

Syllabus for the subject

of

# **ENGINEERING DRAWING**

(For 3rd & 4th semester)

Under

**CRAFTSMEN TRAINING SCHEME (CTS)**

(For Wireman)

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**

**DETAILS OF SYLLABUS**  
**3<sup>rd</sup> SEMESTER ENGINEERING DRAWING**

**For the trade of**

Wireman

Sl. No.	Topics	Duration in Hours
1	<p><b><u>Sign &amp; Symbol Trade related</u></b>  <b><u>Alternating Current</u></b>            Drawing of simple electrical circuit using electrical symbols.            Drawing of sine square &amp; triangular waves.            Diagram of battery charging circuit.            Practice in reading typical example of circuit containing R, L &amp; C.            Reading of electrical drawing.</p>	66
2	<p><b><u>Electronic components</u></b>            Symbols for electronic components. Diode, Transistor, Zener diode, S.C.R., UJT, FET, I.C. Diac, Triac            Drawing of half wave, Full wave and Bridge rectifier circuit.</p>	
3	<p><b><u>Electric wirings &amp; Earthing</u></b>            Detailed diagram of calling bell, &amp; Buzzers etc            Free hand sketching of Staircase wiring. Drawing the schematic diagram of plate and pipe earthing. Diagram for electroplating from A.C and D.C source.</p>	
4	<p><b><u>DC machines</u></b>            Graphic symbols for Rotating machines.            Sketching of brush and brush gear of D.C. machines.            Sketching of D.C. 3-point and 4-point starter .            Layout arrangement of D.C. Generators &amp; motors, control panel.            Exercises on connection to motors through Ammeter, voltmeter &amp; K.W. meters of electrical wiring diagram.</p>	

## DETAILS OF SYLLABUS

### 4<sup>th</sup> SEMESTER ENGINEERING DRAWING

Wireman

Sl. No.	Topics	Duration in Hours
1	<b>Transformer</b> Graphic symbols for Transformers. Free hand sketching of transformer and auxiliary parts and sectional views.	66
2	<b>Alternator</b> Tracing of panel wiring diagram of an alternator. Drawing the schematic diagram of automatic voltage regulators of A.C. generators.	
3	<b>Control Panel</b> Practice in reading panel diagram. Local & Remote control of Induction motor with inching. Forward & Reverse operation of Induction motor Automatic Star Delta Starter Automatic star delta starter with change of direction of rotation Sequential control of three motors.	
4	<b>Distribution of Power</b> Types of insulator used in over head line. (Half sectional views) Different type of distribution systems and methods of connections. Layout diagram of a substation. Single line diagram of substation feeders.	
5	Free hand drawing of Fuse, circuit breakers and relays.	