Practice questions

Projections of Planes
solved example 10.3 (pg no 198)
Exercise A – 10.2 (pg no 204)
pg no 204 - Exercise A – 10.1 , 10.4, 10.7

Projections Solids
Page 244 – Exercise A: 12.4, 12.5, 12.6, 12.16, 12.17

Sections of solids
Page 257 - Exercise A – 13.8

A cone with base diameter 60mm and height 70mm rests on its base on the ground. It is cut by an AIP inclined at 15 degrees and passing through midpoint of the axis. Draw the projections of the solid showing sectional view. (Note: the cone is to be divided in 8 parts radially in top view for transfer of points)

A square pyramid, base edge 100 mm and height 125 mm, rests on its base on the ground such that a base diagonal is parallel to the VP. It is cut by an AVP inclined at 30^0 to VP in CW direction, and passing through leftmost base corner of the solid. Draw TV and sectional FV of solid. **(Follow third angle method of projection)**

A hexagonal prism with base edge 50mm and height 100mm rests on its base on the ground with two opposite base edges parallel to VP. It is cut by an AVP passing through the axis and inclined at 30^0 to VP in CCW direction. Draw TV and sectional FV of the solid. **(Follow third angle method of projection)**

A pentagonal pyramid (base edge 50mm, height 100 mm), rests on its base on the ground with one base edge parallel to VP and away from the observer. It is cut by a plane parallel to VP and passing through the rightmost and leftmost base corner. Draw the projections and sectional view

A square pyramid (base edge 50mm, height 100mm) rests on its base on the ground with one base edge inclined at 15^0 to VP in cw direction. Its is cut by an AVP passing through the apex and parallel to this inclined base edge. Drwa projections and sectional view of the solid

A pentagonal prism (base edge 50mm, height 100 mm), rests on its base on ground with one base edge perpendicular to VP and to left of observer. It is cut by AIP passing though nearest and farthest corner of top base and rightmost corner of bottom base. Draw projections and sectional view.

Development of surfaces of solids
page 279   plate 14.1 – 3, 20
page 279   plate 14.1 – 13 (development of only solid without section line)
page 279 plate 14.2 - 2
page 279 plate 14.2 – 9 (development of only solid without section line)

1. A square plate (diagonals = 100mm and negligible thickness) rests on an edge on VP such that this edge is to the left of observer. Draw its projections when the surface is inclined at 40^0 to VP and perpendicular to HP. **(Follow first angle method of projection)**

2. A pentagonal pyramid with base edge 50mm and height 100mm rests on its base on the ground with one base edge parallel to VP and towards the observer. It is cut by an AIP bisecting the axis and inclined at 20^0 to HP in CCW direction. Draw FV and sectional TV of the solid. **(Follow third angle method of projection)**

3. A hexagonal prism (base edge = 50mm, height = 100mm) rests on its base on the ground with two opposite base edges perpendicular to VP. It is cut by an equilateral triangular hole which has the dimensions and position in FV as shown in Fig Q3. Draw the projections of the solid showing the hole in FV. Draw development of the prism starting from the leftmost base corner towards the observer and in CCW direction, showing the hole in development. **(Follow third angle method of projection)**
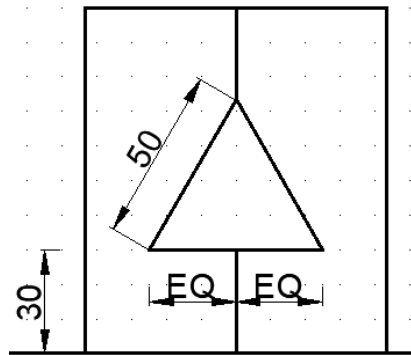

Fig Q3

4. A regular pentagonal plate (edge = 50mm and negligible thickness) rests on a corner on HP, such that this corner is to the left of observer. Draw its projections when the surface is inclined at 20^0 to HP and perpendicular to VP. **(Follow first angle method of projection)**

5. A hexagonal pyramid with base edge 50mm and height 100mm rests on its base on the ground with two opposite base edges parallel to VP. It is cut by an AVP inclined at 50^0 to VP in CCW direction and passing through the leftmost base corner nearest to observer. Draw TV and sectional FV of the solid. **(Follow third angle method of projection)**

6. A square prism (base edge = 70mm, height = 100mm) rests on its base on the ground with all base edges equally inclined to VP. It is cut by a square hole which has the dimensions and position in FV as shown in Fig Q3. Draw the projections of the solid showing the hole in FV. Draw development of the prism starting from the leftmost base corner and in CCW direction, showing the hole in development. **(Follow third angle method of projection)**
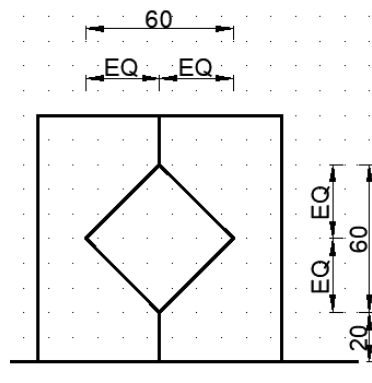

Fig Q3

7. A regular hexagonal plate (edge = 50mm and negligible thickness) rests on a corner on VP, such that this corner is to the left of observer. Draw its projections when the surface is inclined at 70^0 to VP and perpendicular to HP. **(Follow first angle method of projection)**

8. A right circular cone, base diameter 70 mm, height 100mm rests on its base on the ground. It is cut by an AIP bisecting the axis and passing through the leftmost circumferential point of the base. Draw FV and sectional TV of the solid. (Note: Divide the cone into 8 parts radially in TV for transfer of points) **(Follow third angle method of projection)**

9. A pentagonal prism (base edge = 60mm, height = 100mm) rests on its base on the ground with one base edge parallel to VP and towards the observer. It is cut by an equilateral triangular hole which has the dimensions and position in FV as shown in Fig Q3. Draw the projections of the solid showing the hole in FV. Draw development of the prism starting from the leftmost base corner and in CCW direction, showing the hole in development. **(Follow third angle method of projection)**
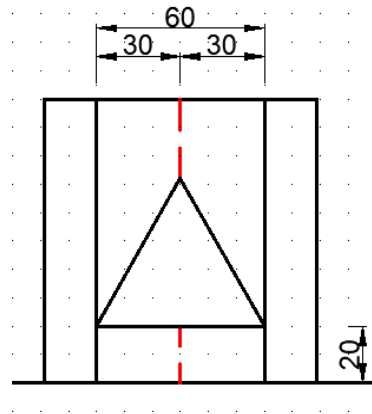

Fig Q3