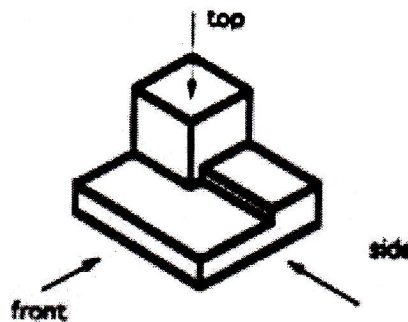


Section I. Fifteen (15) Compulsory questions**55 marks**

01. What is the information needed in any standard Title Block while doing a drawing work report? **(5 marks)**
02. State Hooke's Law in elasticity. **(3 marks)**
03. If an actual length of an object is 3 metres (m) and represented by a line of 15mm length on the drawing, calculate the Representative Fraction (RF). **(5 marks)**
04. What is an Alloy? Explain the difference base metal from alloying element. **(5 marks)**
05. Define corrosion. **(3 marks)**
06. Show how the three views appear on a piece of paper after unfolding the box of the figure below. **(5 marks)**

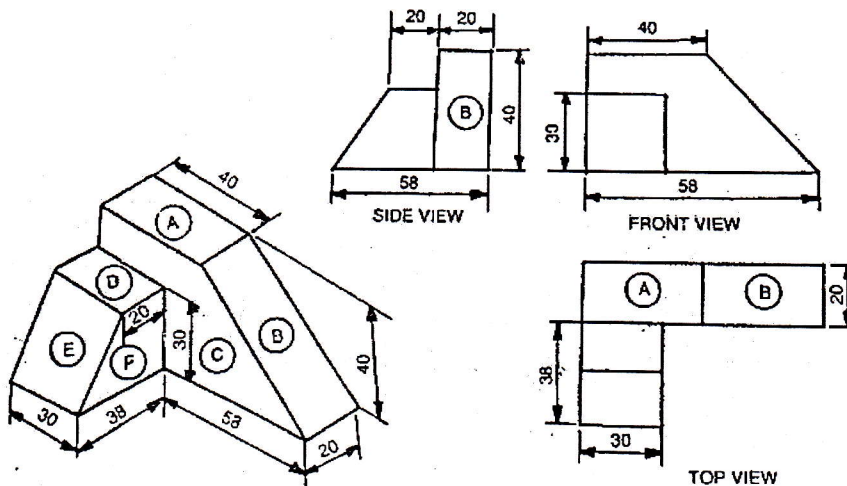


07. According to their metallographic structure, cast irons are classified into eight (8) categories, list six (6) of them. **(3 marks)**
08. Give the difference between "the First Angle Projection" and "the Third Angle Projection". **(5 marks)**
09. Solid materials have been conveniently grouped into three basic classifications. List them. **(3 marks)**
10. Give at least eight (8) important drawing's equipment. **(4 marks)**
11. Plastic materials are classified into two types. List them. **(2 marks)**
12. Give a definition of an Orthographic projection. **(3 marks)**
13. Explain the difference between Plain scales and Vernier Scales. **(4 marks)**
14. What do you understand by thermosetting plastics? **(2 marks)**
15. Give the difference between Engineering stress and engineering strain. **(3 marks)**

16. Differentiate: (a) Smelting, melting and remelting.
 (b) Galvanizing, coating, tinning. (10 marks)

17. (a) Divide a straight line of 80mm length into six equal parts with help of divider (or compass).
 (b) Inscribe a regular hexagon in a given circle of 70mm of diameter, when two side of the hexagon are:
 1) Horizontal 2) Vertical (10 marks)

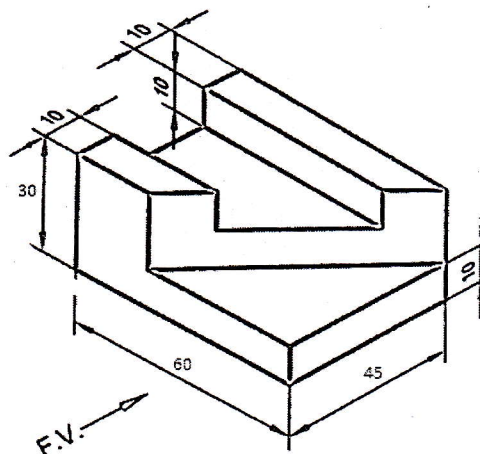
18. (a) The figure below shows the pictorial view of an object in which the various surfaces are marked by different alphabets. Identify and mark various surfaces from the pictorial view to the orthographic projection. Surface A and B are Examples.



- (b) Draw an arc of a given radius $R=20\text{mm}$ touching two given straight lines AB and AC which make an acute angle of 59° between them.

(10 marks)

19. Draw the front view, right side view and the top view of the object shown below (10 marks)



20. (a) Why do you section a solid?
 (b) Give the symbolic representation of first angle projection.
 (c) A line AB 50mm long is in VP and inclined at 35° to HP. End A is 10 mm above HP. Draw the projection to HP.

(10 marks)

21. A hexagonal pyramid, side of base 25mm and axis 50mm long rests with its base on HP and an edge of its base is perpendicular to VP. It is cut by a section plane perpendicular to VP, inclined at 30° to HP and passing through a point on the axis 20mm below the apex.

Draw the sectional side view and sectional top view.

(10 marks)

Section III. Choose and answer any one (1) question

15 marks

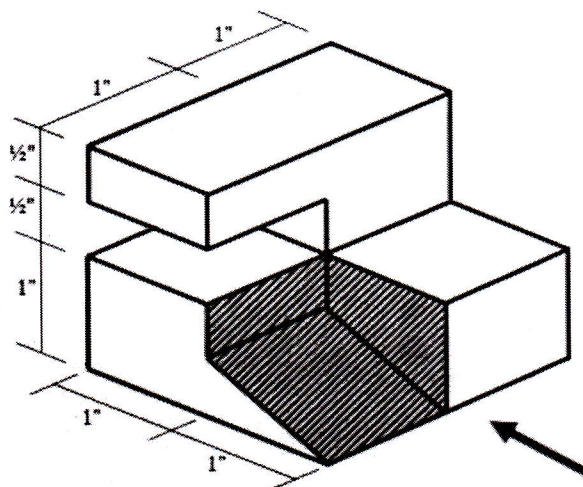
22. A) Give the difference between ferrous and non-ferrous metals. Explain the reason why the non-ferrous metals are frequently used in industry.

- B) Corrosion is a natural process and it can be controlled by using effective methods and strategies. There are mainly five primary ways to control/ or avoid corrosion. Discuss these methods.

(15 marks)

23. A) The standard ISO 128: 1982 gives 10-line types that are defined from A to K (excluding letter I). List and draw these lines.

- B) Draw the Top view, Front view, Right view, Left view and Back view for the following isometric view



18/1
14/1
03.

(15 marks)