UNIT NUMBER	11
NAME	REPRESENTATION SYSTEMS

SUMMARY

Cutting System

The cutting system is a system of representation with cylindrical orthogonal projection.

Elements: Two planes of perpendicular projection   -Vertical Plane (V)
                                                  -Horizontal Plane (V)

      : support line: intersection between vertical and horizontal plane

They can represent: Points
                            Lines
                            Plain Shapes
                            Solids: their projections are called views: Main view (front view)
                                                          Top view
                                                           Side view (left view / right view)

Normalisation and dimensions

Normalisation is a series of graphic rules that have the objective of making it easier to understand at an international level of technical drawing. Dimension consists of marking the measurements of a piece through noting-lines and numbers of the drawing that it represents.

Rules of dimension : Elements of noting-lines are:
                                              -Guidelines or reference lines
                                            -number of elevation

Systems of noting-lines: -in series
                              -in parallel
                              -combined

A sketch is a hand drawing of the main view of a piece, made in pencil and without the use of instruments of technical drawing.

THE AXONOMETRIC SYSTEM

-The axonometric system is a system of representation that shows an object with the three real dimensions at the same time. We use axes X,Y,Z in this kind of representation.

-With Cylindrical orthogonal projection: -Isometric:the axis form 120 degrees
                                                  -Dimetric: the axis form two equal angles and one unequal angle.
                                                    -Trimetric: the axis form unequal angles

-With Oblique cylindrical projection: perspective-axes X and Z form 90 degrees. On the Y axis a coefficient of reduction is applied.

SELF EVALUATION

1. What are the systems of representation? What do they work for?

2. What type of projects is used in this projection? What elements are present in it?

3. Number the fundamental elements of the cutting system?

4. What position does this figure have given in cutting respect to the planes of projection?

5. Given the following piece in isometric perspective, draw its main view.

6. Explain what the rules of dimension noting consist of and for what they are used.

7. How are the dimensions resolved in this figure?: in series, in parallel or combined?

8. Observe the perspective of these solids. Indicate in what type of axonometry they are drawn.

9. What angles are formed in the axis in an isometric axonometric perspective?

10. What type of projection is used in Caballera perspective?

11. If you wanted to make an alteration to your house, what system of representation would you use to draw it?

12. What is "La Bauhaus"? What characteristics did this school encourage?

FINAL ACTIVITIES

8. Draw the three diedric views of these figures represented in isometric perspective

9. make with a soft graphite pencil a marked sketch of some object that you have around. Look closely how the sketch has been done of the object in the photograph.

10. Observe the figure to the right. Copy it onto a computer using a word processor such as OpenOffice or Word and measure it in series as shown. Duplicate the figure and mark it after in parallel applying the knowledge aquired in the unit.

Take care with the thickness and types of lines on making your drawings. On the toolbar you have everything you need to do it correctly.

11. Draw freehand the caballera perspective of this object. Use a graphite pencil for your sketch in the perspective and colour it afterwards with colour pencils.

12. Given the diedric views of the following pieces, draw for each one using a graphit pencil:

   a) The isometric axonometric perspective.
   b) The caballera perspective with angle XOY at 135 degrees and a coefficient of reduction 2/3

13. The military perspective is a variant of caballera perspective, in which the X and Y axes form 90 degrees. Draw the military perspective of your room and colour it afterwards. Observe this example of military perspective done by a German architect in 1932.