

Syllabus for the subject

of

# **ENGINEERING DRAWING**

(For 3rd & 4th semester)

Under

**CRAFTSMEN TRAINING SCHEME (CTS)**

(For Instrument Mechanic)

Re-Designed in - 2015

By

**Government of India**

**Ministry of Skill Development & Entrepreneurship**

**Directorate General of Training**

**CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE**

**Block - EN - 81 SECTOR - V, SALT LAKE CITY, KOLKATA - 700 091**

### **3<sup>rd</sup> semester--- Engineering Drawing**

#### Instrument Mechanic

<b>Sl. No.</b>	<b>Topics</b>	<b>Duration in Hours</b>
1	Symbols of transmitter and sensors indication in the field of instrumentation.	63
2	Functional block diagram of LVDT. Symbols of displacement devices, tachometers. Functional block diagram of tachometer.	
3	Symbols of various pressure sensors. Functional block diagram of pressure indicator and transmitter.	
4	Free hand sketches of bourdon tube/diaphragm gauges and various pressure measuring device	
5	Functional block diagram of flow meters. Free hand sketches of head type flow meters, Free hand sketches of rotameter.	
6	Free hand sketches of various levels measuring system. Basic symbols of various level sensors, transmitters and indicators. Free, hand sketches of various types of filled system thermometers. Free hand sketches of various temperature sensors and compensating systems.	

**4<sup>th</sup> semester---- Engineering Drawing**  
**For the Trade of**

Instrument Mechanic

<b>Sl. No.</b>	<b>Topics</b>	<b>Duration in Hours</b>
1	Symbols of various temperature sensors, indicators and transmitters.	63
2	Free hand sketches of optical and radiation pyrometers. Symbols of various types of recorders.	
3	Free hand sketches of various valve parts Simple block diagrams of various types of control systems like feed back, feed forward, ratio, cascade control systems etc.	
4	Basic block diagram of PLC. Simple Wiring diagram. Simple block diagram of DCS and SCADA	
5	Basic block diagram of HART devices. Symbols of HART devices, Simple block/schematic diagrams of various network systems in instrumentation field.	
6	Drawing the sketches of the components of hydraulic system. Block diagram of hydraulic systems Drawing the sketches of the components of pneumatic system. Block diagram of pneumatic systems.	