU 3/4" Socket Set 21 Pieces, 19-50mm Metric 12 Point Ratchet Wrench 24 Teeth in Steel Case		3-5set	2
17	<b>Ratchets (1/4", 3/8", 1/2", And 3/4" Drives)</b>	1/4" drive deep sockets in: 6mm,7mm,8mm,10mm,12mm Chromium-vanadium Steel		3-5set	2
18	<b>Impact Wrench (Electrical)</b>	Takuoo Cordless 1/2-inch Brushless Impact Wrench, Max Torque (1000N.m) 740Ft-lbs Electric Impact Gun w/2x 4000mAh Battery, Charger & 6 Sockets		3-5set	2
19	<b>Air Impact Wrench</b>	INGCO AIW12562 1/2" Drive Air Impact Wrench		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
20	<b>Air Flexible Hose Pipe</b>	Compressed Air Spiral Hose WENTS Coiled air Hose 6 m with Connector High Pressure Flexible Hose Spiral Duct red		5piece	3piece
21	<b>Impact Sockets Set</b>	SP Tools SP20320 Imp. socket Set 1/2 Drive 15 Piece Long Series – Metric		3-5set	2
22	<b>Rubber Insert Spark Plug Socket</b>	Magnetic or rubber insert to hold plugs (14mm, 15mm ,16mm, 21mm) Power built 2 Piece Magnetic Spark Plug Socket Set - 641870		5piece	3piece
23	<b>Locking Pliers (Vice Grips)</b>	Deli Curved Jaw Locking Pliers Material high-quality chrome vanadium steel (Cr-V) or high carbon steel 5 inch (125 mm) 7 inch (175 mm) 10 inch (250 mm)		3-5set	2
24	<b>Needle-Nose Pliers</b>	SHOWY 3pcs Jewelry Pliers Wire Cutter Pliers Needle Nose Pliers for Home Jewelry Making Wire Wrapping DIY Crafts (Size 5 inches 125 mm) PVC or rubber-coated		3-5set	2
25	<b>Slip-Joint Pliers</b>	Insulated Slip-Joint Pliers - Straight Jaws Chrome-vanadium steel body. Size (Common Lengths): 6 inch (150 mm) 8 inch (200 mm) Chrome Vanadium Steel (Cr-V)		3-5set	2
26	<b>Diagonal Wire Cutter</b>	Dykes 4.5" Side Cutter Diagonal Wire Cutting Pliers Diagonal Wire Cutter Side Cutting Pliers (wire cutter)		3-5set	2

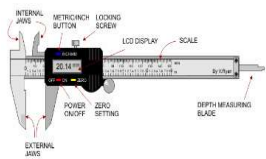





S. No	Tool	Specification	Image	CBT	Non-CBT
27	<b>Bolt Cutting Plier</b>	Bolt Cutter Pliers Set, Industrial 14" Bolt Cutter + Mini 8" Bolt Cutter + 8" High Leverage Cable Cutter with Easily Cut Locks Chromium vanadium steel		3-5set	2
28	<b>Snap-Ring Pliers Set</b>	INGCO 4pcs Snap Ring Pliers Set 7 Inch Circlip Pliers Set Heavy Duty Internal/External Pliers Kit Straight/Bent Jaw Size: Each plier is 7 inches (180mm) in length Material: Constructed from carbon steel for durability and strength		3-5set	2
29	<b>Hose Clamp Pliers</b>	Hose Clamp Pliers Swivel Flat Band Flat-Band Ring-Type Car Water Pipe Removal Tool Size: Length: Typically, these pliers measure approximately 8 to 9 inches (200 to 230 mm) high-quality carbon steel		3-5set	2
30	<b>Flathead Screw Driver Set</b>	Kobalt-18-Piece-Plastic-Handle-Magnetic-Assorted-Screwdriver-Set 1/8-inch x 2-1/2 inch 3/16-inch x 4 inch 3/16-inch x 6 inch (Cabinet) 1/4-inch x 4 inch 1/4-inch x 6 inch 5/16-inch x 8 inch 3/8-inch x 8 inch		5-10 set	8
31	<b>Phillips Screw Driver Set</b>	STANLEY Cushion Grip Screwdriver PH0 x 60 mm PH1 x 75 mm PH2 x 100 mm PH3 x 150 mm		5-10 set	8
32	<b>Trox Socket Set</b>	DURATECH 23-Piece Torx Bit Socket and External Torx Socket Set, 8 Star Sockets, 7 Female E-Torx		3-5set	2






S. No	Tool	Specification	Image	CBT	Non-CBT
33	<b>Precision Screwdrivers</b>	Miniature flat/Torx/Phillips sets Precision Screwdriver Set 32 pieces SL1.0, SL1.5, SL2.0, SL2.5, SL3.0, SL3.5, SL4.0 mm PH000, PH00, PH0, PH1 PZ0, PZ1 T4, T5, T6, T7, T8, T9, T10, T15, T20 H0.7, H0.9, H1.3, H1.5, H2.0, H2.5, H3.0, H4.0 mm Tip Extension Support ergonomic handle screwdriver Chrome Vanadium Steel (Cr-V)		3-5set	2
34	<b>Ball-Peen Hammers</b>	hammer with a rounded end on the other side of the normal flat face. features 2.5lb head sizes between 8-48 oz.		5piece	3piece
35	<b>Rubber Mallets</b>	Rubber Hammer 16OZ 24OZ		5piece	3piece
36	<b>Brass Hammers</b>	Brass Hammer Sledge, 2lbs, Fiber glass Handle		5piece	3piece
37	<b>Dead Blow Hammers</b>	65mm Dead-Blow Hammer Made of Nitrile rubber		5piece	3piece
38	<b>Piston Ring Compressors Tool Set</b>	TOPTUL Piston Ring Compressor 53-125 mm		3-5set	2
39	<b>T Handle Set</b>	Autoly T Handle Wrench Set 8mm, 10mm, 12mm, 14mm Hex Socket Key Wrench Set Chrome Vanadium Steel		3-5set	2

S. No	Tool	Specification	Image	CBT	Non-CBT
40	<b>Feeler Gauges</b>	Mitutoyo 184-307S Thickness Feeler Gage Set, Straight Leaves, 0.03 - 0.5mm Thickness, 100mm Length		3-5set	2
41	<b>Magnetic Trays</b>	Made of premium Stainless Steel Ideal tray for storing small parts, tools, nuts, bolts, screws and etc.		10 pieces	8piece
42	<b>Grease Guns</b>	Lever or pistol-grip, 6000 PSI Grease gun Material : 1.2mm Steel tube + Aluminum-Cast		2piece	1piece
43	<b>Funnel Set</b>	Plastic Funnel Set Premium 4 Piece Funnel Set Red Plastic Package Dimensions 16.26 x 11.68 x 9.4 cm; 27.21 g		5set	3set
44	<b>Oil Drain Pan</b>	Flo Tool 42003MI 16-Quart Drain Container		5piece	3piece
45	<b>Oil Filter Wrench</b>	QIBAOACR Belt Type Oil Filter Wrench Car Multi-Purpose Adjustable Filter removal Wrench Auto Engine Tools Motorcycle Repair Belt Wrench for Filter and Pipe 8 Inch Blue		3piece	2piece
46	<b>Gear Oil Gun</b>	NATIONAL SPENCER 321 5G GEAR OIL PUMP vinyl hose with curved nozzle Buna N seal		2set	1set
47	<b>Pick And Hook Sets</b>	Wadfow Pick and Hook Set - 4 Piece Set		3-5set	2


S. No	Tool	Specification	Image	CBT	Non-CBT
48	<b>Panel Remover Tool</b>	Premium 19-Piece Trim Removal Tool Kit for Easy Car Panel Door Audio Trim Removal Product Dimensions 13 x 9 x 2 inches		5set	3set
49	<b>Magnetic Pickup Tools</b>	GUTIMORE Flexible Magnetic Pickup Tool, 25" Long Bend-It Magnet Snake Pickup, Bendable Magnetic Pickup 2LB		5piece	3piece
50	<b>V- block Light Duty</b>	V-Blocks Dual-Vee Magnetic Product Model V Block Width(mm) 63 Depth(mm) 75 Height(mm) 75		3	2
51	<b>Brake Service Tool Kit</b>	Power built Brake Service Set, 15 Piece, Remove Springs, Adjust Vehicle Drum Brakes, Spread Disc Pads		2set	1set
52	<b>Star Allen Key Set</b>	Harden 18Pcs Long Hex & Torx Key Wrench Set 540618 18Pcs Long Hex & Torx Key Wrench Set xHex key wrench size range: 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10mm xTorx key wrench size range: T10, T15, T20, T25, T27, T30, T40, T45, T50		5set	3set



S. No	Tool	Specification	Image	CBT	Non-CBT
53	<b>Clutch Aligning Tool</b>	Clutch Alignment / Aligning Tool Fully Universal Metal - Metric 11 - 25mm & SAE sizes (1" and 1-1/8") f		2set	1set
54	<b>Allen Key Set</b>	Total Hex Keys Set Alloy Steel Package Dimensions 31.3 x 18.9 x 3.2 cm; 1.05 kg		5set	3set
55	<b>Ball Joint Puller</b>	Hazet 1779-1 Universal Ball Joint Puller Product Dimensions 6.5 x 3.99 x 8 cm; 45.36 g		2	1
56	<b>Brake Caliper Piston Puller</b>	Blue Spot Tools Brake Disc Caliper Piston Spreader Tool Blue Spot 3-in-1 Brake and Pipe Bender (6mm, 8mm, 10mm)		5	3
57	<b>Catch Pan (Tray) Set</b>	Oil-resistant plastic, 3-5 tray sizes, 5L+ capacity each		12piece	8piece
58	<b>Hake Frame</b>	Polished Metal Hacksaw Frame, For Cutting Item Length: 300 millimeters, Item Weight: 0.3615 kilograms		12piece	8piece
59	<b>Impact Screwdriver Set</b>	1/2" Manual Hand Impact Driver Set Extractor-12 PCS Impact Screwdriver S2 Steel Much More Durable Disengage Rusted Fasteners or Frozen Bolts Manual Reversible Impact Driver Set 7.8"L x 2.5"W x 2"H		5set	3set

S. No	Tool	Specification	Image	CBT	Non-CBT
60	<b>Digital Vernier Caliper</b>	Electronics Digital Vernier caliper 0-150mm Size:245 x 80 x 12mm		5set	3set
61	<b>Electric Angle Grinder</b>	Electric Angle Grinder Tool 4-12 inch, 8.5A 12000RPM with 115mm 3pcs Grinding Wheel Package Dimensions 13.78 x 6.5 x 4.72 inches		1	1
62	<b>Electric Drill Machine</b>	DEWALT 6401-10A Electric Drill 10mm Model: 6401-10A No-load Speed: 0-2500 RPM		3set	2set
63	<b>Pedestal Drill Machine</b>	Drilling Machine with Pedestal Type Max. drilling capacity (Iron/steel) Pedestal Drill Machine: A floor-mounted drilling machine (approx. 1000×600×1700 mm) used for precise vertical drilling in metal, wood, or plastic, featuring adjustable table height and variable speed control		1	1
64	<b>Portable Welding Machine</b>	S7 200Amp ARC Stick Welder for Beginners - 110V with Welding Rod Tools Product Dimensions 12 x 8 x 9 inches		1	1
65	<b>Portable R Gas Welding Station</b>	Premium Quality British Made Equipment Everything you need apart from the oxy-acetylene cylinders Available with or without portable gas cylinder trolley Ideal for refrigeration engineers etc.		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
66	<b>Cooling System Pressure Tester</b>	28PCS Universal Radiator Pressure Tester & Vacuum Type Cooling System Kit Material: High-Quality Aluminum, Rubber, Plastic Suitcase Dimension: 23 "(L) x 18.9"(W) x 4.3"(H) Coolant Pipe Length: 59"(L)		2set	1set
67	<b>Engine Compression Tester (Petrol Engine)</b>	Compression Tester Kit 0-300 PSI Petrol Gas Engine Cylinder Pressure Gauge Automotive Tool for Motorcycle Car Truck From compatibility: vier Adapter (M10 x 1.0 mm, M12 x 1.25 mm, M14 x 1.25 mm, M18 x 1.5 mm)		2set	1set
68	<b>Engine Compression Tester (Diesel Engine)</b>	17pc Professional Diesel Engine Cylinder Compression Tester Tool Set Kit 1000PSI Case Size: Length: ~14 to 16 inches (355 to 406 mm) Width: ~10 to 12 inches (254 to 305 mm) Height: ~3 to 4 inches (76 to 102 mm)		2set	1set
69	<b>Fuel Pressure Tester Kit</b>	BETOOLL Fuel Pressure Test Kit - Fuel Pressure Gauge - 0-100PSI Fuel Injection Pump Pressure Tester Gauge Kit for Car Case Size: Length: ~12 inches (305 mm) Width: ~9 inches (230 mm) Height: ~3 inches (76 mm)		2set	1set
70	<b>Engine Oil Pressure Tester</b>	Oil Pressure Tester Tool, Oil Pressure Gauge kit, 0-140 PSI Pressure Test Diagnostic Tools, Engine Oil Pressure Tester Tool kit, for car Truck (Blue)Case Size: Length: ~12 inches (305 mm) Width: ~9 inches (230 mm) Height: ~3 inches (76 mm)		2set	1set








S. No	Tool	Specification	Image	CBT	Non-CBT
71	<b>Digital multi-Meter</b>	UNI-T UT33D+ Plus Digital Multimeter 1 x UNI-T UT33D+ Digital Multimeter 2 x Test Leads 1 x Protective Cover		5piece	3piece
72	<b>Voltage Tester</b>	AWBLIN Automotive Test Light - Digital LED Circuit Tester Package Dimensions 10.16 x 2.44 x 1.65 inches (25.8 x 6.2 x 4.2 cm); 7.41 ounces (210.07 grams)		5piece	3piece
73	<b>Digital Battery Tester</b>	LAUNCH BST-860S Battery Tester with Printer, 12V 24V Dimensions: 29 x 23 x 9.4 cm; 500 g		5piece	3piece
74	<b>Battery Booster Jump Starter</b>	Car Battery Jump Starter - Fly Auto 1800 Amp 12V 24V Heavy Duty Product Dimensions (L x W x H) 11.5"D x 8.5"W x 14.5"H (29.2 x 21.6 x 36.8 cm)		1set	1set
75	<b>Soldering Station</b>	TOAUTO DS882 2-in-1 Soldering Station & Hot Air Rework Kit Package Dimensions 11.22 x 8.9 x 4.92 inches		2set	1set
76	<b>Battery Jumper Led</b>	NOONE Jumper Cables for Car Battery Starting Dead or Weak Batteries 10-Feet 10-Gauge		2set	1set
77	<b>Universal Efi Diagnostic Scanner</b>	Launch X431 PRO 5 OBD2 Scanner Diagnostic Tool Support ECU Programming 2025 Launch new exclusive released automotive diagnosis toll		2	1







S. No	Tool	Specification	Image	CBT	Non-CBT
78	<b>Safety Shoes</b>	Safe toe M-8356RB SBP SRC Electrical Hazard EH & Heat Resistant HRO High Ankle Safety Shoes		25 pairs	25 pairs
79	<b>Safety Goggles</b>	INGCO HSG02 Safety Goggles 16Pcs/Box Handyman		25 pairs	25 pairs
80	<b>Overall Apron (Dangri)</b>	Cotton Safety Dangri Suits		25 pairs	25 pairs
81	<b>Dotted Hand Gloves</b>	Gloves BLUE Dotted for Bikers & Winter season		25 pairs	25 pairs
82	<b>Insulated Rubber Gloves</b>	NOVAX NOVAXC00ORN – RUBBER INSULATING GLOVES (size 8,9,10,11)		25 pairs	25 pairs
83	<b>Respirator</b>	3M 6800 Plus 2 Filter Reusable Full Face Mask Respirator		5piece	3piece
84	<b>Safety Helmet</b>	Un breakable Polycarbonate Yellow Air Ventilated Safety Helmets		25 pairs	25 pairs
85	<b>Fire Extinguisher</b>	Dry powder/CO <sub>2</sub> type, 4–9 kg capacity, ISI certified		8	5
86	<b>Hydraulic Floor Jacks</b>	GEC Low Profile Hydraulic Floor Jack 3.5 Ton 2 Pump 105-520mm Height		2piece	1piece
87	<b>Jack Stands</b>	BIG RED T46202 Torin Steel Jack Stands: 6 Ton (12,000 lb) Capacity, Red		6	3piece

S. No	Tool	Specification	Image	CBT	Non-CBT
88	<b>Transmission Jacks</b>	Dragway Tools 1000 LB 2 Stage Hydraulic Transmission Jack Lift Hoist with Foot Pump		1 piece	1piece
89	<b>Garage Creeper</b>	PM PERFORMOTOR 48" Folding 2 in 1 Rolling Z Creeper Alloy Steel		5piece	3piece
90	<b>Wheel Balancing Machine</b>	BFH1000 Wheel Balancer Mount the wheel with patented Power Clamp Dimensions: Width: 64 inches (1626 mm) Depth: 64 inches (1626 mm) Height: 64 inches (1626 mm)Wheel Compatibility: Diameter Range: 8 to 30 inches Width Capacity: Up to 21 inches Maximum Assembly Weight: 154 lbs (70 kg)		1 no	1
91	<b>Wheel Alignment Machine</b>	Aston Wheel Alignment Machine Alignment Machine Wheel Alignment System Wheel aligner. 3D Fully Automatic. Dual Screens. Estimated Dimensions: Length: ~64 to 72 inches (1625 to 1830 mm) Width: ~72 to 80 inches (1830 to 2032 mm) Height: ~72 to 80 inches (1830 to 2032 mm)		1 no	1
92	<b>Siccar Lift</b>	Bay Max 12K Specifications: Capacity: 12,000 lbs (5.4 tons) Overall Length: 242-3/4 inches (6,166 mm) Deck Length: 185 inches (4,700 mm) Overall Width: 91-1/2 inches (2,324 mm)		1 no	1
93	<b>Two Post Lift</b>	Stainless Steel Two Post Car Service Lifts, 4-6 tons Max Lifting Height 1830 mm Min Lowering Height 110 mm Width Between Two Posts 2800 mm		1	1


S. No	Tool	Specification	Image	CBT	Non-CBT
94	<b>Air Compressor</b>	Pacific Ranger Large Size Electric Industrial Air Compressor Approx. measurements: 6'L x 45. 5"H x 28"D Max. pressure: 175 PSI - Power: 600V, 3-phase, hardwire connectivity		1	1
95	<b>Digital Tire Pressure Gauge</b>	Astro AI Digital Tire Pressure Gauge with Inflator Material Stainless Steel, Brass Item dimensions L x W x H 8.26 x 3.15 x 3.34 inches		2set	1set
96	<b>Automotive Tire Inflator</b>	G5 Rainproof Gasoline Station Wall Mounted Automatic Digital Tyre Air Inflator Dimensions (Height x Width x Depth) 290mmx230mmx120mm 11.4"x9.1"x4.7"		1	1
97	<b>Tire Changer Machine</b>	Tire Changer Machine 74"w x 44"d x 81"h Footprint 110-175 psi, 15 Air Motor		1	1
98	<b>Digital Wheel Tread Thickness Gauge</b>	Digital Tire Tread Depth Gauge 0 - 25.4 (0 - 1") Auto-on and 5 minutes auto-off, extending battery life		5set	3set
99	<b>Car Paint Coating Thickness Detector Tester</b>	Car Paint Coating Thickness Tester Pen Material: Metal Package Contents: 1 x Paint Thickness Tester		03Set	3set
100	<b>Ac Leak Detector</b>	The detector de fugas de refrigerant detects [HCFCs: R22, R123, R124, R502 etc.] [HFCs: R134a, R404a, R125, R438a etc.] [HFOs: R1234 etc.] [HCs (Hydrocarbon): R290, R600a etc. 5%hydrogen/95% nitrogen Racer Gas		1	1

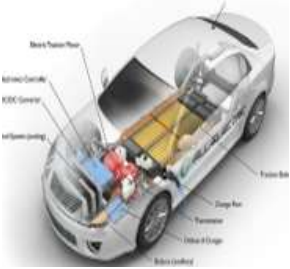



S. No	Tool	Specification	Image	CBT	Non-CBT
101	<b>Ac Gas Installation &amp; Recovery Machine Launch</b>	Smart R134a Refrigerant Gas Charging Machine Car Single package size: 73X67X136 cm		1	1
102	<b>A/C Manifold Guage Set</b>	R134a Aluminum Manifold Gauge Set - 60" Hose(3) 60" Nylon Barrier Hoses – SAE Approved (1) Blow-Molded Case		3set	2set
103	<b>Exhaust Gas Analyzer</b>	NOVA Plus – Portable Emission Analyzer Industrial combustion and emissions tuning, trouble-shooting or compliance reporting Simultaneous measurement up to 8 gases		1	1
104	<b>Injector Cleaner and Testing Machine</b>	Launch - CNC-603A 2 in 1 Automatic Injector Cleaner & Tester Power: AC110V-127V, 50Hz/60Hz 3Amax or AC220V-230V, 50Hz/60Hz 1.5Amax		1	1
105	<b>Spark Plug Test Machine</b>	LUTIFIX Automotive Spark Plug Tester, 110V Spark Plug Detector Diagnostic Tool Diagnostic Scanner Vehicle Detector for 12V Vehicles		1	1
106	<b>Bench Vice</b>	Wadflow WBV1A04 Bench Vice body cast iron Size200mm (8")		6piece	3piece
107	<b>Brake Bleeder Kit</b>	WNZ Brake Bleeder kit Master Cylinder Bleeder Kit Pressure Brake Bleeder Tool (5L) Product Dimensions 15 x 10 x 13 inches		1	1







S. No	Tool	Specification	Image	CBT	Non-CBT
108	<b>Hydraulic Press</b>	Capacity Stroke Space Interval Bed Rail Opening Post Opening Base Width Height Ship Weight 50 Tons 7" 5-1/2" 9" 32" 44" 68" 672 lbs.		1	1
109	<b>Overall Computer System with Projector</b>	Desktop PC (i5/i7, 8GB+ RAM, 500GB SSD), HD projector (3000+ lumens, HDMI/VGA input), screen		1	1
110	<b>Oscilloscope</b>	Pico Scope Automotive Oscilloscopes Multiple Measurements Voltage Current Pressure Noise and Vibration 12-bit oscilloscope 16x better than 8 bits		1	1
111	<b>Automotive Back camera Model Trainer</b>	Car Sideview Backup Camera System Dimensions (L x W x T) (218 x 149 x 82mm)		1	1
112	<b>Battery Tester</b>	KZYEE KS21 Battery Tester 12V 100-2000 CCA Auto Car Battery Load Test Digital Analyzer for Detect Health Faults, Cranking and Charging System		1	1
113	<b>Battery Jump Starter</b>	10Ah 12V Portable Power Station & Emergency Jump Start With 300PSI Air Compressor (Petrol 2500cc/Diesel 2000cc)		1	1
114	<b>Complete Security Alarm System Trainer</b>	Liuhawk Car Security Alarm System with Immobilizer Key Fit For: 12V battery car, van, pickup truck, SUV, etc., general purpose products Operating Voltage: 12V±3V		3set	2set

S. No	Tool	Specification	Image	CBT	Non-CBT
115	<b>Key Programmer Device</b>	Launch X431 IMMO Key Programmer Remote Maker with 1 Super Chip and 4 Smart Key		1	1
116	<b>All Data Electrical Software Programmer Device</b>	Alldata Diagnostics 22.00cm x 20.00cm x 20.00cm		1	1
117	<b>Iprog Programmer</b>	Aramox IPROG Pro V87 ECU Programmer Package Dimensions 26.7 x 19.5 x 8.4 cm; 970 g		1	1
118	<b>Universal Efi Diagnostic Scanner</b>	Launch X431 PRO 5 OBD2 Scanner Diagnostic Tool Support ECU Programming 2025 Launch new exclusive released automotive diagnosis toll		2	1
119	<b>4-Stroke Engine Cycle Trainer Model</b>	4 Stroke Single Cylinder Petrol Engine The section model represents a real 4-stroke petrol engine, cut in every detail, carburetor, ignition, etc. The suction-exhaust-transfer channels are especially highlighted so as to make it easy to learn the cycle.		1	1
120	<b>2-Stroke Engine Cycle Trainer Model</b>	Two-stroke engine, cross-section model Cross-section models on bases Every model includes a flywheel, for illustrating valve control and fuel injection, with built-in lamps Base dimensions: approx. 205x210 mm, height: approx. 350 mm		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
121	<b>Carburetor Engine Trainer Model</b>	Engine Structure Training Equipment (Carburetor Type): Educational model featuring a 4-cylinder gasoline engine with carburetor for hands-on training.		2	1
122	<b>Diesel Engine Trainer Model</b>	Diesel Engine Bench – Trainer (TIER 4F) ConsuLab's Diesel Engine Training Bench HV-950-C4.4 is a fully functioning Caterpillar C4.4 Diesel Engine bench mounted on a mobile steel stand		2	1
123	<b>Diesel Engine (Half-Cut) Vehicle Trainer</b>	Diesel engine vehicle trainer is a valuable educational tool used in automotive training program (Diesel engine with gear box, complete electrical wiring, fuel system, turbo charger, lubrication system, cooling system, exhaust system		1	1
124	<b>Efi Engine Trainer Model</b>	2018-2014 Corolla 1.8L engine trainer with AC The ConsuLab EM-140C-TYO2A engine trainer is a fully functional recycled engine mounted on a mobile stand. (All sensors, All actuators, Speed meter, Fuse box, relay box, with diagnoses connector starting condition		2	1
125	<b>Efi Half-Cut Vehicle Trainer Model</b>	Efi half cut vehicle trainer part specifying model Engine Control Unit (ECU) ECU Electronic control Unit Relay Box Fuse Box Ignition Switch Sensors		1	1
126	<b>Turbocharger Trainer Model</b>	The Turbine Engine Trainer is a compact, educational model with a DC motor-driven compressor, providing over 12 kg of thrust for training purposes.		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
127	<b>Power Window Trainer Model</b>	Power Window System Single package size: 90X60X130 cm		1	1
128	<b>Distributor Contact Breaker Point Trainer Model</b>	The trainer consists of an Ignition coil, distributor, set of spark plugs & 12 V DC power supply		1	1
129	<b>Electronic Distributor Trainer Model</b>	Electronic Ignition Trainer: A compact (approx. 800×500×400 mm) training unit with ECU, coils, spark plugs, and RPM control to demonstrate modern automotive ignition systems.		1	1
130	<b>Automotive Air-Cooling Trainer Model</b>	Automotive Air Conditioning Trainer Includes monitor to displaying the wiring diagram, thermometer, and measurement of pressure refrigerant Front panel to help students see what they are controlling Measurement depend on a vehicle		1	1
131	<b>Magnetic Torch</b>	LED Work Light, CRI 95+, Rechargeable Magnetic Base Emergency Light for Reading, Camping, Garage, Car Engines Repair and All Tight Spots Material: PC, rubber & Aluminum		5piece	3piece
132	<b>Extension Lead</b>	Extension lead (Size:50M)		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
133	<b>Electric Vehicle Trainer Model</b>	with Electric Vehicle Training System is designed to be built, tested, driven, and then disassembled class after class for real-world EV Training Lithium-Ion, Electric Vehicle		1	1
134	<b>Solar Power Electric Trainer Model</b>	Solar Power Electric Passenger Car with Air Conditioning Max Recharge Meal age 110-130km Specification 3450/1550/1630		1	1
135	<b>Hybrid In plug Vehicle Half Cut Trainer Model</b>	Educationally functioning parallel-type hybrid system running a 1.5L gas engine and nickel hydrogen motor powered by two external set of 120v electric motors. <b>Content Highlight</b> 1. Hybrid Engine 2. Power inverter system 3. Electric propulsion sensing system 4. Hybrid vehicle braking system 5. hybrid battery pack with all ECU		1	1
136	<b>Manual Transmission Cutaway Trainer Model</b>	5 Speed Gearbox with Clutch Cutaway Educational Trainer automotive training equipment for teaching and training purposes of automotive technology Operated: Manually (Through a Crank Handle) Equipment Layout: On Stand with Wheels Dimensions: 90 x 60 x 100(h) cm		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
137	<b>Automatic Transmission Cutaway Trainer Model</b>	RWD 5 Speed Automatic Transmission Cutaway 4 Gears and Reverse Casing Torque converter Oil pump Stationary plate clutch Rotary plate clutch Planetary gear train Hydraulic circuit valve Centrifugal regulator		1	1
138	<b>Manual Transaxle Cutaway Trainer Model</b>	FWD 5 Speed Manual Gearbox with Differential Cutaway Operated: Manually (Through a Crank Handle) Equipment Layout: On Stand with Wheels Dimensions: 60 x 60 x 60(h) cm Net Weight: 40 kg Gross Weight: 60 kg		1	1
139	<b>Automatic Transaxle Cutaway Trainer Model</b>	Automatic Transmission Educational Trainer Specifications Dimensions: 900 x 600 x 1000 mm (35.43 x 23.62 x 39.37 in) Transmission type: rear-drive, 4 Forward gears + Reverse Components: torque converter, oil pump, stationary plate clutch, rotary plate clutch, planetary gear train, hydraulic circuit valve, centrifugal regulator		1	1
140	<b>Automotive Electrical Trainer</b>	Wiring System Trainer, Electronic Ignition		1	1
141	<b>Automotive Self-starter Cut Way Model</b>	Starter Motor for Cars Cutaway Operated: Manually Equipment Layout: On Base Dimensions: 25 x 20 x 20(h) cm Net Weight: 6 kg Gross Weight: 10 kg		1set	1set
142	<b>Alternator Cut Way Trainer Model</b>	ALTERNATOR SINGLE-FLOW COOLING cutaway Educational Trainer		1	1

S. No	Tool	Specification	Image	CBT	Non-CBT
143	<b>Efi Electrical Trainer</b>	Battery ECU complete wiring with ecu, all connector, ignition switch with immobilizer system relay box, fuse box, Sensor, actuator, fuse box, diagnoses connector		1	1
144	<b>Ecu Module of Various Vehicle</b>	Different type Automotive ECU for training purpose Automotive Engine Control Module, Electronic Control Unit (ECM/ECU) Die-casting Aluminum		10piece	8piece
145	<b>Kabli Engine for Practice</b>	1500 cc Engine: A 4-stroke, 3- or 4-cylinder petrol engine, liquid-cooled and fuel-injected, producing approx. 60–100 HP, commonly used in compact cars.		1	1
146	<b>Diesel Engine for Practice</b>	1000 cc Diesel Engine: A 3-cylinder, turbocharged, common rail direct injection engine producing around 50–75 HP and 120–190 Nm torque		1	1
147	<b>Efi Engine for Practice</b>	EFI 1500cc Engine: A 4-cylinder, 1.5L petrol engine with Electronic Fuel Injection (EFI), producing around 90–120 HP and 130–150 Nm torque, known for fuel efficiency and used in cars like the Toyota Vios		1	1








## Lab 06: Consumable Materials of Advance Auto Machanic

(For Class Of 15 To 25 Students)

S. No	Tool	Specification	Image	CBT	Non-CBT
1	Engine Oil (Havoline 20W-50)	HAVOLINE		30 liters	25 liters
2	Carburetor Cleaner	NASA		10	8
3	Wd 40	WD-40		10	8
4	Tappet Cover Gasket as Per Sample Engine	M.D Japan		12	10
5	Complete Head Gasket	M.D Japan		12	10
6	Only Head Gasket (Double Size) As Per Sample Engine	M.D Japan		6	3
7	Petrol Fuel	Local		100 liters	80 liters
8	Diesel Fuel	Local		100 liters	80 liters

S. No	Tool	Specification	Image	CBT	Non-CBT
9	<b>Kerosine Oil</b>	Local		100 liters	80 liters
10	<b>Diesel Engine Oil (Delo 400Mgx)</b>	CALTEX DELO 400MGX		30 liters	25 liters
11	<b>12 Volt Battery S50</b>	12 VOLT BATTERY S50		5	3
12	<b>12 Volt Battery S100</b>	12 VOLT BATTERY S100		5	3
13	<b>Silicon</b>	GMSA		24	20
14	<b>Grease</b>	Caltex		10	8
15	<b>Elfi</b>	GMSA 20gm		1 box	1 box

S. No	Tool	Specification	Image	CBT	Non-CBT
16	<b>Magic Super Glue</b>	GMSA 4gm		1 box	1 box
17	<b>Insulation Tape</b>	Local (as per sample engine)		3 dozen	2 dozen
18	<b>Air Filter (As Per Sample)</b>	Local (as per sample)		5	3
19	<b>Petrol Pipe</b>	Local (as per sample)		50 ft	30ft
20	<b>Petrol Pipe Small, Medium Clips</b>	Local (as per sample engine)		3 dozen	2dozen
21	<b>Water Hose Pipe S,M</b>	Local (as per sample)		10	8
22	<b>Spark Plug Ngk 2 M.D Japan</b>	M.D Japan (as per sample)		1 box	1 box

S. No	Tool	Specification	Image	CBT	Non-CBT
23	<b>High Tension Leads</b>	M.D Japan (as per sample)		2box	2box
24	<b>Distributor Cap</b>	M.D Japan (as per sample)		2	2
25	<b>Piston Ring Set Size 25</b>	M.D Japan (as per sample)		10 pack	8 pack
26	<b>Carburetor Complete Gasket Kit</b>	M.D Japan (as per sample)		5 pack	3 pack
27	<b>Brake Oil Fuel Big Bottle</b>	GUARD DOT 3 500CC		2 dozen	2 dozen
28	<b>Battery Wire Black Color</b>	Local (as per sample engine)		50 ft	30 ft
29	<b>Battery Wire Red Color</b>	Local (as per sample engine)		50 ft	30 ft

S. No	Tool	Specification	Image	CBT	Non-CBT
30	<b>Bolt Size Kabli 17,10,14,19</b>	Local (as per sample engine)		1 box	1 box
31	<b>Battery Terminal</b>	Local (as per sample engine)		1 box	1 box
32	<b>Horn Thimble</b>	Local (as per sample engine)		1 box	1 box
33	<b>Plane Washer</b>	8mm, 10mm, 12mm, 14mm, 17mm Local		1 box	1 box
34	<b>Engine Coolant</b>	AISIN		20 liters	15 liters
35	<b>Oil Filter as Per Sample Engine</b>	GUARD		12	10
36	<b>Power Steering Fluid</b>	GUARD		1 box	1 box

S. No	Tool	Specification	Image	CBT	Non-CBT
37	Dangri	Kabli		25	25
38	Transmission Fluid	ZIC		20 liters	15 liters
39	Transmission Oil	ZIC		20 liters	15 liters
40	Wire Thimble Male & Female	Local (as per sample engine)		1 box	1 box
41	Nut	8mm, 10mm, 12mm, 14mm, 17mm, 19mm Local		3box	3box
42	10 No Bolt 1 Inch Length	Local (as per sample engine)		2box	2box
43	12 No Bolt 1 Inch Length	Local (as per sample engine)		2box	2box

S. No	Tool	Specification	Image	CBT	Non-CBT
44	<b>12 No Bolt 2 Inch Length</b>	Local (as per sample engine)		2box	2box
45	<b>14 No Bolt 2 Inch Length</b>	Local (as per sample engine)		2box	2box
46	<b>14 No Bolt 3 Inch Length</b>	Local (as per sample engine)		2box	2box
47	<b>17 No Bolt 4 Inch Length</b>	Local (as per sample engine)		2box	2box
48	<b>Battery Wire Positive Pole</b>	Local (as per sample engine)		2box	2box
49	<b>Diesel Fuel Pipe</b>	Local (as per sample engine)		50 ft	30ft
50	<b>Water Heater Hose Clamp Medium Size</b>	Local (as per sample engine)		1 box	1 box

S. No	Tool	Specification	Image	CBT	Non-CBT
51	<b>Cb Point as Per Sample Engine</b>	DANSO Local (as per sample engine)		6	3
52	<b>Generator Belt</b>	Local (as per sample engine)		3	2
53	<b>Cotton Waste</b>	Local (as per sample engine)		100kg	80kg
54	<b>Automotive Dotted Gloves</b>	Local (as per sample engine)		25	25
55	<b>Embrey Paper (0,2,4,6 Size)</b>	Local (as per sample engine)		5pack	4pack
56	<b>Thrust Bearing Standard Size (As Per Sample Engine)</b>	Local (as per sample engine)		2pack	2pack
57	<b>Big End Shell Bearing Standard Size (As Per Sample Engine)</b>	Local (as per sample engine)		2pack	2pack





S. No	Tool	Specification	Image	CBT	Non-CBT
58	<b>Fuel Filter</b>	Local (as per sample engine)		12	10
59	<b>Main Oil Seal (As Per Sample Engine)</b>	Local (as per sample engine)		6	5
60	<b>Crankshaft Oil Seal (As Per Sample Engine)</b>	Local (as per sample engine)		6	5
61	<b>Timing Belt (As Per Sample Engine)</b>	Local (as per sample engine)		3	2
62	<b>Petrol Pipe Small,Medium Clips</b>	Local (as per sample engine)		3 dozen	2dozen
63	<b>Wiring Harness Tape</b>	Electrical Tape Heat Resistant Harness Length: 15M Width: 9/15/19/25mm		2dozen	1dozen
64	<b>Anti Rust Spray</b>	DK Anti-Rust Lubricant Spray 100ML DK		1dozen	8piece

S. No	Tool	Specification	Image	CBT	Non-CBT
65	<b>Ac Gas R134A</b>	Best Cool Air Auto A/C Refrigerant Gas Specification 13.6kg/30lb		1cylinder	1cylinder
66	<b>Ac Compressor Oil</b>	HFC 134A Car Air Conditioner Compressor Oil Features and benefits Uniquely formulated for best performance. High-quality base oil and additives used.		1dozen	8piece
67	<b>Automotive Wire Size 2Mm</b>	Auto Cable 2mm, For Wiring Plain Copper Conductors		3pack	3pack
68	<b>Automotive Wire Size 4Mm</b>	Auto Cable 4MM, For Wiring Plain Copper Conductors		3pack	3pack
69	<b>Automotive Wire Size 6Mm</b>	Auto Cable 6mm, For Wiring Plain Copper Conductors		3pack	3pack
70	<b>Automotive Wire Size 10Mm</b>	Auto Cable 10MM, For Wiring Plain Copper Conductors		3pack	3pack
71	<b>Ignition Switch</b>	Local (as per sample engine)		6	4
72	<b>Self-Starter Motor Carbon Bush</b>	Local (as per sample engine)		1dozen	1dozen

S. No	Tool	Specification	Image	CBT	Non-CBT
73	<b>Alternator Carbon Bush</b>	Local (as per sample engine)		1dozen	1dozen
74	<b>Thimble Eye Type</b>	Local (as per sample engine)		2box	2box
75	<b>Thimble Detachable</b>	Local (as per sample engine)		2box	2box
76	<b>Soldering Wire</b>	Local (as per sample engine)		2box	2box
77	<b>Soldering Flux</b>	Local (as per sample engine)		1 box	1 box
78	Lamp 12V Dc Headlight 55 Watt Double Filament	Local (as per sample engine)		2dozen	1dozen
79	<b>Lamp Blub</b>	12V DC INDICATOR 21WATT Local (as per sample engine)		2dozen	1dozen

S. No	Tool	Specification	Image	CBT	Non-CBT
80	Lamp Blub	12 V DC BRAKE LIGHT 21 WATT Local (as per sample engine)		2dozen	1dozen
81	Dashboard	LIGHT 12V 5WATT Local (as per sample engine)		2dozen	1dozen
82	Fuse Blade Type Small	Blade type small (10 AMP, 15AMP, 20AMP, 30AMP Local (as per sample engine)		2pack	2pack
83	Fuse Blade Type Normal	Blade type normal (10 AMP, 15 AMP, 20AMP, 30AMP Local (as per sample engine)		2pack	2pack
84	Crankshaft Position Sensor	Crankshaft Position Sensor – Detects the position and rotational speed of the crankshaft to control ignition timing and fuel injection; typically operates on 5V or 12V, outputs digital signal (square wave or sine wave).		5	3
85	Camshaft Position Sensor	Camshaft Position Sensor – Monitors the position of the camshaft to synchronize fuel injection and ignition timing; typically operates on 5V or 12V, outputs digital signal (square wave or sine wave).		5	3
86	Knock Sensor	Knock Sensor – Detects engine knock or vibration to adjust ignition timing; typically operates on 12V, outputs analog voltage or frequency signal to ECU.		5	3






S. No	Tool	Specification	Image	CBT	Non-CBT
87	<b>Air Flow Sensor</b>	Air Flow Sensor (Mass Air Flow Sensor - MAF) – Measures the volume and density of air entering the engine for fuel-air mixture control; typically operates on 5V, outputs analog voltage (0.5–4.5V) or digital signal.		5	3
88	<b>Engine Coolant Temperature Sensor</b>	Engine Coolant Temperature Sensor – Monitors the temperature of engine coolant; typically uses thermistor technology, operating on 5V or 12V systems, outputs varying resistance or voltage (e.g., 0.5–4.5V).		5	3
89	<b>Oxygen Sensor</b>	Oxygen Sensor (O2 Sensor) – Measures the level of oxygen in exhaust gases to optimize fuel mixture; operates on 12V, outputs analog voltage (0.1–0.9V) or digital signal.		5	3
90	<b>Tps Sensor</b>	TPS Sensor (Throttle Position Sensor) – Measures the position of the throttle valve; typically operates on 5V, outputs analog voltage (0.5–4.5V) to ECU.		5	3
91	<b>Abs Sensor</b>	ABS Sensor – Monitors wheel speed for anti-lock braking; typically, hall-effect or magneto-resistive type; operates on 5V or 12V with digital (square wave) output.		5	3
92	<b>Parking Sensor</b>	Parking Sensor – Ultrasonic sensor detects obstacles by emitting sound waves; operates on 12V, outputs distance data via analog, PWM, or digital (CAN/LIN) signals.		5	3
93	<b>Rain Sensor</b>	Rain Sensor – Detects moisture on windshield to automate wiper operation; uses infrared reflection; typically powered by 12V and communicates via LIN or CAN.		5	3

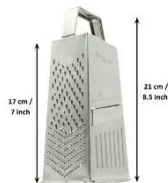




S. No	Tool	Specification	Image	CBT	Non-CBT
94	<b>Vehicle Speed Sensor</b>	Vehicle Speed Sensor – Detects rotational speed of wheels or transmission, sending digital pulses to ECU; operates on 5V or 12V systems.		5	3
95	<b>Oil Pressure Sensor</b>	Oil Pressure Sensor – Detects engine oil pressure; outputs analog (e.g., 0.5–4.5V) or digital signal to ECU; operates on 5V or 12V systems.		5	3
96	<b>Oil Level Sensor</b>	Oil Level Sensor – Monitors engine oil level in real-time; typically operates on 5V or 12V systems with analog or digital output to the ECU.		5	3
97	<b>Steering Clock Sensor</b>	Steering Clock Sensor – Measures steering wheel angle and rotation; vital for ESC, EPS, and airbag timing systems; operates typically on 5V or 12V systems.		5	3
98	<b>Glow Plug Diesel Engine</b>	12V Glow Plug Timer – Controls pre-heating duration of glow plugs in diesel engines, typically 5–30 seconds, operating at 12V DC.		12	10
99	<b>Glow Plug Timer</b>	Glow Plug Timer (12V) – Measurement Specification: Operating Voltage: 12V DC, typically $\pm 10\%$ (10.8V – 13.2V)		3	2
100	<b>Immobilizer Antenna Coil Assembly</b>	(as per sample)		2	1


## 6. Hospitality Sector








### Lab 01: Tools and Equipment of Professional Chef







(FOR CLASS OF 15 to 25 Students)

Sr.#	Items	Item Description	Image	CBT	Non-CBT
1.	<b>Knife Set</b>	<b>Knife Set</b> Professional Kitchen Knives, stainless steel blades Durable bolster, high quality Ergonomic handle, minimum spine thickness of chef knife of the set: 18 swg, Dishwasher safe Standard Dimensions: Chef's knife:11.5 inches long Serrated utility knife:11.5 inches long Filleting knife:9.5 inches long Santuko knife: 8.5 inches long Bird's peak paring knife: 7 inches long Sharpening steel: 10.5 inches long and scissor with knife stand		5	3
2.	<b>Cleaver/ Chopper</b>	<b>Cleaver/ Chopper</b> Stainless steel blade, Durable Bolster, high quality Ergonomic handle, minimum spine thickness of blade 16 swg. Standard Size: LxW: Min 10 x2.5 inches.		5	3
3.	<b>Butter Knife/ Palette knife</b>	<b>Butter Knife/ Palette knife</b> Stainless steel material, straight blade frosting knife with wooden handle, Minimum blade thickness 20 swg, length Min 14 inches and width 3 cm.		5	3
4.	<b>Icing Spatula</b>	<b>Cing Spatula</b> Stainless steel angled spatula for frosting and smoothing/icing on cakes, minimum 15 inch long with thickness of min 22 swg with blade width 4 cm.		5	3
5.	<b>Bread Slicing Knife</b>	<b>Bread Slicing Knife</b> Stainless steel material, serrated blade, wooden		5	3





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		handle, spine thickness min 20 swg, Standard length size: Min 16 inch long.			
6.	<b>Grater</b>	<b>Grater</b> Multi-functional Grater, main body material Stainless Steel with handle, grip for surfaces. Minimum Dimensions: 8.5-inch height and 4-inch bottom diameter.		5	3
7.	<b>Measuring Spoons and Cups set</b>	<b>Measuring Spoons and Cups set</b> Material stainless steel, minimum thickness 20 swg, set of 5 measurement spoons and set of 4 measurement cups		5	3
8.	<b>Measuring Jug</b>	<b>Measuring Jug</b> Minimum capacity 1500 millimeter		5	3
9.	<b>Chopping Board Set (Large)</b>	<b>Chopping Board Set (Large)</b> Material: Acrylic Polypropylene plastic (food grade plastic), color coded Standard dimensions: 60x40x2 cm Set of 5 Colors: whiter, green, yellow, red, blue. Dishwasher-safe		5	3
10.	<b>Chopping Board Set (Small)</b>	<b>Chopping Board Set (Small)</b> Material: Acrylic Polypropylene plastic (food grade plastic), color coded Standard dimensions: 48x35x1 cm Set of 5 Colors: whiter, green, yellow, red, blue. Dishwasher-safe		5	3
11.	<b>GN Pan 1/1</b>	<b>GN Pan 1/1</b>		5	3

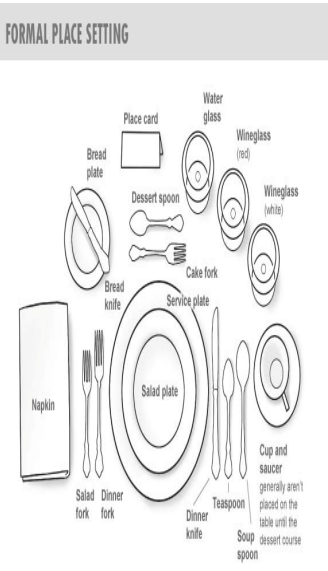


Sr.#	Items	Item Description	Image	CBT	Non-CBT
		Material stainless steel draw deep pan with lid, Standard dimensions: 21x13x2.5 inches, minimum thickness 21 swg			
12.	<b>GN Pan 1/2</b>	<b>GN Pan 1/2</b> Material stainless steel draw deep pan with lid, Standard dimensions: 10.5x13x2.5 inches, minimum thickness 21 swg		5	3
13.	<b>Karahi Large</b>	<b>Karahi Large</b> Material aluminum, polished, round bottom with two side handles, lid with handle, Standard size: upside diameter 32 cm, minimum thickness 14 swg		5	3
14.	<b>Karahi Small</b>	<b>Karahi Small</b> Material aluminum, polished, round bottom with two side handles, lid with handle, Standard size: upside diameter 27 cm, minimum thickness 14 swg		5	3
15.	<b>Bowls Large</b>	<b>Bowls Large</b> Material Stainless steel minimum 24 swg, shining finish. Standard size: Upper end diameter 12 inches		5	3
16.	<b>Bowls Medium</b>	<b>Bowls Medium</b> Material Stainless steel minimum 24 swg, shining finish. Standard size: Upper end diameter 8 inches		5	3
17.	<b>Bowls Small</b>	<b>Bowls Small</b> Material Stainless steel minimum 24 swg, shining finish.		5	3

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		Standard size: Upper end diameter 4 inches			
18.	<b>Tin Openers</b>	<b>Tin Openers</b> Stainless Steel Tin Can Cutter, heavy duty, minimum 6 inches long, handle partially covered with Bakelite.		5	3
19.	<b>Vegetable Peeler</b>	<b>Vegetable Peeler</b> Two-way stainless-steel blade peeler, minimum 6 inches long.		5	3
20.	<b>Potato Masher</b>	<b>Potato Masher</b> Stainless steel potato masher with handle, minimum length 10 inches, minimum thickness 14 swg, durable.		5	3
21.	<b>Baking trays</b>	<b>Baking trays</b> Material aluminum, high quality smooth finish, Standard size: 18x13 inches, Oven Safe.		5	3
22.	<b>Bread Mould Small</b>	<b>Bread Mould Small</b> Material: mild steel, Standard size: dimensions 8x4.5x4 inches, loaf pan with cover		5	3
23.	<b>Bread Mould Large</b>	<b>Bread Mould Large</b> Material: mild steel, minimum dimensions 10x5x5 inches, loaf pan with cover		5	3
24.	<b>Baguette pans</b>	<b>Baguette pans</b> Material: perforated steel, 20 swg, 5 loaves pan, minimum sizes: 22x15x2.15 inches		5	3








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25.	<b>Gun Lighter</b>	<b>Gun Lighter</b> Metallic gun lighter to ignite burners, minimum 11 inches long.		5	3
26.	<b>Lemon Squeezer</b>	<b>Lemon Squeezer</b> Material: Stainless Steel, durable with heavy squeezing part and handles, Minimum length 6 inches.		5	3
27.	<b>Ice cream Scoop</b>	<b>Ice cream Scoop</b> Material cast Aluminum, minimum 6.5 inches long		5	3
28.	<b>Pressure Cooker</b>	<b>Pressure Cooker</b> Industrial Aluminum Induction Base Pressure Cooker minimum capacity 11 Liter Body Material: Aluminum, Bottom: Induction bottom Side handle: Heat resistant black Bakelite handle Valve: Safety silicon valve / seal, Thickness: minimum 10 swg, Inner finished: Mirror polished outside & satin polished inside.		5	3
29.	<b>Stainless Steel Sauce Pan</b>	<b>Stainless Steel Sauce Pan</b> Material Stainless Steel, mirror polish outside, satin finish inside, minimum diameter 18 cm, minimum thickness 20 swg, thicker base. Solid handle underneath Bakelite coating. See through lid with Bakelite handle		5	3
30.	<b>Aluminum Sauce Pan Large</b>	<b>Aluminum Sauce Pan Large</b>		5	3








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		Material Aluminum, pans with wooden handle, lid with handle, minimum thickness 14 swg, Standard size: diameter 20 cm.			
31.	<b>Aluminum Sauce Pan Small</b>	<b>Aluminum Sauce Pan Small</b> Material Aluminum, pans with wooden handle, lid with handle, minimum thick 14 swg, minimum diameter 16 cm		5	3
32.	<b>Aluminum Fry Pan Medium (10-inch diameter)</b>	<b>Aluminum Fry Pan Medium (10-inch diameter)</b> Material: Aluminum with wooden handle, minimum thickness 14 swg, Standard size: diameter 26 cm.		5	3
33.	<b>Non-Stick Fry Pan</b>	<b>Non-Stick Fry Pan</b> Material nonstick coated pans, minimum thickness 12 swg, smooth pan finish, handle made of stainless steel, Standard size: diameter 28 cm		5	3
34.	<b>Non-Stick Cooking Spoon Set</b>	<b>Non-Stick Cooking Spoon Set (Set of 2)</b> Set of 2 high-quality non-stick cooking slotted spoon and longitudinal slotted spatula set, stainless steel handle, smooth finishing, minimum length 12 inches.		5	3
35.	<b>Cooking Pot Small</b>	<b>Cooking Pot Small</b> Material Aluminum, high quality finish, two side handles, lid with handle, Standard size: diameter 32 cm and height 28 cm, minimum thickness 14 swg		5	3
36.	<b>Cooking Pot Large</b>	<b>Cooking Pot Large</b> Material Aluminum, high quality finish, both side handles, lid with handle, Standard size: bottom		5	3

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		diameter 42 cm and height 24 cm, minimum thickness 14 swg			
37.	<b>Steamer</b>	<b>Steamer</b> Material: Stainless Steel, 4 Piece Steamer, Double Storied, mirror polish outside, satin polish inside, minimum thickness 22 swg, Standard size: diameter 30 cm and height 22 cm, Two Bakelite handles to each stories, see through lid with Bakelite handle on top.		5	3
38.	<b>Cast Iron Grill Medium size</b>	<b>Cast Iron Grill Medium size</b> Material cast Iron with high quality coating, minimum thickness 8 swg, rectangular-shaped grill with polished metal handle. Standard size: 35 cm.		5	3
39.	<b>Cutlery (Set)</b>	<b>Cutlery (Set)</b> Stainless steel, magnet free, round edges, mirror polish finish, commercial grade hotel and restaurant quality, minimum gauge 12 swg, all items of the same grade, minimum length of each cutlery item is as below: Sugar Spoon 14cm (8 numbers) Tea Spoon 14cm (36 numbers) Table Spoon 18cm (36 numbers) Table Fork 19cm (36 numbers) Table Knife 20cm (36 numbers) Serving Curry Spoon 22cm (8 numbers) Serving Rice Spoon 22cm (8 numbers)		5	3

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		Rice Spoon 24cm (36 numbers) Soup Ladle 23cm (8 numbers)			
40.	<b>Crockery (Set)</b>	<b>Crockery (Set)</b> Shape round, dishwasher safe, microwave safe, Material: porcelain, hotel and restaurant-ware, solid pattern, color white, all items of the same grade, 48 x 12-inch Platter 48 x 10-inch Dinner Plate 48 X 8 –inch Curry Plate 48 X 8 –inch Quarter Plate 48 x 7-inch BnB/Salad Plate 8 x 7-inch Half Serving Bowl 8 x 14-inch Rice Serving Dish 24 x 4.5-inch Soup Bowl 24 Tea Cup 6 Tea Pot (size(capacity) ~4 cups) 6 Sauce Boat (Lamp) (Length 14 cm x Height 7cm) 24 Saucer for Tea Cup and Soup Bowl 24 X 2.5-inch Ramekin 6 x set Salt, Pepper (each of –oz size) and Tooth Pick Pot 6 Sugar pot with lid (minimum capacity 240 mL) 6 Milk Pot (minimum capacity 240 mL) 24 Soup Spoon	 <p>FORMAL PLACE SETTING</p>	5	3
41.	<b>Fry Jali</b>	<b>Fry Jali</b> Stainless Steel wire strainer with wooden handle, frame wire of minimum 10 swg, Standard size: length 65 cm and diameter 25 cm.		5	3
42.	<b>Stainless Steel Strainer</b>	<b>Stainless Steel Strainer</b> Stainless steel wire strainer with stainless steel cylindrical handle, Standard size: length 40 cm, strainer minimum diameter 15 cm		5	3

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43.	<b>Rice Strainer</b>	<b>Rice Strainer</b> Stainless steel rice strainer, minimum upside diameter 15.5 inches		5	3
44.	<b>Sieve set (Set of 4)</b>	<b>Sieve set (Set of 4)</b> Steel sieves of minimum diameters 27 cm, 24 cm, 19 cm and 5 cm.		5	3
45.	<b>Tea Strainer</b>	<b>Tea Strainer</b> Stainless steel material, minimum sizes length 20 cm and head diameter 8 cm.		5	3
46.	<b>Ladle Strainer</b>	<b>Ladle Strainer</b> Stainless steel wire strainer for pasta boiling. Minimum length 12 inches and minimum strainer dimensions mouth diameter 3 inch and height 4 inches.		5	3
47.	<b>Cake Tin Set</b>	<b>Cake Tin Set</b> Enameled, loose bottom, good quality smooth finish, durable. Sizes: set of three Mo diameter 22 cm, 24 cm, 6 cm		5	3
48.	<b>Cake Stand</b>	<b>Cake Stand</b> Revolving cake plate made of aluminum (minimum thickness 8 swg), minimum diameter of the plate 12 inches, durable base		5	3
49.	<b>Pizza Pan Medium</b>	<b>Pizza Pan Medium</b> Thick pan coated with nonstick material, Standard size: size of the tapered is pan 9",10", with lid of the same material and wooden liner.		5	3



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50.	<b>Rolling Pin</b>	<b>Rolling Pin</b> Material: Stainless steel with stainless steel handles, minimum length and diameter of rolling pin without handles are minimum 24 cm and 7 cm.		5	3
51.	<b>Tissue Paper Dispenser</b>	<b>Tissue Paper Dispenser</b> Plastic body hygiene tissue paper dispenser, partially see through, minimum dimensions 8x13x3 inches		5	3
52.	<b>Soap Dispenser</b>	<b>Soap Dispenser</b> Push type liquid soap dispenser, plastic body, minimum capacity 500 mL.		5	3
53.	<b>Wire Whisk Small and Large (Set of Two)</b>	<b>Wire Whisk Small and Large (Set of Two)</b> Stainless Steel Material with stainless steel handle, minimum length 14 inches and 18 inches and minimum wire thickness 14 swg.		5	3
54.	<b>Meat Hammer</b>	<b>Meat Hammer</b> Material Aluminum, minimum length 25 cm, block face dimensions 5.5 cm square, two sides meat tenderizer one flat and other with prongs on.		5	3
55.	<b>Wire Brush/Grill Brush</b>	<b>Wire Brush/Grill Brush</b> Steel wire brush for clearing grill, smooth wooden handle, minimum length of brush 11 inches.		5	3
56.	<b>Dust Bin</b>	<b>Dust Bin</b> Material HDPE (High Density Polyethylene), Standing type with pedal and lid cover, Minimum capacity 45 liters, color yellow.		5	3
57.	<b>Egg Cutter</b>	<b>Egg Cutter</b> Material stainless steel, heavy duty		5	3




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58.	<b>Bread Basket</b>	<b>Bread Basket</b> Minimum diameter 8.5 inches		5	3
59.	<b>Bakery Tong</b>	<b>Bakery Tong</b> Material: Stainless steel having two handles, one flat handle while other with hooked points to pick bakery products, minimum length 9 inches and handle thickness 18 swg		5	6
60.	<b>Small and Large (Set of Two)</b>	<b>Small and Large (Set of Two)</b> Material: stainless steel, two long plastics coated handles terminating to comb shape picking parts, minimum length 12 inches and 16 inches and thickness 20 swg.		5	3
61.	<b>Multi Lifter/Multi-purpose Spatula</b>	<b>Multi Lifter/Multi-purpose Spatula</b> Stainless steel flat blade spatula, minimum 12 inch long and thickness 20 swg. Minimum blade size: dimensions 13x8 cm.		5	3
62.	<b>Curry Spoon/ Karrchhi</b>	<b>Curry Spoon/ Karrchhi</b> Stainless steel round bowl cooking spoon with easy handle, minimum length 15 inch and thickness 18 swg		5	3
63.	<b>Slotted Spoon/Kafgeer</b>	<b>Slotted Spoon/Kafgeer</b> Stainless steel rice cooking spoon with easy handle, minimum length 16 inch and thickness 18 swg.		5	3
64.		<b>Bakery Scrapers/Spatulas set</b>		5	3






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	<b>Bakery Scrapers/Spatulas set</b>	Silicon scraper for bakery preparations, minimum 11 inches long. Stainless steel scraper for cutting doughs and collecting flour on the table, minimum dimensions 6 x 3 inches with Bakelite handle.			
65.	<b>Wooden Cooking spoon set</b>	<b>Wooden Cooking spoon set</b> Cooking spoon minimum 15 inch long and spatula minimum 15 inch in length		5	3
66.	<b>Fish Slicer/Palta</b>	<b>Fish Slicer/Palta</b> Stainless steel wide flat blade cooking spoon with longitudinal holes in blade, minimum length 16 inch and thickness 18 swg, hook hole at end of the handle to hang.		5	3
67.	<b>Cooking ladle</b>	<b>Cooking ladle</b> Stainless steel handle spoon terminating in a deep bowl, used for liquid foods, minimum length 14 inch and thickness 18 swg,		5	3
68.	<b>Mixing Bowl</b>	<b>Mixing Bowl</b> Material acrylic, minimum diameter 8.5 inches.		5	3
69.	<b>Cutlery Tray</b>	<b>Cutlery Tray</b> Material thick and a bit flexible plastic, 4 portions tray for cutlery items storage		5	3
70.	<b>Service Tray Round</b>	<b>Service Tray Round</b> Non-stick service tray of plastic with tray mat pasted inside to prevent slipping, spilling of beverages. Round shaped with minimum diameter 16 inches		5	3
71.		<b>Service Tray Rectangular</b>		5	3





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	<b>Service Tray Rectangular</b>	Non-stick service tray of plastic with tray mat pasted inside to prevent slipping of beverages. Rectangular shape with minimum dimensions 22x16 inches.			
72.	<b>Sauce Bottle</b>	<b>Sauce Bottle</b> Squeezing sauce bottles, made of plastic, minimum size 16 ounces.		5	3
73.	<b>Plastic Container</b>	<b>Plastic Container</b> Material: food grade Plastic container for food storage, transparent container with colored lid, minimum size 32x21x10 cm.		5	3
74.	<b>Stainless Steel Bucket</b>	<b>Stainless Steel Bucket</b> Material: Stainless steel, bucket with lid and handle, minimum capacity 5 liters.		5	3
75.	<b>Goblet Glass</b>	<b>Goblet Glass</b> High quality Smooth finish glass water goblet, minimum capacity 350 milliliter.		5	3
76.	<b>Plate Rack</b>	<b>Plate Rack</b> Material plastic, storage rack for plates, minimum capacity of racking 24 pairs of plates.		5	3
77.	<b>Vegetable Basket</b>	<b>Vegetable Basket</b> Plastic vegetable basket with minimum sizes 15 x 12 inches.		5	3
78.	<b>Goblet Rack</b>	<b>Goblet Rack</b> Material plastic, storage rack for goblets, minimum		5	3





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		capacity of racking 25 goblets.			
79.	<b>Bakery Glove</b>	<b>Bakery Glove</b> Material: silicon, minimum size 11 inches long and palm width 5 inches.		5	3
80.	<b>Sizzling Dish</b>	<b>Sizzling Dish</b> Wooden body with stainless steel pepper grinder mechanism, minimum size 20 cm height and 5 cm base diameter.		5	3
81.	<b>Muffin Tin</b>	<b>Muffin Tin</b> Enameled 12 tin piece tray, minimum size 38x27 cm, one tin approximately 4 cm dia and 3 cm depth		5	3
82.	<b>Pasta Maker</b>	<b>Pasta Maker</b> Manually operated pasta making machine, minimum length of the roller is 14.5 cm, table top, three sets of stainless-steel rollers, pasta shape, thickness variability operated by side knob		5	3
83.	<b>Upright Freezer</b>	<b>Upright Freezer</b> FC Free, air cooled, upright design, complete Structure, Interior & Exterior in Stainless Steel 201/202, 22 swg, with internal edges for easy sanitation. Electronic Thermostat Control, digital temperature		1	1




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		display, door hinges ensure fast recovery and energy saving, 100% copper coil condenser, easily removable gasket with high quality rubber, minimum capacity 650 liters, R600a gas, minimum insulation thickness 50mm, temperature maintaining -18 ~ -22 degree Celsius . voltage: 220 volts 50 hz. caster brake wheels. User manual, Complete installations, overall min 1 year warranty.			
84.	<b>Upright Refrigerator</b>	<b>Upright Refrigerator</b> CFC Free refrigerant, air cooled, upright design, complete structure, Interior & Exterior in Stainless Steel 201/202, 22 swg, internal edges for easy sanitation, 100% copper coil condenser, Electronic Thermostat Control, R600a gas, digital temperature display, door hinges ensure fast recovery and energy saving, easily removable Gasket with high quality rubber, minimum capacity 650 liters, temperature maintaining between +2 ~ +6 degree Celsius. voltage: 220 volts 50 hz. caster brake wheels. user manual, complete installations and overall min 1 year warranty		1	1
85.	<b>Dough mixer (10 liters)</b>	<b>Dough mixer (10 liters)</b> Casting body with Stainless steel bowl and attachment, high quality gear system, dough mixer of bowl volume minimum 20 liters. Producing power of minimum 0.75kw, kneading capacity upto 6 to 8 kgs. voltage: 220 volts 50hz. With three agitators: dough arm, beater & wire whip equipped with speed selector level, detachable bowl, Easy to operate & secure bowl locking		2	2





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		system to ensure safety, user manual, Complete installations and overall min 1 year warranty.			
86.	<b>Panini Grill</b>	<b>Panini Grill</b> Fitted with cast iron platers, constructed of stainless steel with a temperature controller switch that adjust temperature from 50 degree centigrade to 300 degrees centigrade. Including a removable stainless steel oil tray for easy cleaning. Size: 310 x 400 x 220 mm, two-piece grill set of minimum size 21x21 cm, thermostat control, long easy handle of stainless steel with partial plastic or rubber covering, Power: 2.5 kw. voltage: 220v, 50hz. user manual, Complete installations and overall min 1 year warranty.		5	3
87.	<b>Waffle Maker/Iron</b>	<b>Waffle Maker/Iron</b> Main body of Stainless steel 201, 22 swg, single draw head, thermostat control, timer control, high quality shell casted grills. minimum diameter of the head 21 cm, minimum dimensions: 250 x 350 x 260 mm, stainless steel wire handle, minimum voltage: 220 V 50 Hz, power: 1kw, user manual, Complete installations and overall min 1 year warranty		5	3
88.	<b>Meat Mincer</b>	<b>Meat Mincer</b> Stainless steel body, equipped with push button switch, accord with safety non-slip feet. Fixed stainless steel hopper with hand protection detachable feeding tray, 3 blades 3mm, 5mm, 8mm. minimum dimensions: 240 x 430 x 425 mm. 22 number machine volts: 220		2	2


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		volts 50 Hz, power: 1hp. user manual, Complete installations and overall min 1 year warranty.			
89.	<b>Water Boiler/ Tea Urn</b>	<b>Water Boiler/ Tea Urn</b> Capacity: 15 liters minimum, double jacket stainless steel draw bowl, without welding, thermostatic control, voltage: 220 volts 50hz, minimum power: 2000 watts, water tap with on/off light, with lid and handles and min 1 year warranty.		2	2
90.	<b>Microwave Oven</b>	<b>Microwave Oven</b> Minimum specification for microwave is capacity 25 liters, grill function, voltage 220 V, frequency 50 Hz, Microwave output power 900-Watt, grill power 1000-Watt, user manual, Complete installations and overall min 1 year warranty		2	2
91.	<b>Toaster</b>	<b>Toaster</b> Main body of stainless steel, minimum requirements are two slice toaster, voltage 220 V, 50 Hz, power 850-Watt, variable timer levels, user manual, 1 year warranty.		2	2
92.	<b>Blender/Juicer</b>	<b>Blender/Juicer</b> Three in one blending, juicing, grinding, minimum requirements are power 800-Watt, voltage 220 V, 50 Hz, two speeds one pulse, with suction feet to grip on surfaces, minimum jug capacity 1.7 Liters, user manual, 1 year warranty.		2	2
93.	<b>Hand Mixer</b>	<b>Hand Mixer</b> Min power 800-Watt, voltage 220 V, 50 Hz, with a 700 mL jug. Two turbo speeds and two speed levels, blade and rod of stainless material, handle made of plastic with partial stainless-steel plating, user manual, 1 year warranty		5	3




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94.	<b>Chopper</b>	<b>Chopper</b> Min power 500-Watt, shredder, salad cutter function, voltage 220 V, 50 Hz, two safety lock, with suction feet, minimum jug capacity 1.5 liter, two speeds one pulse, user manual, min 1 year warranty		8	4
95.	<b>Sandwich Maker (2 slice)</b>	<b>Sandwich Maker (2 slice)</b> Min Power 750-Watt, voltage 220 V 50 Hz, nonstick grill plates, indicator light, manual lock for safety. user manual, min 1 year warranty		5	3
96.	<b>Weighing Scale</b>	<b>Weighing Scale</b> Steel Platform and plastic body, Readout for Weight & Unit Price, weight and price minimum 5-digit display, total price minimum 6-digit display, minimum tray size 13 x 9 inches, dual display of readouts, Fuse Protected for Safety, Rechargeable Battery. Capacity 200 gram to 35 kg, e=d= 2-gram, Complete installations and min 1 year warranty.		2	2
97.	<b>Food Thermometer</b>	<b>Food Thermometer</b> Digital probe food thermometer, battery operated, minimum Temperature Range display, min 1 year warranty.		5	3
98.	<b>Washing Sink Double Pot</b>	<b>Washing Sink Double Pot</b>		1	1

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		Stainless Steel 201 / 202, 18 swg washing sink. Stand alone, minimum dimensions: 24x30x35 inches, brass mixer with lever operate stainless steel neck (including tap water filter) flexible medium size mixer and splash back of 4" on the top, minimum bowl sizes: 18 x 18 x 10 inch with imported stainless-steel coupling, adjustable legs feet, lever operated long neck stainless steel water tab, drain piping, Complete installations and min 1 year warranty			
99.	<b>Patty Maker</b>	<b>Patty Maker</b> Aluminum die cast body, patty making plate (minimum diameter 4 inches) of stainless steel, ability to adjust thickness of patty. Easy lift up and down system with long handle, Table model		4	2
100.	<b>French Fries Cutter</b>	<b>French Fries Cutter</b> Main body parts of die cast Aluminum, table model, cutter with stainless steel cutting blades, stainless rod assembling with stainless steel wing nuts, minimum blade dimensions 8.8 x8.8 cm minimum, vegetable feeding part of stainless steel minimum 10 inches long, easy grip handle, three cutting blades of 8mm, 10mm, 12mm, min 1 year warranty.		4	2
101.	<b>Wall Shelf</b>	<b>Wall Shelf</b> Stainless steel 201 / 202, 18 swg, size 66" x 12" with wall brackets with 2 inch back splash. Complete installations, one year warranty. Four out of total eight shelves have hooks on frontal side to hang spoons. frontal lower inward sides with		5	3

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		stainless steel hooks to hang spoons after each six inches lengthwise			
102.	<b>Working Table (Large)</b>	<b>Working Table (Large)</b> Stainless steel 201 / 202, 18 swg working table, with center half shelf and cabinets followed by splash backs. minimum Sizes: 72" x 24" x 35", No splash back on top, jerk proofing, 3 swing doors adjustable legs, 2" sandwich top with wooden pasting.		5	3
103.	<b>Cooking Range with Baking oven</b>	<b>Cooking Range with Baking oven</b> 6 burner gas operated cooking range in stainless steel 201 / 202, material (swg 18), with built-in baking gas oven, minimum internal sizes: 26x24x12 inches. 6 separate heavy duty smooth finished cast grills, height quality cast nozzles, high quality heat proof knobs or stainless-steel handles. With a splash back exhaust duct, minimum external dimensions: 1050 x 750 x 850 mm. user manual.		3	2
104.	<b>Deep Fryer</b>	<b>Deep Fryer</b> Double tank stand-alone gas operated deep fat fryer, body of stainless steel 201 / 202, swg 18, Each tank with single basket of minimum capacity 2kg, Each tank with minimum 20 18 liters capacity. Both tanks must have separate ignitions, temperature gauge safety control, timer and automatic control. Producing temperature from 50 to 200 degree Celsius. Minimum external dimensions: 700 x 750 x 850 mm, with two fryer baskets and one zinger basket, user manual.		4	2

Sr.#	Items	Item Description	Image	CBT	Non-CBT
105.	<b>Storage Rack</b>	<b>Storage Rack</b> Stainless steel 201 / 202, 18swg, Stainless Steel Storage Rack Shelves (4 shelves), minimum sizes: 1380 x 500 x 1550 mm, Adjustable rack shelves		5	3
106.	<b>Barbecue Counter</b>	<b>Barbecue Counter</b> Stainless steel body barbecue counter, stainless steel 201 / 202, 18 swg body, double jacket insulated pit, With base shelf and mid shelf, minimum dimensions: 66 x 24 x 40 inches, clayed ceramic tiling in the pit, with exhaust hood and chimney, with bbq rack, with 50 kebab and 50 tikka bars of iron minimum 30 inches in length.		4	2
107.	<b>Portable Pakistani clay tandoor</b>	<b>Portable Pakistani clay tandoor</b> Portable clay tandoor, gas heating, moth diameter 12inch, belly diameter 24 inch, 2inch wall thickness of clay with enforcement rings, stainless steel body with casters, comes with a set of 2 skewers, 6 skewers of tandoori chickens with wooden handle, with cast iron burner, Local Made, Length x width x height 30x30x35 inches		2	2
108.	<b>kitchen hood</b>	Kitchen hoods provide ventilation, removing airborne. grease, smoke, and cooking odors.		1	1








Sr.#	Items	Item Description	Image	CBT	Non-CBT
109.	<b>kitchen ventilation</b>	kitchen ventilation wall mounted kitchen exhaust fan		2	2
110.	<b>fresh air unit in kitchen</b>	Air curtains create a smooth, consistent airflow that separates the kitchen environment from the outside environment.		1	1
111.	<b>Floor mop bucket</b>	With 02 Dry Mops with handles and 02 Wet mops with handles. Material: Plastic with Steel Handle and 4 Wheels Features: Eco-Friendly capacity: 20-L product size: 63x27x67cm pack size: 46.5x27x29cm color: yellow		2	2
112.	<b>Air Tight Jars</b>	Air tight storage glass jar with clip top Use: Food Storage Material: Glass, glass Feature: Eco-Friendly Color: clear Size: 500ml Lid material: clip top		12	6
113.	<b>Salamander Grill (Stainless Steel)</b>	Dimension 880x440x610 mm Controllers 6 Power 10.3Kw Weight 47Kg		1	1
114.	<b>Bain Marie</b>	Mobile Dry Bain Marie with Cabinet (Hot) 4 Bowls Dimension 1060x668x900mm Voltage 220V-240V Max Height of GN Pans 150mm x Hot air circulation heating X With four 1/2 GN pans and one 1/1 GN pan		1	1






Sr.#	Items	Item Description	Image	CBT	Non-CBT
115.	<b>Multimedia projector</b>	Multimedia projects can be used to create engaging and interactive learning experiences		1	1
116.	<b>Computer</b>	Computers can be used for tasks such as word processing, spreadsheets, and presentations.		1	1
117.	<b>Printer</b>	Printers are used to print documents, such as letters, reports, and contracts.		1	1








## Lab 02: Tools and Equipment of Baking





(For Class of 15 to 25 Students)


S. No	Name of item	Specification	Images	CBT	Non-CBT
1	<b>Large Mixing Bowl</b>	Material acrylic, minimum diameter 8.5 inches.		5	3
2	<b>Small Bowl</b>	Material Stainless steel minimum 24 swg, shining finish standard size; Upper end diameter 4inches		5	3
3	<b>Whisk</b>	Wishk - 25 CM Stainless Steel Egg Beater Hand Blender Spiral Wire Whisk Mixer for Baking Cooking Tools Kitchen Appliances		12	6
4	<b>Fork</b>	Forks can be made from various materials, including stainless steel, silver, plastic, or wood.		4	2
5	<b>Microwave Oven</b>	Minimum specification for microwave is capacity of 25 liters, grill function, voltage 220 V, frequency 50 Hz, Microwave output power 900-Watt, grill power 1000-Watt, user manual, Complete		1	1
6	<b>Measuring Cups and Spoons</b>	Material stainless steel, minimum thickness 20 swg, set of 5 measurement spoons and set of 4 measurement cups		5	3







S. No	Name of item	Specification	Images	CBT	Non-CBT
7	<b>Plastic Wrap</b>	Plastic wrap, also known as cling film or saran wrap, is a thin, flexible plastic sheeting used for wrapping and covering food, surfaces, and other objects		1	1
8	<b>Rolling Pin</b>	Material: Stainless steel with stainless steel handles, minimum length and diameter of rolling pin without handles is minimum 24 cm and 7 cm.		5	3
9	<b>Cookie Cutter or Glass</b>	A cooking cutter, also known as a kitchen cutter or food cutter, is a tool used to cut, slice, or chop food ingredients into desired shapes and sizes.		5	3
10	<b>Baking Sheet</b>	A baking sheet, also known as a cookie sheet or baking tray, is a flat, rectangular metal pan used for baking, roasting, and cooking various foods in the oven		5	3
11	<b>Parchment Paper</b>	Parchment paper, also known as baking paper or parchment, is a type of paper used in baking and cooking to prevent food from sticking to surfaces.		5	3
12	<b>Pastry Brush</b>	A pastry brush is a kitchen tool used to apply egg washes, melted butter, or other toppings to pastry dough, bread, or other baked goods. It's a simple but essential tool for many bakers and cooks.		5	3
13	<b>Oven Mitts</b>	Oven mitts, also known as oven gloves or heat-resistant gloves, are protective hand coverings used to handle hot dishes, pans, and utensils when cooking or baking.		5	3

S. No	Name of item	Specification	Images	CBT	Non-CBT
14	<b>Apron</b>	An apron is a protective garment worn over clothing to prevent stains and splatters while cooking, baking, or engaging in other messy activities. It's a practical and stylish accessory for many home cooks, professional chefs, and crafty individuals.		5	3
15	<b>Griddle or Frying Pan</b>	Small: 6-8 inches (15-20 cm) in diameter, ideal for cooking small meals or snacks. Medium: 8-10 inches (20-25 cm) in diameter, suitable for cooking meals for 2-4 people. - Large: 10-12 inches (25-30 cm) in diameter, ideal for cooking meals for 4-6 people. - Extra Large: 12-14 inches (30-35 cm) in diameter, perfect for cooking large meals or for big families.		5	3
16	<b>Spatula</b>	A spatula is a versatile kitchen tool used for scraping, flipping, and serving food. It's an essential tool for many cooks and bakers. - in size from small (6-8 inches) to large (12-18 inches).		5	3
17	<b>Muffin Tin</b>	Standard: 12 cups, with each cup measuring about 2-3 inches in diameter and 1-2 inches deep. - Mini: 24 cups, with each cup measuring about 1-2 inches in diameter and 1 inch deep. - Jumbo: 6 cups, with each cup measuring about 3-4 inches in diameter and 2-3 inches deep.		5	3
18	<b>Paper Liners</b>	A paper liner is a thin, paper sheet used to line baking pans, cups, or molds. It prevents food from sticking and makes cleanup easier.		5	3

S. No	Name of item	Specification	Images	CBT	Non-CBT
19	<b>Toothpick or Cake Tester</b>	A toothpick or cake tester is a small, pointed tool used to check if baked goods are done. It's a simple but essential tool for many bakers.		5	3
20	<b>Wire Rack</b>	A wire rack is a kitchen tool used for cooling baked goods, such as cakes, cookies, and bread. It's a simple but essential tool for many bakers.		5	3
21	<b>Kitchen Scale</b>	Steel Platform and plastic body, Readout for Weight & Unit Price, weight and price minimum 5-digit display, total price minimum 6-digit display, minimum tray size 13 x 9 inches, dual display		1	1
22	<b>Wooden Spoon or Dough Whisk</b>	A wooden spoon or dough whisk is a kitchen tool used for mixing and blending ingredients, particularly in baking and cooking. It's a versatile and essential tool for many cooks and bakers.		5	3
23	<b>Slotted Spoon or Spider</b>	A slotted spoon or spider is a kitchen tool used for draining liquids from solid foods, such as pasta, vegetables, and meat. It's a versatile and essential tool for many cooks.		5	3
24	<b>9x13 Inch Baking Pan</b>	The pan measures 9 inches in length, 5 inches in width, and typically 2-3 inches in depth. 9x5 inch baking pans are often made from metal, such as aluminum or stainless steel- The pan has straight sides and a flat bottom, making it easy to remove baked goods. , or non-stick coated materials.		5	3
25	<b>9x5 Inch Loaf Pan</b>	The pan measures 9 inches in length, 5 inches in width, and typically 2-3 inches in depth 9x5 inch loaf pans are often made from metal, such as aluminum or		5	3








S. No	Name of item	Specification	Images	CBT	Non-CBT
		stainless steel, or non-stick coated materials- The pan has straight sides and a flat bottom, making it easy to remove baked goods.			
26	<b>Medium Mixing Bowl</b>	Medium mixing bowls typically range in size from 1.5 to 2.5 quarts (1.4 to 2.4 liters), making them perfect for small to medium-sized recipes. They're often made from stainless steel, glass, ceramic, silicone or plastic, each offering its own unique benefits and drawbacks. Medium mixing bowls usually have a rounded bottom and sloping sides, making it easy to mix and blend ingredients.		5	3
27	<b>Serrated Knife</b>	4-6 inches (10-15 cm) - ideal for precision work and small cutting tasks. 6-8 inches (15-20 cm) - suitable for general-purpose cutting and slicing. 10-12 inches (25-30 cm) - perfect for cutting through thicker materials, like large loaves of bread or thick slices of meat. 12-14 inches (30-35 cm) or more - ideal for heavy-duty cutting tasks.		5	3
28	<b>Offset Spatula</b>	6-8 inches (15-20 cm) 1-2 inches (2.5-5 cm) use for Ideal for small bowls, precision work, and delicate tasks.		5	3
29	<b>Microwave-Safe Bowl</b>	4-6 inches (10-15 cm) 2-3 inches (5-7.5 cm) 1-2 cups (250-500 ml) use for Ideal for heating small portions, cooking single servings, or making individual desserts.		5	3

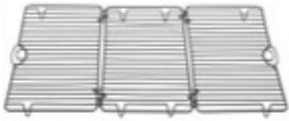







S. No	Name of item	Specification	Images	CBT	Non-CBT
30	<b>Double Boiler or Heatproof Bowl</b>	4-6 inches (10-15 cm)2-3 inches (5-7.5 cm)1-2 cups (250-500 ml) use for Ideal for melting small amounts of chocolate, heating sauces, or making individual desserts.		5	3
31	<b>Springform Pan</b>	6-8 inches (15-20 cm) - ideal for individual servings or small recipes 8-10 inches (20-25 cm) - suitable for standard recipes and medium-sized desserts. and large size 10-12 inches (25-30 cm) - perfect for large recipes, big desserts, or commercial use.		5	3
32	<b>Pie Weights or Dried Beans</b>	Used to weigh down the pie crust. Available in different sizes to fit various pie dishes. Can be used multiple times.		5	3
33	<b>Food Processor</b>	A food processor is a kitchen appliance used to chop, slice, shred, puree, and mix food. It's a versatile tool that can perform various tasks, making it a valuable addition to any kitchen.		1	1
34	<b>Tart Pan with Removable Bottom</b>	Small 6-8 inches (15-20 cm) ideal for individual servings or small tarts medium size 8-10 inches (20-25 cm) - suitable for standard tarts and quiches. large size 10-12 inches (25-30 cm) - perfect for big tarts and desserts.		5	3
35	<b>Sharp Razor Blade or Lame</b>	A sharp razor blade or lame is a tool used to score or cut dough, bread, or pastries. It's a crucial tool for bakers and chefs, allowing for precise cuts and decorative edges.		5	3









S. No	Name of item	Specification	Images	CBT	Non-CBT
36	<b>Spray Bottle</b>	Spray bottles can be made from various materials, such as plastic, glass, or metal.		5	3
37	<b>Medium Saucepan</b>	A medium saucepan typically has a capacity of 2-4 quarts (2-4 liters). Saucepan materials can include stainless steel, non-stick coatings, or hard anodized aluminum. Many medium saucepans have a comfortable handle, making it easy to lift and pour.		5	3
38	<b>Sieve</b>	6-8 inches (15-20 cm) - ideal for small batches or individual servings. 8-10 inches (20-25 cm) - suitable for standard recipes and medium-sized batches. 10-12 inches (25-30 cm) - perfect for large batches or commercial use.		5	3
39	<b>Small Pan</b>	1-2 quarts (1-2 liters) - perfect for tiny batches or individual servings. 2-3 quarts (2-3 liters) - suitable for small batches or side dishes. 3-4 quarts (3-4 liters) - ideal for cooking small meals or snacks.		5	3
40	<b>Wooden Ma'amoul Molds</b>	Ma'amoul molds are made from natural wood, often featuring intricate carvings and designs. The molds feature traditional Middle Eastern patterns and designs, adding an authentic touch to the cookies. Ma'amoul molds come in various shapes and sizes, allowing for creativity and versatility in cookie design.		5	3
41	<b>Cookie Scoop</b>	1-2 tablespoons (15-30 ml) - ideal for mini cookies or cookie bites. 2-3 tablespoons (30-45 ml) - suitable for standard-sized cookies. 3-4 tablespoons		5	3








S. No	Name of item	Specification	Images	CBT	Non-CBT
		(45-60 ml) - perfect for larger cookies or cookie sandwiches.			
42	<b>Pastry Blender</b>	A pastry blender is a kitchen tool used to mix and blend butter or shortening into flour, creating a mixture that's essential for making pastry dough.		5	3
43	<b>Cutting Board</b>	Material: Acrylic Polypropylene plastic (food grade plastic), color coded Set of 5 Colors: white, green, yellow, red, blue.		5	3
44	<b>Cornflakes</b>	Cornflakes are a popular breakfast cereal made from toasted corn flakes. They're a crunchy and sweet breakfast option that's easy to prepare and fun to eat.		5	3
45	<b>Non-stick Pan</b>	The pan is coated with a layer that prevents food from sticking. Non-stick pans are often made from durable materials, such as stainless steel or hard anodized aluminum.		5	3
46	<b>Large Pot or Pan</b>	12-16 quarts (11-15 liters) - perfect for big batches of food- 16-20 quarts (15-19 liters) - ideal for large families or commercial use. - Commercial: 20-24 quarts (19-23 liters) or larger - designed for heavy-duty commercial use..		5	3
47	<b>Small Saucepan</b>	1-2 quarts (1-2 liters) - perfect for small batches of food. - 0.5-1 quart (0.5-1 liter) - ideal for tiny batches or individual servings.		5	3
48	<b>Blender</b>	Three in one blending, juicing, grinding, minimum requirements are power 800-Watt, voltage 220 V, 50 Hz, two speeds one pulse, with suction feet to grip on surfaces, minimum jug capacity 1.7		1	1








S. No	Name of item	Specification	Images	CBT	Non-CBT
49	<b>Rubber Spatula</b>	A rubber spatula is a kitchen tool used for scraping, spreading, and folding food. It's a versatile tool that's essential for many cooking and baking tasks.		5	3
50	<b>Piping Bag</b>	Piping bags are made from flexible materials, such as plastic, silicone, or cloth. Piping bags can be disposable or reusable, depending on the material. - Piping bags come in various sizes, from small to large.		5	3
51	<b>Piping Tips (star tip, round tip, grass tip, lettering tips)</b>	A star tip has a star-shaped opening that creates a star-tipped border or design. A round tip has a circular opening that creates a smooth, rounded line or design. A grass tip has a small, slit-like opening that creates a grass-like texture or design. Lettering tips have a small, round or oval opening that creates precise, smooth lines for writing.		5	3
52	<b>Turntable</b>	A turntable has a rotating platform that allows for easy display and serving. A sturdy base provides stability and prevents the turntable from tipping over. Many turntables are easy to clean and maintain.		5	3
53	<b>Silicone Molds</b>	Silicone molds are flexible, rubber-like molds used for baking, cooking, and crafting. They're a versatile tool for creating unique shapes and designs.		5	3
54	<b>Fondant Smoother</b>	Fondant smoothers have a flat surface that allows for easy smoothing and flattening of fondant.		5	3








S. No	Name of item	Specification	Images		CBT	Non-CBT
55	<b>Ribbon Cutter</b>	Ribbon cutters have a sharp blade that cuts through ribbons and other materials cleanly and precisely.			5	3
56	<b>Lace Mold</b>	Lace molds have intricate designs and patterns that are transferred to the baked goods			5	3
57	<b>Personal Protective Equipment (PPE) (including disposable nitrile gloves, apron, hairnet)</b>	Personal Protective Equipment (PPE) is worn to protect against various hazards and contaminants in the workplace, including food handling and preparation environments. PPE helps prevent the spread of illness and contamination.			30	15
58	<b>Can Opener</b>	A manual can opener is a handheld device that requires manual effort to open cans. It's inexpensive, easy to use, and doesn't require electricity.			5	3
59	<b>Skillet</b>	Skillets can be made from various materials, such as stainless steel, cast iron, non-stick, or copper. Skillets come in different sizes, ranging from small to large.			5	3
60	<b>Basting Brush</b>	Basting brushes have a handle made from materials such as wood, plastic, or metal. - Basting brushes come in various sizes, ranging from small to large.			5	3
61	<b>Grill</b>	A grill is a cooking device used to cook food over direct heat, typically using a combination of heat, smoke, and flames. Grills are popular for outdoor cooking and are often used to prepare a variety of foods, including meats, vegetables, and fruits.			1	1








S. No	Name of item	Specification	Images	CBT	Non-CBT
62	<b>Cooling Rack</b>	Toasters have heating elements, such as coils or quartz, that heat up to toast the bread.		5	3
63	<b>Toaster</b>	Toasters have heating elements, such as coils or quartz, that heat up to toast the bread.		3	1
64	<b>Paring Knife</b>	Paring knives have small blades, typically 2-4 inches (5-10 cm) in length.		5	3
65	<b>Wax Paper</b>	Wax paper has a wax coating on one or both sides, which provides a non-stick surface.		5	3
66	<b>Candy Thermometer</b>	Candy thermometers have a temperature gauge that displays the current temperature of the sugar solution.		5	3
67	<b>Brushes</b>	Brushes have handles, which can be made from various materials, such as wood, plastic, or metal.		5	3
68	<b>Squeeze Bottle</b>	Used for storing and dispensing condiments, such as ketchup, mustard, and mayonnaise.		5	3
69	<b>Muddler</b>	Muddler has a flat end used for mashing and muddling ingredients Made from plastic, lightweight and easy to clean.		5	3




S. No	Name of item	Specification	Images	CBT	Non-CBT
70	<b>Bar Spoon</b>	Bar spoons are made from durable materials, such as stainless steel or copper, that can withstand repeated use and cleaning.		5	3
71	<b>Straw</b>	Straws are typically tube-shaped, allowing for easy sipping of liquids.		5	3
72	<b>Espresso Machine</b>	Espresso machines are popular in homes, offering a convenient way to make high-quality espresso		1	1
73	<b>Milk Frother</b>	Milk frothers are used to create a variety of coffee drinks, such as lattes, cappuccinos, and macchiatos.		1	1
74	<b>Ice Cream Scoop</b>	An ice cream scoop is a kitchen utensil used to portion and serve ice cream. It's a popular tool for ice cream shops, homes, and parties.		5	3
75	<b>Ramekins</b>	Ramekins are small, individual-sized baking dishes used for serving and baking various foods, such as desserts, appetizers, and side dishes. They are typically made of ceramic, glass, or porcelain materials.		5	3
76	<b>Refrigerator</b>	Refrigerators have temperature controls that allow you to adjust the temperature to your liking.		1	1
77	<b>Freezer-Safe Bags</b>	Freezer safe bags are made from durable materials, such as polyethylene or polypropylene, that can withstand freezing temperatures.		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
78	<b>Cleaning Brush</b>	Cleaning brushes have bristles or fibers that are designed to pick up dirt and grime.		5	3
79	<b>Mild Detergent</b>	Mild detergents have a gentle formula that's designed to clean without causing damage or irritation.		5	3
80	<b>Warm Water</b>	A non-abrasive sponge is a type of cleaning tool that is designed to clean surfaces without scratching or damaging them. It's typically made of a soft, gentle material that won't harm delicate surfaces.		5	3
81	<b>Non-abrasive Sponge</b>	A kneading machine, also known as a dough kneader or mixer, is a kitchen appliance used to knead and mix dough, batter, and other mixtures. It's an essential tool for bakers, pastry chefs, and home cooks.		5	3
82	<b>Kneading Machine</b>	A kneading machine, also known as a dough kneader or mixer, is a kitchen appliance used to knead and mix dough, batter, and other mixtures. It's an essential tool for bakers, pastry chefs, and home cooks.		1	1
83	<b>Digital Thermometer</b>	Digital thermometers are used in cooking to ensure that food is cooked to a safe internal temperature.		1	1
84	<b>Stand Mixer</b>	Stand mixers are used for mixing and kneading dough for bread, pastries, and other baked goods.		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
85	<b>Dough Hook</b>	Dough hooks are used to knead dough for bread, pastries, and other baked goods.		5	3
86	<b>Ruler</b>	Rulers have measuring markings, such as inches, feet, yards, or metric units, to measure lengths and widths.		2	2
87	<b>Zip-top Bags</b>	Zip top bags are used for storing food, snacks, and other edible items.		5	3
88	<b>Airtight Containers</b>	Airtight containers are used for storing food, snacks, and other edible items.		1	1
89	<b>Deck Oven</b>	Deck ovens are designed to cook at high temperatures, usually around 400°F (200°C), to achieve crispy skin and tender meat.		1	1
90	<b>Multimedia projector</b>	Multimedia projects can be used to create engaging and interactive learning experiences		1	1
91	<b>Computer</b>	Computers can be used for tasks such as word processing, interactive learning experiences		1	1

S. No	Name of item	Specification	Images	CBT	Non-CBT
92	<b>Printer</b>	Printers are used to print documents, such as letters, reports, and contracts.		1	1
93	<b>kitchen hood</b>	Kitchen hoods provide ventilation, removing airborne.		1	1
94	<b>kitchen ventilation</b>	kitchen ventilation wall mounted kitchen exhaust fan		1	1
95	<b>fresh air unit in kitchen</b>	Air curtains create a smooth, consistent airflow that separates the kitchen environment from the outside environment		1	1
96	<b>Floor mop bucket</b>	With 02 Dry Mops with handles and 02 Wet mops with handles. Material: Plastic with Steel Handle and 4 Wheels capacity: 20-L product size: 63x27x67cm		2	2
97	<b>Air Tight Jars</b>	Air tight storage glass jar with clip top Use: Food Storage Color: clear Size: 500ml Lid material: clip top		12	6
98	<b>Salamander Grill (Stainless Steel)</b>	Dimension 880x440x610 mm Controllers 6 Power 10.3Kw Weight 47Kg		1	1





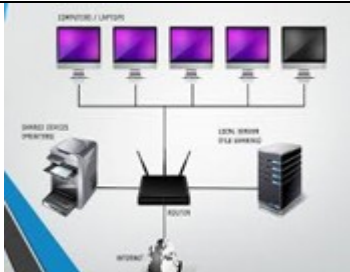
S. No	Name of item	Specification	Images	CBT	Non-CBT
99	<b>Bain Marie</b>	Mobile Dry Bain Marie with Cabinet (Hot) 4 Bowls 1060x668x900mm Voltage 220V-240V Max Height of GN Pans 150mm x Hot air circulation heating		1	1
100	<b>Sink</b>	Tripple Sink Bench Dimension:1500x610x900+200mm Package Dimension 1520x630x680 mm Cube :0.65 m3 Weight: 24Kg		3	3
101	<b>Baking trays</b>	Material aluminum, high quality smooth finish, Standard		12	6
102	<b>Bread Mould Small</b>	Material: mild steel, Standard size: dimensions8x4.5x4 inches,		6	3
103	<b>Bread Mould Large</b>	Material: mild steel, minimum dimensions10x5x5inches, loaf pan with cover		6	3
104	<b>Baguette pans</b>	Material: perforated steel, 20 swg, 5 loaves pan, minimum sizes: 22x15x2.15 inches		3	2
105	<b>Gun Lighter</b>	Metallic gun lighter to ignite burners, minimum 11inches long.		12	6




S. No	Name of item	Specification	Images	CBT	Non-CBT
106	<b>Lemon Squeezer</b>	Material: Stainless Steel, durable with heavy squeezing part and handles, Minimum length 6 inches.		2	2
107	<b>Ice cream Scoop</b>	Material cast aluminum, minimum 6.5 inches long		1	1
108	<b>Bread Basket</b>	Minimum diameter 8.5 inches		6	3

NAVTTC

## Lab 03: Tools and Equipment of Tourism & Airports Operations





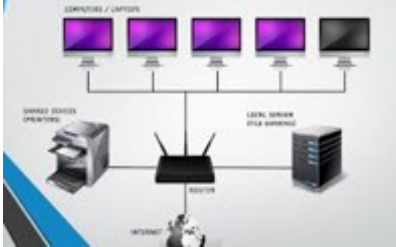
(For Class of 15 to 25 Students)

S. No	Name of item	Brand/Make & Specification	Images	CBT	Non-CBT
1	<b>latest computer set complete with all accessories</b>	The latest computer set is a comprehensive package that includes a high-performance computer, monitor, keyboard, mouse, and other essential accessories.		25	10
2	<b>Computer Lab</b>	A computer lab is a designated area equipped with multiple computers, software, and other technology resources, used for educational, training, or research purposes.		1 As Per Airline/ Travel Agency	1 As Per Airline/ Travel Agency
3	<b>Geo Political World map</b>	A geo-political world map is a visual representation of the world's countries, borders, and territories, highlighting their political relationships, boundaries, and geographical features.		1 Per Student	1 Per Student
4	<b>Training Stationery</b>	Training stationery refers to the materials and supplies used in educational or training settings to facilitate learning and instruction. These can include a wide range of items, from basic office supplies to specialized training tools.		1 set per student	1 set per student
5	<b>Internet Connection</b>	Use physical cables to connect devices to the internet, such as Ethernet cables.		As per requirement	As per requirement

S. No	Name of item	Brand/Make & Specification	Images	CBT	Non-CBT
6	<b>World Map Atlas</b>	A world map atlas is a comprehensive collection of maps that provide a detailed representation of the world's geography, including countries, cities, rivers, mountains, and other geographical features.		1 per student	1 per student
7	<b>CRS AMADEUS, GALILEO for Air Ticketing &amp; Reservation System</b>	CRS (Computer Reservation System) AMADEUS and GALILEO are two of the most widely used systems in the travel industry for air ticketing and reservation management		1 per student	1 per student
8	<b>Portal www.24x7 rooms for hotel booking</b>	is an online hotel booking portal that allows users to search, compare, and book hotel rooms from a vast inventory of hotels across various locations		1 per student	1 per student






## Lab 04: Tools and Equipment of Hotel Operations

(For Class of 15 to 25 Students)

S. No	Name of item	Brand/Make & Specification	Images	CBT	Non-CBT
1	<b>Computer (40 GB Hard 256 Ram &amp; 2.8 Mega Hertz Processor)</b>	This computer is a relatively older model with a 40 GB hard drive, 256 MB of RAM, and a 2.8 GHz processor. It can still perform basic tasks.		25	10
2	<b>Mock Room for Housekeeping training</b>	A fully furnished bedroom according to a renoud hotel. Bed, AC, Dressing Table		1	1
3	<b>Front Office for training</b>	The front office provides a hands-on training environment for front office staff to practice procedures and techniques.		1	1
4	<b>Training Restaurant</b>	The training restaurant is designed to replicate a real restaurant, including kitchen equipment, dining area, and service stations.		1	1
5	<b>Internet Connection</b>	Use physical cables to connect devices to the internet, such as Ethernet cables.		1	1

## Auxiliary Requirement of TVET Lab workshop

(FOR CLASS OF 15 to 25 Students)

Sr No.	Tools/ Equipment	Description	Image	CBT	Non-CBT
1	<b>Work benches</b>	Heavy-duty steel frame, hardwood/metal top, min. 1200 x 600 mm		6	6
2	<b>Stools/Chairs</b>	Ergonomic, adjustable height, durable (metal/plastic frame)		25	25
3	<b>Storage Cabinets</b>	Lockable steel/aluminum, with adjustable shelves		15	10
4	<b>Tool Racks</b>	Wall-mounted/standalone, labeled compartments		15	10
5	<b>White board/ Notice Board</b>	Minimum 4'x3', magnetic (optional), with markers/pins		1	1

## Standard Area Required for TVET Lab workshop

Length \* width = (25 to 35) X (16 to 25)

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## CERTIFICATE

This Standard Manual of Tools/ Equipment specification has been developed and reviewed by the NAVTTC Centre of Excellence in Modern Technologies, Islamabad under supervision/ Guidance of the following faculty members:

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6.	Engr Awais Rasool	Instructor Civil
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8.	Mr. Muhammad Wameq Ayaz	Instructor Civil
9.	Mr. Mian Muhammad Hussain	HOD Mechanical
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