

# GEOMETRICAL AND BUILDING DRAWING (870)

**This subject may not be taken with Geometrical and Mechanical Drawing.**

Candidates will be required to reach a minimum standard in the subject as a whole. The use of drawing board, tee-square and set-squares will be required. (Candidates may, if they wish, use a drawing board fitted with parallel motion straight edge. The use of

drafting machines will be permitted). A2 size paper will be used. The recommendations of IS:962-1972 Indian Standard, Code of Practice for Architectural and Building Drawings should be followed.

The use of models is to be encouraged in studying this syllabus.

## CLASS XI

*There will be one paper of 3 hours duration of 100 marks.*

### SECTION A

#### Plane Geometry

Construction and use of scales including diagonal scales. Enlargement and reduction of irregular plane figures. Construction of triangles, quadrilaterals and polygons. Similar plane figures. Problems on circles, tangents and normals. Loci such as the paths of points in simple link mechanisms. Methods of construction of ellipse, including its elementary properties, parabola and rectangular hyperbola: cycloidal and involute curves.

### SECTION B

#### Solid Geometry

Orthographic projection. (Diagrams printed in the question papers may be either First or Third Angle projections; the projection used will be stated. Solutions in either First or Third Angle projections will be accepted). Projection involving use of auxiliary planes: simple problems on auxiliary projection. Simple problems on the intersection of prisms, pyramids, cylinders, right circular cones, and spheres. Determination of true length of a line in space: sections and surface development of prisms, pyramids, cylinders and right circular cone. Helix treated as a locus with applications on the projection of helices. Isometric and oblique projection without the use of isometric scales.

## CLASS XII

*There will be one paper of 3 hours duration of 100 marks.*

#### Building Drawing

Candidates will be required to answer **all** questions.

The course on Building Drawing should be based on the form and construction of simple buildings and parts of buildings; small dwelling houses (single and two storey), garages, sheds and green-houses.

Orthographic projection in either First or Third Angle projection, including sectional views of buildings and parts of buildings and building details, e.g. foundations, walls (including openings), jambs, sills,

lintels and arches, floors and roofs, doors and windows, simple stairs.

Preparation of simple working drawings and details from free-hand sketches.

Free-hand sketching on both orthographic and pictorial form of simple building details and tools used in the various building crafts and school workshops such as hammer, mallet, tri - square, plane chisel, trowel, screwdriver and the like.

Drawing paper (folded) will be provided but candidates may use any type of drawing paper for answering the question provided it is of suitable quality and of the correct size.