



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP RANCHI

HALF YEARLY EXAMINATION (2017-18)

Class:-XII
Time- 3 Hrs.

Subject:- Engineering Graphics
M.M-70

Note:- 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. Follow SP: 46-2003 revised code (with first angle method of projection). In no view of question 2 , hidden edges or lines are required .In Q.4 , hidden edges or lines are to shown in views without section.

1. Answer the following multiple choice questions. [1x5=5]
- (i) What will be the value of thread angle in square thread?
(a) 30° (b) 45° (c) 90°
- (ii) What will be the value of thread angle in Metric screw thread internal?
(a) 60° (b) 90° (c) 45°
- (iii) When the drawing is drawn of the same size, as that of the object, then the scale is called as?
(a) Diagonal scale (b) Full size scale (c) Scale of chords
- (iv) Which joint is suitable to join a trolley with tractor among these?
(a) Flange pipe joint (b) Bushed Bearing (c) Turn Buckle (d) cotter joint
- (v) How many total number of components are used in the assembled of socket and spigot joint?
(a) 2 (b) 3 (c) 4
2. (i) Construct an isometric scale . [4]
- (ii) Draw the isometric projection of a frustum of an equilateral triangular pyramid (top base edge 30 mm, bottom base edge 50 mm, height - 60 mm), keeping it's axis perpendicular to H.P. and its base side parallel to V.P. and parallel side nearer the observer. Draw the axis and indicate the direction of viewing. Give all the dimensions. [7]
- (iii) A hexagonal prism of base side 30 mm. height of the axis 60 mm. Base side parallel to the V.P. It is centrally placed on the top circular face of a cylindrical disc of base diameter 70 mm, height of the axis 35 mm. It is resting on the ground of it's base. Common axis is vertical. Draw the isometric projections. Give all the dimensions. Show the direction from viewing. [13]

3. (i) Draw to scale 1:1 the standard profile of a 'Metric thread Internal', taking enlarged pitch 40 mm. Give the standard dimensions. [8]

OR

Draw Front view and side view of Hexagonal headed bolt of diameter 20 mm. Axis is parallel to both H.P. and V.P. Give the standard dimensions.

- (ii) Sketch freehand the front view and top view of a 'Round head screw' of size M20. Axis is vertical. Give the standard dimensions. [5]

OR

Sketch freehand front view and top view of a 'Pan head Rivet' of size M20. Axis is vertical. Give the standard dimensions.

4. In Fig - 1, Show the details of the parts of a 'Open Bearing'. Assemble these parts correctly and then draw to scale 1:1 its following views.

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

(ii) Side view from right [8]

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

OR

In Fig - 2 , show the assembly of the parts of 'Flange pipe joint' Disassemble the parts and then draw the following views of the parts to scale 1:1. Keeping them in same position with respect to H.P. and V.P.

(i) FLANGE B:

(A) Front view , upper half in section [8]

(B) Right hand side view [8]

(ii) SQUARE BOLT:

(A) Front view of square head bolt [3]

(B) Side view from left [3]

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

