

PHOTOGRAPHS OF CHARTS ON ENGINEERING DRAWING

<h3>ENGINEERING DRAWING (ED - 1)</h3> <h4>CONVENTIONAL REPRESENTATION OF LINES / MATERIALS</h4> <table border="1"> <thead> <tr> <th>CONVENTION</th> <th>MATERIAL</th> <th>CONVENTION</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td></td> <td>METALS: Steel, C. I. Copper and its alloys, Aluminum and its alloys</td> <td></td> <td>Wood, plywood, etc.</td> </tr> <tr> <td></td> <td>METALS: Lead, zinc, tin, white metal, etc.</td> <td></td> <td>Concrete</td> </tr> <tr> <td></td> <td>Glass</td> <td></td> <td>Water, oil, petrol, kerosene, etc.</td> </tr> <tr> <td></td> <td>Porcelain, stoneware, marble, slate, etc.</td> <td></td> <td>Concrete</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>TYPE OF LINE</th> <th>ILLUSTRATION</th> <th>APPLICATION</th> </tr> </thead> <tbody> <tr> <td>CONTINUOUS - THICK (RED LINES AND DIMS)</td> <td></td> <td>Visible outlines and edges (RED LINES AND DIMS)</td> </tr> <tr> <td>CONTINUOUS - THIN (BLACK LINES AND DIMS)</td> <td></td> <td>Dimension lines, hidden lines, extension lines, projection lines, cutting plane lines, short break lines</td> </tr> <tr> <td>SHORT DASHED MEDIUM</td> <td></td> <td>Hidden outlines and edges</td> </tr> <tr> <td>LONG CHAIN THIN ALTERNATE LONG AND SHORT DASHES</td> <td></td> <td>Center lines, locus lines, extreme position of the revolving parts</td> </tr> <tr> <td>LONG CHAIN THIN CUT END AND THIN ELIMINATE</td> <td></td> <td>Cutting plane lines</td> </tr> <tr> <td>LONG CHAIN THICK</td> <td></td> <td>To indicate surfaces which are to receive additional treatment</td> </tr> <tr> <td>RULED LINE AND SHORT DASHES</td> <td></td> <td>Long break lines</td> </tr> </tbody> </table>	CONVENTION	MATERIAL	CONVENTION	MATERIAL		METALS: Steel, C. I. Copper and its alloys, Aluminum and its alloys		Wood, plywood, etc.		METALS: Lead, zinc, tin, white metal, etc.		Concrete		Glass		Water, oil, petrol, kerosene, etc.		Porcelain, stoneware, marble, slate, etc.		Concrete	TYPE OF LINE	ILLUSTRATION	APPLICATION	CONTINUOUS - THICK (RED LINES AND DIMS)		Visible outlines and edges (RED LINES AND DIMS)	CONTINUOUS - THIN (BLACK LINES AND DIMS)		Dimension lines, hidden lines, extension lines, projection lines, cutting plane lines, short break lines	SHORT DASHED MEDIUM		Hidden outlines and edges	LONG CHAIN THIN ALTERNATE LONG AND SHORT DASHES		Center lines, locus lines, extreme position of the revolving parts	LONG CHAIN THIN CUT END AND THIN ELIMINATE		Cutting plane lines	LONG CHAIN THICK		To indicate surfaces which are to receive additional treatment	RULED LINE AND SHORT DASHES		Long break lines	<h3>ENGINEERING DRAWING (ED - 2)</h3> <h4>METHODS OF PROJECTION</h4> <h5>ORTHOGRAPHIC PROJECTION (FIRST ANGLE)</h5> <p>Projection Object Face parallel to plane of projection Plane of Projection Projecting lines parallel to each other and perpendicular to plane of projection</p> <h5>OBLIQUE PROJECTION (THIRD ANGLE)</h5> <p>Oblique projection Plane of projection Projecting lines parallel to each other but inclined to plane of projection Orthographic projection</p>	<h3>ENGINEERING DRAWING (ED - 3)</h3> <h4>DIMENSIONING - I</h4> <p>ARROWHEAD DIMENSIONED PLACING DIMENSIONING STRAIGHT FEATURES DIMENSIONING OF SMALL FEATURES PROCESSES OF PARALLEL DIMENSIONING DIM DIMENSIONING DIMMED DIMS FOR LONG DIMS DIMENSIONING A RADIUS AND A SPHERICAL FEATURE</p> <p>DIMENSIONS OF CYLINDRICAL PARTS SHOULD BE PLACED IN THE VIEWS IN WHICH THEY ARE SEEN AS RECTANGLES</p>	<h3>ENGINEERING DRAWING (ED - 4)</h3> <h4>DIMENSIONING - II</h4> <p>DRAWING EXTENSION LINES FOR FILLETS PARALLEL TRANSFER OF DIMENSIONING TO FREE SPACE RATIONAL USE OF DRAWING SPACE IN INSIDE AND OUTSIDE DIMENSIONING ANGULAR DIMENSIONS DIMENSIONING A COUNTERSINK DIMENSIONING A CHAMFER SCREW THREAD DIMENSIONING</p>	<h3>ENGINEERING DRAWING (ED - 5)</h3> <h4>ORTHOGRAPHIC PROJECTION - I</h4> <ul style="list-style-type: none"> The projection on the vertical plane is called the FRONT VIEW or ELEVATION. The projection on the horizontal plane is called the TOP VIEW or PLAN. The projection on auxiliary vertical plane is called SIDE VIEW.
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<h3>ENGINEERING DRAWING (ED - 12)</h3> <h4>COUPLINGS - II</h4> <h5>MUFF COUPLING</h5> <h5>FLANGED COUPLING</h5> <h5>PROTECTED TYPE FLANGED COUPLING</h5>	<h3>ENGINEERING DRAWING (ED - 13)</h3> <h4>KNUCKLE JOINT</h4> <p>Fork end, Collar, Pin, Eye end</p>	<h3>ENGINEERING DRAWING (ED - 14)</h3> <h4>TYPES OF KEYS</h4> <h5>SUNK TAPER KEY</h5> <p>If D is the diameter of the shaft, Width of key, $W = 1/3 D + 2 \text{ mm}$, Nominal thickness, $T = 2/3 W$.</p> <h5>SHOULDER KEYS</h5> <p>If D is the diameter of the shaft, Width of key, $W = 1/3 D + 2 \text{ mm}$, Nominal thickness, $T = 1/3 W$.</p> <h5>GB HEAD KEY</h5> <p>Proportions of a GB head key, $H = 1.17 B + 1.5 T$, Angle of chamfer = 45°.</p> <h5>PARALLEL OR FEATHER KEY</h5> <p>A feather key is a sunk key of uniform thickness.</p> <p>RECTANGULAR, SQUARE, DOWEL PIN</p>	<h3>ENGINEERING DRAWING (ED - 15)</h3> <h4>PULLEYS - I</h4> <h5>ROPE PULLEY</h5> <h5>V-BELT PULLEY</h5> <h5>SPLIT PULLEY</h5>	<h3>ENGINEERING DRAWING (ED - 16)</h3> <h4>PULLEYS - II</h4> <h5>PLAT PULLEY</h5> <h5>FAST AND LOOSE PULLEY</h5> <h5>STEPPED PULLEY</h5>	<h3>ENGINEERING DRAWING (ED - 17)</h3> <h4>BEARINGS</h4> <h5>SOLID BEARING</h5> <h5>BUSHED BEARING</h5> <h5>PLUMMER BLOCK</h5> <h5>FOOT-STEP BEARING</h5>																																											
<h3>ENGINEERING DRAWING (ED - 18)</h3> <h4>BOLTS AND WASHES</h4> <h5>Hexagonal-Headed Bolt</h5> <h5>Square Headed Bolt</h5> <h5>T-Headed Bolt</h5> <h5>Cylindrical or Cheese Headed Bolt</h5> <h5>Lifting Eye Bolt</h5> <h5>Washers</h5> <h5>Spring Washers</h5>	<h3>ENGINEERING DRAWING (ED - 19)</h3> <h4>TYPES OF NUT</h4> <h5>CASTLE NUT</h5> <h5>LOCK NUT</h5> <h5>FLANGED NUT</h5> <h5>CAP NUT</h5> <h5>WING NUT</h5> <h5>KNURLED NUT</h5> <h5>RING NUT</h5>	<h3>ENGINEERING DRAWING (ED - 20)</h3> <h4>TYPES OF SCREW</h4> <h5>VARIOUS HEAD FORMS OF SET-SCREWS</h5> <table border="1"> <thead> <tr> <th>ROUND</th> <th>CYLINDRICAL</th> <th>FLAT</th> <th>COUNTERSINK</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <h5>ENDS OF SET-SCREW</h5> <table border="1"> <thead> <tr> <th>CONE</th> <th>FLAT</th> <th>SOFT</th> <th>HEXAGON</th> <th>WALNUT</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <h5>CAP AND MACHINE SCREWS</h5> <table border="1"> <thead> <tr> <th>HEX</th> <th>FLAT</th> <th>ROUND</th> <th>SOCKET</th> <th>SQUARE</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	ROUND	CYLINDRICAL	FLAT	COUNTERSINK									CONE	FLAT	SOFT	HEXAGON	WALNUT						HEX	FLAT	ROUND	SOCKET	SQUARE						<h3>ENGINEERING DRAWING (ED - 21)</h3> <h4>INTERSECTION OF TWO PRISMS</h4> <p>A vertical square prism has a face inclined at 30° to the V.P. It is penetrated by another square prism, faces of which are equally inclined to the V.P. The axes of two prisms are parallel to the V.P. And bisect each other.</p>	<h3>ENGINEERING DRAWING (ED - 22)</h3> <h4>INTERSECTION OF PRISMS AND A CONE</h4> <h5>INTERSECTION OF A TRIANGULAR PRISM AND A CONE</h5> <p>TO DRAW CURVES OF INTERSECTION WHEN A SQUARE HOLE IS CUT THROUGH A CONE</p>	<h3>ENGINEERING DRAWING (ED - 23)</h3> <h4>DEVELOPMENT OF SURFACES OF SOLIDS</h4> <h5>DEVELOPMENT OF THE LATERAL SURFACE OF THE PART OF THE HEXAGONAL PRISM</h5> <h5>DEVELOPMENT OF THE LATERAL SURFACE OF THE CYLINDER, CUT BY THREE PLANES</h5> <h5>DEVELOPMENT OF THE LATERAL SURFACE OF THE PART OF THE HEXAGONAL PYRAMID</h5>											
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