Syllabus for the subject

Of

ENGINEERING DRAWING

(For 3rd & 4th semester)

Under

CRAFTSMEN TRAINING SCHEME (CTS)

For the trades of

1. Attendant Operator (Chemical Plant)
2. Maintenance Mechanic (Chemical Plant)
3. Instrument Mechanic (Chemical Plant)
4. Laboratory Attendant (Chemical Plant)

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

3rd semester--- Engineering Drawing

Chemical Sector
For the Trades of

1. Attendant Operator (Chemical Plant)
2. Maintenance Mechanic (Chemical Plant)
3. Instrument Mechanic (Chemical Plant)
4. Laboratory Attendant (Chemical Plant)

Sl. No.	Topics	Duration in Hours
1	Free-hand sketches of Hand Tools, Screw drivers, Pliers, Spanner, Tweezer. Free-hand sketches of Vernier Caliper, micrometer, Depth Gauge, Dial Test Indicator, Bevel protractor	63
2	ISI symbols of Generator, Voltmeter, Ammeter, Watt- meter. Resister, inductor, Capacitor, Transformer, AC & DC motors.etc. Drawing of pressure control process line.	
3	Drawing sketches of different types of valves, such as gate valve, globe valve, ball valve, Plug Valve, check valve etc.	
4	Drawing of different types locking devices such as double nut, castle nut, pin etc. Drawings of different types of keys. Types of couplings such as muff coupling, Half lap coupling, Flange coupling	
5	Free hand sketches and symbolic representation of different types of valves- gate valve, globe valve, butterfly valve, ball valve, diaphragm valve, control valve, non-return valve, and needle valve.	
6	Free hand sketches of Belt conveyer , Screw conveyer, Bucket elevator	

4th semester---- Engineering Drawing
Chemical Sector
For the Trades of

1. Attendant Operator (Chemical Plant)
2. Maintenance Mechanic (Chemical Plant)
3. Instrument Mechanic (Chemical Plant)
4. Laboratory Attendant (Chemical Plant

Sl. No.	Topics	Duration in Hours
1	Drawing of pressure, Level , flow and temperature control system.	63
2	Exercises on blue print reading related to the trade. Free hand sketchesof crushers, ballmill, hammermill and centrifuges.	
3	Free hand sketches of steam jet ejector, steam trap	
4	Diagram of distillation column with all accessories Free hand sketches of process instrument- such as temperature indicator, level indicator, LIC, TIC, PI, PIC, FI, FIC	
5	Free Hand Sketches of Process Flow Sheets of Manufacturing- Ammonia and Urea	