

**TERM WISE SYLLABUS 2018-19**  
**CLASS-XII**  
**SUBJECT – ENGINEERING GRAPHICS**

**FIRST TERM – APRIL 2018 TO SEPTEMBER 2019**

Date	Contents
April 2018 to September 2018	<p>Revision of concepts learned in class XI</p> <p>Unit I: Isometric Projection of Solids</p> <p>(i) Construction of isometric scale showing main divisions of 10 mm and smaller divisions of 1 mm, also showing the leading angles. Drawing helping view/s such as triangles, pentagon, hexagon, etc., using isometric scale.</p> <p>(ii) Isometric projections (drawn to isometric scale) of solids such as cube, regular prism and pyramids (triangular, square, pentagonal and hexagonal), cone, cylinder, sphere, hemisphere, frustum of right regular pyramids (triangular, square, pentagonal, hexagonal) and cone, when they are cut by a plane parallel to the base. The axis and the base side of the solid should be either perpendicular to HP / VP or parallel to HP and VP. (Indicate the direction of viewing).</p> <p><b>Note:</b></p> <p>(1) Question on frustum will be asked in vertical position only.</p> <p>(2) Hidden lines are not required in isometric projection.</p> <p>Practice exercises from CBSE Book and other standard books.</p> <p>Introduction to <b>COLLAB-CAD</b>; Practice on regular plane figures and simple solids. Discussion of missing view problems prescribed by CBSE with 3D machine block.</p>
	<p>Unit I: Isometric Projection of Solids – <b>contd.</b></p> <p>(iii) Combination of two solids (except "frustum" of Pyramids and Cone) Keeping the base side parallel or perpendicular to HP/VP and placed centrally together, axis of both the solids should not be given parallel to HP.</p> <p>Assignments for Summer Vacation.</p>
	SUMMER VACATION

	<p>Unit II: Machine Drawing (as per SP 46:2003)</p> <p><b>A. Drawing of machine parts</b></p> <p>(i) Full scale with instruments</p> <p>Introduction of threads;  Standard profiles of screw threads – Square, Knuckle, B.S.W. and Metric (external and internal);  Bolts – Square, Hexagonal, Tee and Hook;  Nuts – Square and Hexagonal;  Plain washer;</p> <p>Practice exercises from CBSE Book and other standard books.</p> <p>Practicals by the use of <b>COLLAB-CAD</b>; and of missing view problems prescribed by CBSE with 3D machine block.</p>
	<p>Combination of nut and bolt with or without washer for assembling two parts together;  Single riveted lap joint with standard dimensions.</p> <p>(ii) Free-hand sketches</p> <p>Conventional representation of external and internal threads;  Studs – plain, square-neck and collar;  Screws – round-head, cheese-head, 90° flat counter sunk-head, hexagonal socket head and grub-screw;  Rivets – snap head, pan head-without tapered neck, flat head and 60° countersunk flat head;  Keys – rectangular taper sunk key, woodruff key, double-head feather key with gib head on both ends.</p> <p><b>Note:</b> <i>In the above mentioned machine parts (free hand sketches) “in-position” shall not be asked.</i></p> <p>Practice exercises from CBSE Book and other standard books.</p> <p>Practicals by the use of <b>COLLAB-CAD</b>; and of missing view problems prescribed by CBSE with 3D machine block.</p>
	<p style="text-align: center;">Revision for Mid Term Exam</p>
	<p style="text-align: center;">Mid Term Exam</p>

**SECOND TERM – OCTOBER 2018 TO MARCH 2019**

Date	Contents
<p>October 2018 to November 2018</p>	<p>Discussion of I<sup>st</sup> Term Question Paper and Solutions</p> <p><b>B. Assembly drawings and Dis-Assembly drawings</b> (Internal choice will be given between an Assembly drawing and a Dis-Assembly drawing).</p> <p><b>Note:</b></p> <p><i>1. In all Assembly drawings, half sectional front view will be asked. Side/End view or Top View/Plan will be drawn without section.</i></p> <p><i>2. In all the Dis-assembly drawings, only two orthographic views (one of the two views may be half in section or full in section) of any two parts.</i></p> <p><i>3. (a) In all sectional views, hidden lines / edges are not to be shown.</i> <i>(b) In all full views, hidden /edges are to be shown.</i></p> <p>1. Bearings (i) Open-Bearing (ii) Bushed-Bearing</p> <p>2. Rod-Joints (i) Cotter-joints for circular-rods (socket and spigot joint) (ii) Cotter-joints for round-rods (sleeve and cotter joint) (iii) Cotter-joints for square rods (Gib and cotter-joint)</p> <p>Practice exercises from CBSE Book and other standard books.</p> <p>Practicals by the use of <b>COLLAB-CAD</b>; and of missing view problems prescribed by CBSE with 3D machine block.</p>
	<p>3. Tie-rod and Pipe-joint (i) Turnbuckle (ii) Flange pipe joint</p> <p>4. Couplings (i) Unprotected Flange Coupling (having socket and spigot arrangement) (ii) Protected Flange Coupling</p> <p>5. Pulleys (i) Solid Cast Iron Pulley - (up to 200mm diameters) having solid web</p> <p>Practice exercises from CBSE Book and other standard books.</p> <p>Practicals by the use of <b>COLLAB-CAD</b>; and of missing view problems prescribed by CBSE with 3D machine block.</p>
<p>December 2018</p>	<p>Syllabus must be completed by 30 November 2018 Revision of entire curriculum</p>

	Practice from sample papers & previous years papers
	REMEDIAL CLASSES in WINTER BREAK
January 2019	<b>COMMON PRE-BOARD SCHOOL EXAMINATION</b>
February 2019	Discussion of pre-board question paper, practice from CBSE sample papers, practice from previous years CBSE board question papers. <b>CBSE BOARD PRACTICAL EXAM</b>
March 2019	<b>ANNUAL EXAMINATION CBSE</b>