

Syllabus for the subject

of

ENGINEERING DRAWING

(For 3rd &4th semester)

Under

CRAFTSMEN TRAINING SCHEME (CTS)

(For Mechanic Mechatronics)

Re-Designed

in

2015

By

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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

SYLLABUS OF ENGINEERING DRAWING FOR 3rd SEMESTER
Mechanic Mechatronics

| Sl. No. | Topics | Hrs. |
|---------|--|------|
| 1. | Drawing of Hydraulic & Pneumatic symbols. Block diagram of hydraulic & pneumatic power pack. | 63 |
| 2. | Geometrical constructions polygons in circles | |
| 3. | Geometrical constructions of inscribed circles in polygons. Geometrical constructions circumscribed circles in polygons. Geometrical constructions of tangential arcs and circles. | |
| 4. | Preparation of templates by using tangential arc method. Engineering curves – parabola and hyperbola. | |
| 5. | Ellipse 4 types of constructions @ 2 sheets. | |
| 6. | Exercise on sectional views. | |
| 7. | Exercise on Orthographic views, dimensioning and sectioning | |
| 8. | Projection of lines, planes and solids @ 3/4 sheets. | |
| 9. | Practice on Basic electrical symbols. Wiring diagram of speed control of AC/DC Motors. Connection diagram of control of AC/DC Motors. Connection diagram of megger. | |
| 10. | Representation of seals, bearings, threads and screw joints | |
| 11. | Introduction to Auto CAD- 2D drafting (Component drawing & electrical circuits) | |

SYLLABUS OF ENGINEERING DRAWING FOR 4TH SEMESTER
Mechanic Mechatronics

| Sl. No. | Topics | Hrs. |
|---------|---|------|
| 1. | Block diagram by LVDT, Block diagram OCR, Block diagram TC. Basic Block Diagram of PLC Simplifying Diagram. Timer circuit, Thermocouple, Opto-Electronic Devices like photodiode, Photo Transistor. | 63 |
| 2. | Symbols of Pressure and flow sensors. Block diagram of servo motor. | |
| 3. | Concept of coordinate axe in CNC, axe designation. X,Y,Z,A,B,C & U,V,W. Application of coordinate axis in CNC | |
| 4. | Block diagram of computer, Input devices & output devices. | |
| 5. | Practice on secondary, auxiliary projections. Concept of co-ordianate axis in CNC. | |
| 6. | Interpenetrating Curves of solids, Lines of intersection of plain surface to plain surface, @2 sheets). Lines of intersection of plain surface to curved surface@ 2 sheets). Lines of intersection of curved surface to curves surface) @ 2 sheets). | |
| 7. | Blue print reading conventions. Welding Symbols, surface roughness Symbols and their application. Tolerance of forms and positions and their applications (@ 4 sheets) | |
| 8. | Introduction of 3D modelling | |