24 Sep 2023

PROJECTION OF POINTS

Ques. (1). A point P is 30 mm above HP and 50 mm in front of V.P., draw its projection.

Ques. (2). A point Q is 30 mm above HP and lie in V.P. Draw its projection.

Ques. (3). A point R is 50 mm front of V.P and lie in HP. Draw projection.

Ques. (4). A point P lie in both HP and VP. Draw its projection.

Ques. (5). A point Q 30 mm above HP and lie in 50 mm behind VP. Draw projection.

Ques. (6). A point R 50 mm behind VP and lie in HP. Draw its projection.

Que (7) A point P 30 mm below HP and 50 mm behind VP. Draw projection.

Que (8) A point Q 30 mm below HP and lie in VP. Draw its projection.

Que (9) A point R 30 mm below HP and 50 mm in front of VP. Draw projection.

Que (10) A point P is 50 mm from both the reference plane. Draw projection in all possible position.

Que (11) State the quadrant in which the following points are situated :-

(i) P its top view is 40 mm above XY, front view 20 mm below the top view.

(ii) Q its projection coincide with each other 40 mm below X-Y

Que. (12) A point P is 15 mm above HP and 20 mm in front of VP another point Q is 25 mm behind VP and 40 mm below HP. Draw the projection of P and Q, keeping the distance b/w their projectors equal to 90 mm. Draw the straight line joining their top view and front view.

DATE

PROJECTION OF LINE

Line → 80mm

Ques (1) Draw the projection of line for following cases :-

(a) Line parallel to both HP and VP. 30mm in front of VP and 40mm above HP.

(b) Line $\perp^r$ to HP and ∥ to VP. Its rear end 30mm above HP, 40mm in front of VP.

(c) Line $\perp^r$ to VP and ∥ to HP, 30mm above HP and 40mm in front of VP.

(d) A line 80 mm inclined 30° to HP and ∥ to VP and its one end 15mm above HP and 35mm in front of VP

(e) Line inclined to VP 35° and ∥ to HP. Its one end 15mm in front of VP and 40mm above HP.

(f) Line situated in both HP and VP.

Ques (2) A 60 mm long line AB, its end A at a distance of 20mm above HP and 40mm in front of VP. Draw the projection.

Ques. (3). A 60 mm line AB and its end A at a distance of 20mm in front of VP, the line is 1° to VP and 40 above HP.

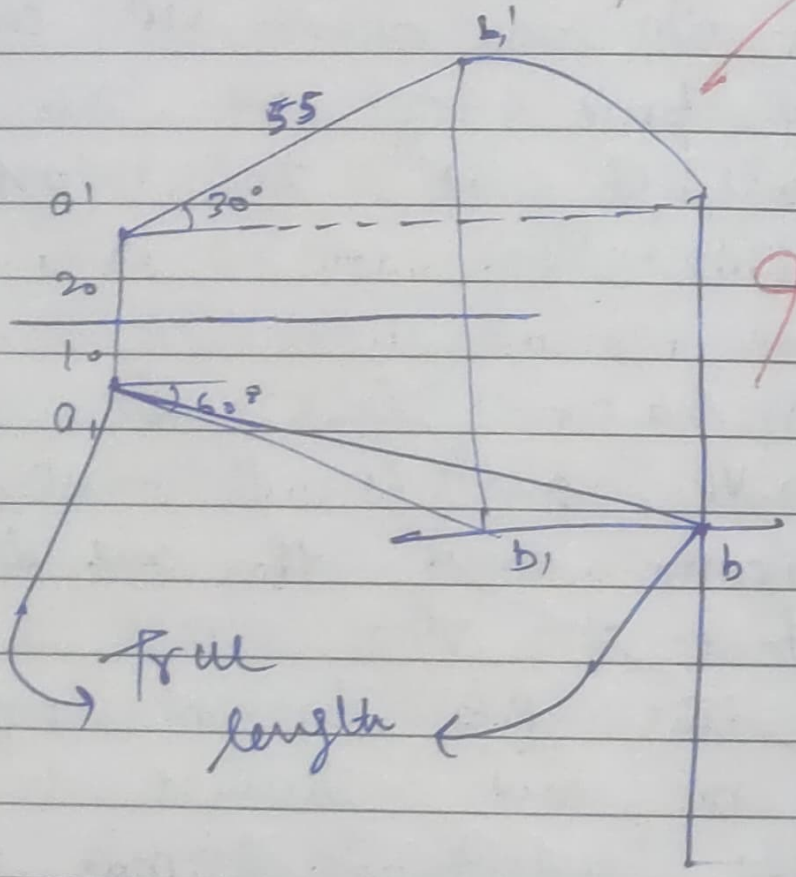
Ques. (4). A 80 mm line has the end A 20 mm above HP and 40mm in front of VP. The line is inclined at 30° to HP and || to VP.

Ques. (5). A 80 mm line is inclined at 30 VP and is || to HP, end A is 20mm above HP and 20 mm in front of VP.

Ques. (6). A line AB 60 mm long is situated in HP and inclined to VP at 30° and end A is 20 mm in front of VP.

Ques. (7). Draw the projection of 70 mm long line (AB) situated on VP and inclined 30° to HP to the end A is 25 mm above HP.

Que. (P) Draw a line whose one end is 20 mm above HP, 10 mm in front of VP and is 30° with HP and 60° with VP. It measures 55 when seen from front.



Projection of Plane

Ques (1). A square lamina ABCD of 25 mm side is parallel to HP and is 10 mm from it. The edge nearer to the VP is 10 mm from VP. Draw its projection.

Ques (2) The rectangle ABCD (60 x 40) mm is parallel to HP with its one side inclined at 30° to VP and the end of the side near to VP is 15 mm infront of VP and 30 mm above HP. Draw its projection.

Ques. (3) A regular pentagon ABCDE of 25 mm side has its base BC in HP its plane is perpendicular to HP and inclined at 45° to VP. Draw its projection of pentagon

Ques. (4) Draw the projection of a thin circular sheet of 50 mm and negligible thickness when its plane is inclined 45° to VP and perpendicular to HP. A point on the circumference and nearest to VP is 40 mm away from HP and 14 mm away from VP.

Ques. (5) A regular hexagon lamina 30 mm side rest of HP on one of its side such that it is perpendicular to HP and inclined to VP at 30°, Draw its projection when the corner nearest to VP is 15 mm away from it

Ques. (6) A regular hexagon ABCDEF of 26 mm side has its plane inclined at 45° to HP and is diagonal FC parallel to HP and inclined to HP at 45°. Draw projection where where its side DE is nearest to VP and 10 mm behind it.

3/10/23

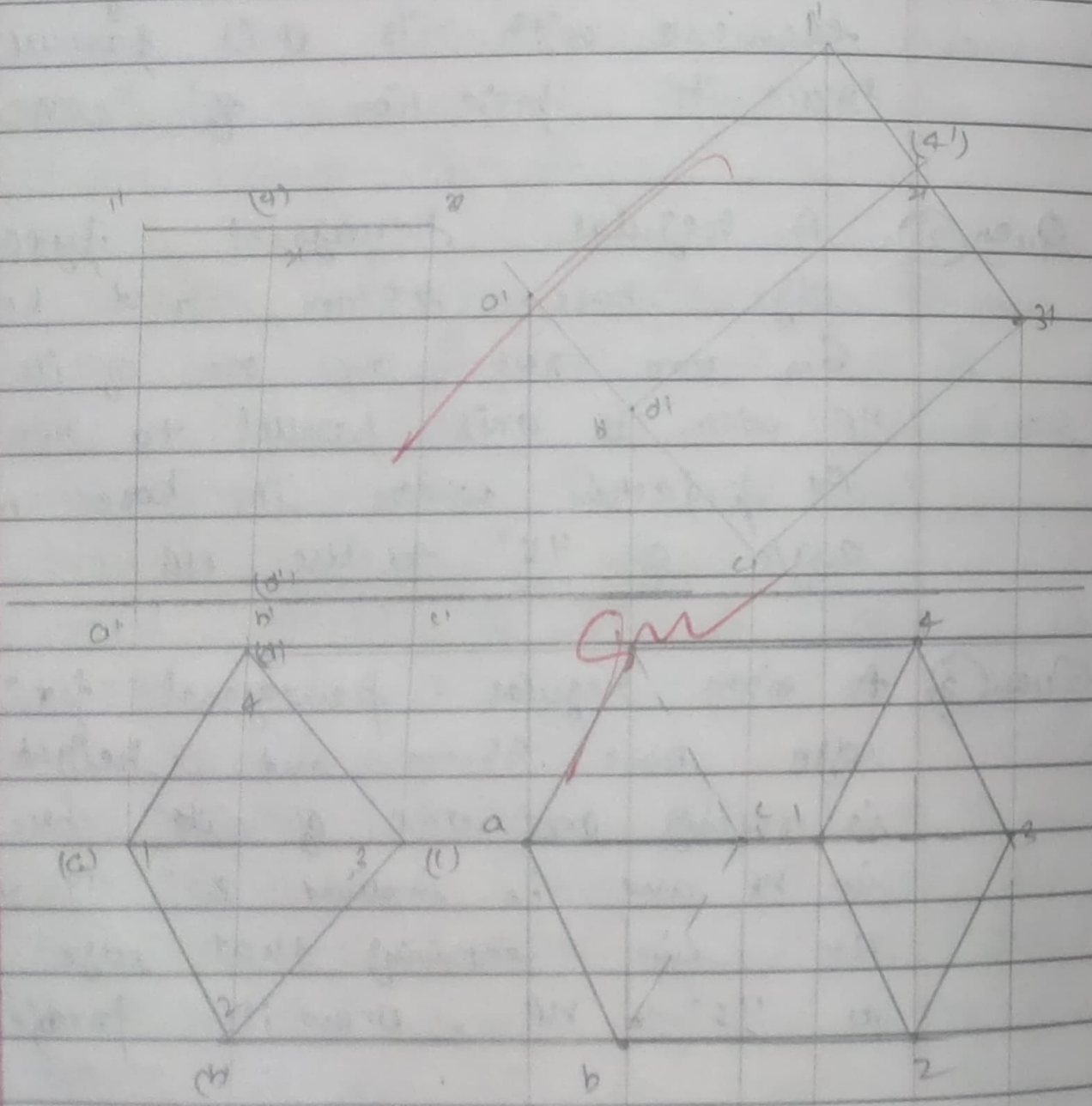
Projection of Solids

Ques. (1). A right circular cone of diameter base 50 mm and height 60 mm lies on HP on one of its elements with its axis parallel to VP. Draw its projection of cone.

Ques. (2). A regular hexagonal pyramid of edge base 25 mm and height 60 mm rest on one of its base on HP with its axis parallel to VP. Draw its projection when its base make an angle of 45° to the HP.

Ques. (3). A right regular pentagonal prism of edge base 35 mm and height 75 mm is resting on one of its base edge in HP and is inclined 30° to VP and the line containing that edge inclined at 45° to HP. Draw its projection.

Que. ④ Draw projection of wire of 40mm edge when a body diagonal of a solid is kept vertical (parallel to VP).



27/Nov/2023

DATE

Projection of sections of solids

Que.(1). Right circular cylinder diameter of base 50mm height 80mm rest on its base ring such that its axis is inclined 45° to HP and is parallel to VP. A sectional plane parallel to HP cut the axis at a distance of 50mm of its base. Draw its projection, front view & sectional view.

Que.(2). A right circular cone diameter of base 60mm and height 70mm rest on its base on HP. A section plane ~~⊥r~~ perpendicular to HP and inclined to VP ~~and inclined to VP at~~ at 45° cuts the cone and is 10mm in front of the axis. Draw its top view, sectional front view.

Ques. (3) A pentagonal pyramid side of base 25 mm and height 50 mm rest on its base on HP. with one of its base edge perpendicular to VP ~~and~~ an auxiliary inclined plane inclined ~~at~~ to HP at 45° cut the pyramid bisecting its axis. Draw its front view and sectional top view.

05 Dec 2023

$\theta = \frac{r}{l} \times 360°$

Development of Surface.

Que. (1). A right circular cone diameter of base 40mm and height 50mm rest on its base on HP. A section plane ⊥r to VP and inclined to HP at 45° cuts the cone bisecting its axis. Draw the projection of truncated cone and develop its lateral surface.

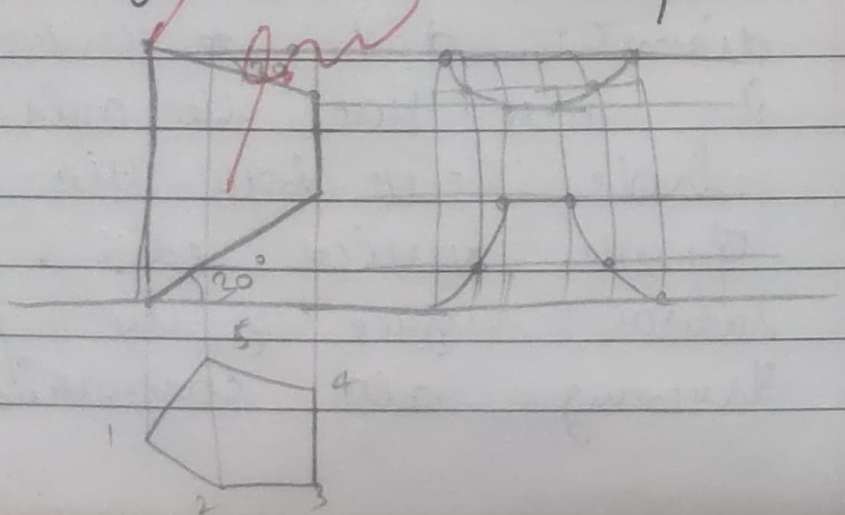
Que. (2). A right regular square prism of 30mm base edge and 60 mm height rest on its base on HP such that its vertical ~~faces~~ faces are equally inclined to VP. It has a horizontal circular cone of 30mm diameter drills centrally through it such that the axis of the hole cuts both the diagonal opposite vertical edges. Develop lateral surface of the prism showing all constructions.

Ques. ③. A right regular pentagonal pyramid edge of base 30mm and height 50mm rest on its base with one of its base edge ⊥ to VP. An auxiliary plane inclined to HP at 30° and ⊥ to VP cuts its axis at a distance of 30mm from the base. Develop the lateral surface of the truncated prism?

Ques. ①.

Ques. ④. A right regular pentagon prism edge of base 30mm height 75mm rest on base HP. It is truncated from both end by section plane as shown in fig. Develop the lateral surface of the truncated prism.

Ques. ②.



Scale

Ques. (1). Construct a plane scale of 1 cm equals to 0.5 km, to read kms and hectometres and long enough to measure upto 9 km. find its RF and measure a distance of 6 km and 4 hectometres on this scale

RF, Representative factor = $\frac{1}{0.5 \times 1000 \times 100} \times 9 \times 1000 \times 100$

Ques. (2). A map 160 x 100 cm represent area of 8000 km^2 construct diagonal scale to measure 6 km, hectometer, decametre, find its RF and indicate on this scale a distance of 6 km, 5 hectometers, 7 decameters

Area = $160 \times 100 = 16000$

$16000 cm^2 = 8000 km^2$

$1 cm^2 = \frac{8000}{16000} = 0.5 km$

Ques. (3) Represent 2.39 on vernier scale with RF $\frac{1}{25}$ to measure max. distance of 4 m.