1. Spur Gear
This is a cylindrical shaped gear in which the teeth are parallel to the axis. It has the largest applications and, also, it is the easiest to manufacture.

5. Internal Gear
This is a cylindrical shaped gear but with the teeth inside the circular ring. It can mesh with a spur gear. Internal gears are often used in planetary gear systems.

10. Spiral Bevel Gear
This is a bevel gear with a helical angle of spiral teeth. It is much more complex to manufacture, but offers a higher strength and lower noise.

15. Zerol Gear
Zerol gear is a special case of spiral bevel gear. It is a spiral bevel with zero degree of spiral angle tooth advance. It has the characteristics of both the straight and spiral bevel gears. The forces acting upon the teeth are the same as for a straight bevel gear.

2. Helical Gear
This is a cylindrical shaped gear with helicoid teeth. Helical gears can bear more load than spur gears, and work more quietly. They are widely used in industry. A disadvantage is the axial thrust force the helix form causes.

6. Spur Rack
This is a linear shaped gear which can mesh with a spur gear with any number of teeth. The spur rack is a portion of a spur gear with an infinite radius.

7. Helical Rack
This is a linear shaped gear which meshes with a helical gear. Again, it can be regarded as a portion of a helical gear with infinite radius.

3. Double Helical Gear
This is a gear with both left-hand and right-hand helical teeth. The double helical form balances the inherent thrust forces.

7. Face Gear
This is a pseudobevil gear that is limited to 90° intersecting axes. The face gear is a circular disc with a ring of teeth cut in its side face; hence the name face gear. Tooth elements are tapered towards its center. The mate is an ordinary spur gear. It offers no advantages over the standard bevel gear, except that it can be fabricated on an ordinary shaper gear generating machine.

11. Worm And Worm Gear
Worm set is the name for a meshed worm and worm gear. The worm resembles a screw thread, and the mating worm gear a helical gear, except that it is made to envelope the worm as seen along the worm’s axis. The outstanding feature is that the worm offers a very large gear ratio in a single mesh. However, transmission efficiency is very poor due to a great amount of sliding as the worm teeth engages with its mating worm gear teeth and forces rotation by pushing and sliding. With proper choices of materials and lubrication, wear can be contained and noise is reduced.

8. Straight Bevel Gear
This is a gear in which the teeth have tapered conical elements that have the same direction as the pitch cone base line (generatrix). The straight bevel gear is both the simplest to produce and the most widely applied in the bevel gear family.

12. Double Enveloping Worm Gear
This worm set uses a special worm shape in that it partially envelops the worm gear as viewed in the direction of the worm gear axis. Its big advantage over the standard worm is much higher load capacity. However, the worm gear is very complicated to design and produce, and sources for manufacture are few.

4. Screw Gear (Cylindrical Helical Gear)
Two helical gears of opposite helix angle will mesh if their axes are crossed. As separate gear components, they are merely conventional helical gears. Installation on crossed axes converts them to screw gears. They offer a simpler means of gearing skew axes at any angle. Because they have point contact, their load carrying capacity is very limited.