



No. 1164 /Dt. 20/07/22  
(VT-I-10/2022)

From,  
Shri S. K. Mishra,  
Controller of Examinations.

To  
The Principal,  
All Govt. & Private ITI s of Odisha .

Sub: Bill of Materials for Practical Examination of AITT Aug-2022.

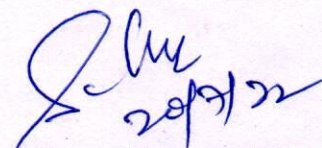
Ref: DGT Notification F. No 1801/01/CTS/2022-TTC(C. No 51097) Dated 06.07.2022

Sir,

In inviting a reference to the DGT letter on the subject cited above, I am to say that the AITT under CTS Practical Examination in Annual /DST System (of Admission Session: 2020 & 2021) has been scheduled with effect from 01.08.2022 to 04.08.2022.

In view of the above the Bill of Materials developed by the SCTE&VT(O) of different NCVT affiliated Trades are enclosed herewith for procurement of raw materials & smooth conduct of Practical Examination of AITT Aug-2022.

Encl: As above.

  
Controller of Examinations

**BILL OF MATERIAL REQUIRED FOR EACH TRAINEES FOR THE FOLLOWING TRADES DURING THE ALL INDIA TRADE TEST OF CRAFTSMEN (ANNUAL PATTERN) UNDER CRAFTSMAN TRAINING SCHEME TO BE HELD IN THE MONTH OF AUGUST-2022**

**AITT-AUGUST-2022**

**Bill of Materials**

**Year-1**

**1ST YEAR BILL OF MATERIAL FOR AITT PRACTICAL EXAMINATION UNDER CTS (YEARLY PATTERN/DST MODE) TO BE HELD IN THE MONTH OF AUGUST-2022**

**ELECTRONICS MECHANIC**

1. Transformer (12-0-12 )V
2. Capacitor
3. Resister
4. Diode IN4007
5. Logic gate lcs
6. Connecting wires
7. Varroa Board
8. TRIAC

**ELECTRICIAN**

1. Hydrometer
2. 12 volt battery Lead acid 3.150AH
3. 1ph transformer(1KVA)
4. Rheostart,(0-300ohm),1A
5. voltmeter (0-30)V
6. Ammeter((0-500)mA
7. DC power supply0-100v ,5A
8. watt meter500w
9. MI volt meter0-500v
10. MI Ammeter((0-500)mA
11. P.F.meter
12. 3/22 copper wire
13. Battrey charger 12 v 15 A

## **FITTER**

**1.125 X 40 X 10 MM**

## **DRAUGHTSMAN CIVIL**

- 1. Drawing Sheet**
- 2. Cello Tape**
- 3. Eraser**
- 4. Mini Drafter**
- 5. Pencil (H,HB ,2H)**
- 6. Sharpener**
- 7. Sand Paper**

## **MECHANIC DIESEL**

- 1.Diesel ,Kerosene, Engine Oil ,Coolant**
- 2.Distilled Water , Soap, Emery Paper & Cotton Waste**

## **MECHANIC MOTOR VEHICLE**

- 1.Grease**
- 2.Diesel**
- 3.Cotton waste**
- 4.Clearing Brush**
- 5. Gasket**

## **REFRIGERATION & AIR CONDITIONING TECHNICIAN**

- 1. Room air conditioner**
- 2. Refrigerant required for the room air conditioner.**
- 3. Frost free refrigerator**

## **WELDER**

- 1.MS FALT - (120X60X6)mm**
- 2.MS FALT - (120X30X6)mm**

**WIREMAN**

1. P.V.C wire 1/18 S.W.G, 5 amp, 250 V- 5 mtrs
2. Series testing board with 200 watt lamp
3. Condenser 10  $\mu$ F 450 V rating
4. Choke of mercury vapor lamp - 125 watt
5. Lamp - 300 watt, 200 V
6. Single way switch 6 amp, 250 volt
7. Connection lead/wire 2.5 mm<sup>2</sup> P.V.C - as per required
8. 200 watt lamps 250 V
9. 3 phase induction motor

**DRAUGHTSMAN (MECHANICAL)**

1. Drawing sheet
2. Drawing pencil
3. Eraser
4. Cello tape
5. Sand paper

**BASIC COSMETOLOGY**

1. Manicure Kit, Pedicure Machine, Pedicure Kit, Foot Cream, Hand Cream, Foam Gel, Towel, Hot Gel, Lotion, Body Moisturizer.
2. Facial Kit, Bowl, Ice Pack, Gloves, Mask Detector, Skin Type Check Machine.
3. Different Color, Layers, Structure of Extension Hairs.

**CARPENTER**

1. Hard wood 25mm X 60mm X 180 mm
2. Hard wood 25mm X 60mm X 130 mm
3. Sand paper No. 60, 100 .

**LABORATORY ASSISTANT CHEMICAL PLANT**

1. Chemicals and Glass wares available in the laboratory, Platinum loop
2. Nichrome Wire

### **3. NaOH, HCL**

#### **INFORMATION COMMUNICATION TECHNOLOGY SYSTEM MAINTENANCE**

- 1. Variable Dc Power Supply 0-30v/1A, Regulated Power Supply – (+5v)**
- 2. Toggles Switch, SPST, SPDT, Lamp**
- 3. Miliammeters-0-10mA**
- 4. Millimeter- 0-30mA**
- 5. Resistor-As Required**
- 6. CRO-30MHZ**
- 7. Base Board (Wooden), Bread Board**
- 8. Step Down Transformer-1no (240v, 12v-0-12v, 24vA)**
- 9. Multi Strand Wire, Hook up Wire (Red and Black)**
- 10. Semiconductor Diode 1N4007, LED (Red, Green, Yellow, White)**
- 11. Logics Probe**
- 12. Ic74LS190**

#### **IoT TECHNICIAN SMART AGRICULTURE**

- 1. Carbon Resistors different values**
- 2. Wires of different diameter**
- 3. 8051 Microcontroller Trainer**
- 4. Arduino Board**
- 5. Push Button Switch**

#### **DRESS MAKING**

- 1. Poplin cloth-50 cm**
- 2. Poplin/Shirt cloth - 02 mtrs**
- 3. Matching Thread**
- 4. Canvas - 25 cm**
- 5. Brown paper**
- 6. Tool kit**

## **7. Nylon Button**

### **INSTRUMENT MECHANIC**

- 1. Different type of resistors**
- 2. DC power supply (0-30V)**
- 3. Multi meter**
- 4. Switches**
- 5. LED**

### **MARINE ENGINE FITTER**

- 1. Engine assembly**
- 2. Cotton waste- As required**
- 3. Trainees tool kit**
- 4. Spare parts as per requirement**
- 5. Fernier caliper**
- 6. Kerosene as per required**

### **INDUSTRIAL PAINTER**

- 1. Blue Paint**
- 2. Thinner**
- 3. Water Proof Paper-120 No's**
- 4. Varnish**
- 5. Wood Surface 6" × 12" Size (Each Student)**
- 6. Sand Paper**

### **FOOD & BEVERAGES SERVICES ASSISTANT**

- 1. Napkins with starch**
- 2. Aluminum Tray**
- 3. Tray Cover Linen**
- 4. Bud Wash**
- 5. AP Spoon**
- 6. Knife**
- 7. Fork**

**8. Cruet Set****9. Monkey Dish with Dame to cover****FOOD PRODUCTION GENERAL**

1. Rice-500gm., Sugar-1kg, Flour-500, Oil-500ml, Cumin (whole)-50gm.

2. Carrot-250gm., Bins-250 gm., Cauliflower-1 piece, Patato-500gm, Capsicum-200gm, Peas-100gm, Cucumber-250gm, Onion-500gm, Banana-3 piece.

3. Cottage chesse-500, Curd-250ml, Sunf-25gm, Paneer-250gm.

**MECHANIC REPAIR AND MAINTENANCE OF HEAVY VEHICLE**

1. Battery 12V
2. Distell water
3. Kerosene
4. Fuel feed pump kit

**ATTENDANT OPERATOR CHEMICAL PLANT**

1. PH Paper
2. M.S. flat 80\*60\*5(mm)
3. Hacksaw blade

**BAKER AND CONFECTIONER**

1. Refined Flour

2. Sugar

3. Butter

4. Egg

5. Baking Soda

**MACHINIST**

1. MS BAR-  $\varnothing$ (50X64) mm

**MASON (BUILDING CONSTRUCTOR)**

1. Measuring tap 30 meter.
2. Fly ash
3. 1/2" & 3/4 " stone chips
4. Trowel
5. Cement
6. M.S wire net of 1.5 sq. inch
7. Tray

8.Sand

9. Try Square

#### **MECHANIC TRACTOR**

1.Engine assembly

2. Cotton waste

3. Battery

4. Trainees tool kit

5. Spare parts

6. Hydrometer

7. Grease gun

8. Cylinder bore dial gauge

9. Kerosene

#### **MECHANICAL MACHINE TOOL MAINTENANCE**

1.CI Block- (100x100x50)MM

#### **MECHANICS AGRICULTURE MACHINERY**

1. Engine assembly

2. Cotton waste

3. Trainees tool kit

4. clutch assembly

5. air compressor

6. Venire caliper

7. Kerosene

#### **PAINTER GENERAL**

1. Metal Sheet 6"× 6" for Each Student

2. Black Colour Enamel

3. Thinner

4. Drawing Sheet

5. Poster Colour

6. Stencil Cutter

#### **PLASTIC PROCESSING OPERATOR**

1. Available Mould for Injection Moulding.

2.HDPE ( Injection Grade )

3.Required Tools and Equipment

#### **PLUMBER**



1. Saddle, Gun metal ferrule, union, elbow pvc, gate valve, water meter, rubber washer, thread seal material, solvent cement, requirement of PVC pipe, bib cock socket.
2. 2- Bib cock, thread seal material
3. 1/2" G.I pipe 450mm long, socket - 1 pc, thread seal material

#### **PUMP OPERATOR CUM MECHANIC**

1. Filter element(Oil type air filter –DF10)
2. Cotton Waste
3. Kerosene
4. Lubricant Oil
5. Wire Brush
6. Soap Oil
7. Diesel
8. Jubilee Clamp-25mm, 50mm

#### **SEWING TECHNOLOGY**

1. Fabric
2. Matching colour thread
3. Printed Fabric
4. Button
5. Lace
6. Golden Mali
7. Tailor chalk
8. Zip
9. Hook

#### **IoT TECHNICIAN SMART CITY**

1. Resistor, capacitor, Diode, Transistor, Inductor, Zener Diode(Different values)
2. Transformer
3. Arduino Uno Board
4. Buzzer
5. Jumper wire

#### **SMARTPHONE TECHNICIAN CUM APP TESTER**

1. Different types of Electronics Components
2. Soldering and De-soldering Station
3. Digital Multimeter
4. Mobile Battery

**SURVEYOR**

1. Drawing sheet A3-One for Each
2. Pencil HB
3. Eraser
4. Set of scale
5. Cello Tape

**TECHNICIAN MECHATRONICS**

1. Mild Steel Flat (60x40x6) mm

**TOOL & DIE MAKER (Press Tool, Jigs & Fixture)**

1. MS FLAT (55x50x10) mm

**TURNER**

1. M.S. Rod  $\phi$  35 X 75 L

**MECHANIC AUTO BODY REPAIR**

1. MIG welding machine with all accessories
2. Types of wires used in MIG
3. SPOT welding machine with all accessories
4. MS sheet ( As per units)
5. Different types of Body hammer
6. Different types of Dolly sets
7. Door panels, Fender panels
8. Different PPE used in Body shop

**MECHANIC MINING MACHINERY**

1. Trainee's kit
2. Micrometer, dial indicator , Draft, mallet, puller
3. Multi cylinder diesel engine
4. Tray, consumables (kerosene oil), Cotton cloth
5. Set of box spanners , Torque wrench , Ring expander , Ring compressor
6. Feeler gauge, Soap oil, Emery paper.

7. Steel rule, Venire caliper
8. Flat bastard file , Smooth file , Die & tap set tools
9. Scriber, Dot punch, Fixed hacksaw
10. M.S flat
11. M.S Rod.

#### MECHANIC AUTO BODY PAINTING

1. Different body fillers, Hardeners, Putties.
2. 100ml pearl white for top coat.
3. Clear coat 100ml.
4. Base coat 100ml.
5. Masking paper 5metre.
6. White taps 3pieces.
7. Different grit of. Sand papers.
8. Degreasers.
9. Degreasing wipes.
10. Rubber gloves.
11. Mask N35

#### HORTICULTURE

1. Budding knife, Polythine strip, Rose plant
2. Grafting knife, Polythine strip, mango plant
3. Apple, colours, Ascends, Citric acid, Potassium met bisulphate, Steel bowel, Mosquito net, and 1 cup sugar
4. Potato chips-potato, Chili powder, Chat masala , Oil

#### TEXTILE WET PROCESSING TECHNICIAN

1. Cotton Fabric 0.25 mtr each
2. Hydrogen peroxide
3. PH paper
4. Sodium silicate
5. Mild steel (95x 77x 5 mm)
6. Tolerance  $\pm 0.05$

**IoT TECHNICIAN SMART HEALTHCARE**

- 1.IR Sensor, Rain Sensor, Ultrasonic Sensor, PIR Sensor, Smoke sensor,
- 2.Arduino Uno Board
- 3.LDR
- 4.Jumper wire
- 5.LED
- 6.Different types of Transistors
- 7.12 lead ECG Simulator
- 8.Digital IC Trainer

**COMPUTER HARDWARE AND NETWORK MAINTENANCE**

- 1.UTP Lan cable
- 2.RJ 45 Connector
- 3.Antivirus Software
- 4.Assorted Transistors

**SHEET METAL WORKER**

- 1.G.I Sheet (600 x 450 x0.6)- 24
- 2.G.I Sheet (350 x 300 x 0.6)- 24

**Note: \*All tools, Instrument and equipment as per syllabus of the trade should be kept ready in working condition.**

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**Year-2**

**2nd YEAR BILL OF MATERIAL FOR AITT PRACTICAL EXAMINATION UNDER CTS (YEARLY PATTERN/DST MODE) TO BE HELD IN THE MONTH OF AUGUST-2022**

**ELECTRICIAN**

1. Diode IN4007, Resistor 470  $\Omega$ , Step-down transformer 240v/12v, Bread board.
2. Battery 6v, 60A, connecting cable 2.5 mmsq.

**FITTER**

1. MS FLAT (50X50X6) mm - 2 PC

**ELECTRONICS MECHANIC**

1. De-soldering machine, SMD components of PCB, flux, multi meter
2. Digital storage Oscilloscope
3. LED module
4. UPS
5. LED light
6. Smartphone ,data cord ,running PC

**DRAUGHTSMAN CIVIL**

1. Drawing sheet
2. Eraser
3. Pencil (H and HB)
4. Cello tape - 8nos per 20 trainees
5. Sand paper (thin particle A4 size-10 no's per 20 trainees)
6. AUTOCAD software

**MECHANIC MOTOR VEHICLE**

1. Gear oil (SAE 90)
2. Dial Gauge with magnetic stand
3. Differential oil seal.
4. Digital Multi Meter

**REFRIGERATION & AIR CONDITIONING TECHNICIAN**

1. Shell & Tube Condenser

**WIREMAN**

1. Single phase Transformer, Wire 2 sqmm.
2. Pin Insulator, Shackle Insulator, Aluminium Conductor
3. Service Wire 4sq mm.

**DRAUGHTSMAN (MECHANICAL)**

1. Drawing sheet
2. Drawing pencil
3. Eraser
4. Cello tape
5. Sand paper
6. Computer in auto cad

**INFORMATION COMMUNICATION TECHNOLOGY SYSTEM MAINTENANCE**

1. PC
2. D LINK Wi-Fi Adapter USB type – wireless
3. Driver of Wi-Fi Adapted
4. Ethernet cable (RJ45)
5. TP LINK Wireless access point
6. Paw box
7. Pen drive -32GB
8. Power iOS Software
9. Internet Connection

**TURNER**

1. M.S. Rod  $\phi$  45 X 165 L

**MECHANICAL MACHINE TOOL MAINTENANCE**

1. MS Rod (DIA 65x100)MM

**MECHANICS AGRICULTURE MACHINERY**

1. Post hole digger
2. Cotton waste
3. Seed drill
4. Spare parts
5. Trainee too kit
6. Kerosene

**TOOL & DIE MAKER (Press Tool, Jigs & Fixture)**

1. MS Round Bar- DIA 45X70 mm

**TECHNICIAN MECHATRONICS**

1.M.S Flat (100x70x20) mm

**SURVEYOR**

1. Drawing sheet A3

2. Pencil HB

3. Eraser

4. Set of scale

5. Cello Tape

**MACHINIST**

1.Cast Iron block (100x70x70) mm

**INSTRUMENT MECHANICS**

1. LVDT trainer kit.

2. Rota meter.

3.Tachometer

**LABORATORY ASSISTANT CHEMICAL PLANT**

1.Aluminum Sulphate

2. Potassium Sulphate , Sodium Carbonate

3. Coconut oil, olive oil, Rice Bran oil, Castor oil

**ATTENDANT OPERATOR CHEMICAL PLANT**

1.Humidification & Dehumidification Apparatus

**MECHANIC MINING MACHINERY**

1.MS FLAT -(50x5) mm x mm

**TEXTILE WET PROCESSING TECHNICIAN**

1. Cotton hank yarn- 50Gms.

2. Material for vat dyeing

3. Cotton fabric - 1 mtr.

**4. Direct printing paste**

**5. Screen printing material**

**Note: \*All tools, Instrument and equipment as per syllabus of the trade should be kept ready in working condition.**

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