



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE- BOARD-I EXAMINATION (2017-18)

Class:-XII
Time- 3 Hrs.

Subject-Engineering Graphics
M.M.-70

General Instructions:-

Attempt all the questions. Use both sides of the drawing sheet, if necessary. All dimensions are in millimeters. Missing and mismatching dimensions, if any, may be suitably assumed. Flow SP: 46-2003 revised codes (with first angle method of projection). In questions 4, hidden edges or lines are to be shown without section.

1. Answer the following multiple choice questions. Print the correct choice on your drawing sheets.
- (i) In which of the following joints, a single line/row of rivets is used to join two plates together. [5x1=4]
- (a) Zigzag joint (b) Single riveted Lap Joint (c) Double riveted Lap Joint
- (ii) Protected flange coupling is better than unprotected flange coupling with regard to
- (a) Protection from dirt (b) Ensure Safety (c) Protection from water
- (iii) When the drawing is drawn of the same size as that of the object, then the scale is called as?
- (a) Full size scale (b) Diagonal scale (c) Vernier scale
- (iv) How many total number of components are used in assembly of a Gib and Cotter Joint?
- (a) 2 (b) 3 (c) 4 (d) 5
- (v) How many total number of components are used in assembly of Bushed Bearing?
- (a) 1 (b) 2 (c) 3
- Q.2 (i) Construct an isometric scale. [4]
- (ii) Draw the isometric projection of frustum of cone of base diameter 30 mm, top diameter 50 mm, height of the axis 60 mm. Axis perpendicular to the H.P. It is resting on the ground of its base. Give all the dimensions. Show the direction from viewing. [7]
- (iii) A right circular cone (base diameter 50 mm, height 55 mm) is placed with its base resting centrally on the top rectangular face of a horizontal triangular prism (side of triangle 40 mm, Length of the prism 70 mm) keeping triangular faces of the prism parallel to V.P. Draw the isometric projection of the combination of solids. Show the axis of each solid and indicate the direction of viewing. Give all the dimensions. [13]

P.T.O

- Q.3 (i) Draw to scale 1:1 , the standard profile of a metric screw thread 'Internal' taking enlarged pitch is 40 mm. Give standard dimensions.

OR

Draw sectional front view of single riveted Lap Joint , thickness of plate is 9mm. Give the standard dimensions.

- (ii) Sketch free hand the front view , top view and side view of a woodruff key, shaft diameter 60 mm. Give standard dimensions.

OR

Sketch free hand front view and top view of plain stud bolt of diameter 20 mm .Give standard dimensions.

- Q.4 Figure :-1, shows the details of the parts of a 'sleeve and cotter joint'. Assemble these parts correctly, and then draw the following view using scale 1:1.

(i) Front view, upper half in section. [14]

(ii) Right hand side view [8]

Print the title and the scale used. Draw the projection symbol. Give 6 important dimensions. [6]

OR

Figure : 2, shows the assembly of an 'open Bearing' . Disassemble the parts correctly and then draw to scale 1:1 its following views of the components.

(i) BODY

(a) Front view, left half in section. [8]

(b) Left side views . [7]

(ii) BUSH

(a) Front view, right half section. [4]

(b) top view [3]

Print the title of both and scale used. Draw projection symbol. Give 6 important dimensions.