1. Crude oil distillation

 Vacuum Distillation

 Light Oil Distillation

 Special Product Distillation

 I) Vacuum Distillation

  **ADVANTAGES**

The primary advantage of vacuum distillation is that it allows for distilling heavier materials at lower temperatures than those that would be required at atmospheric pressure, thus avoiding thermal cracking of the components. Firing conditions in the furnace are adjusted so that oil temperatures usually do not exceed 425 °C (800 °F). The residue remaining after vacuum distillation, called bitumen, may be further blended to produce road asphalt or residual fuel oil, or it may be used as a feedstock for thermal cracking or coking units. Vacuum distillation units are essential parts of the many processing schemes designed to produce lubricants.

 **DISADVANTAGE**

The two-stage steam ejector system for our vacuum distillation column causes us numerous problems. Startup is difficult because of poor vacuum control — especially during the summer when our cooling-tower water runs warmer than usual. Corrosion may occur in ejectors, condensers or vacuum piping. Extreme corrosion can cause holes and air leaks into the system. This destroys vacuum system performance. Erosion may occur within the ejectors. Poor steam quality and high velocities erode diffuser and motive nozzle internals

2. APIg means American Petroleum Institute Specific Gravity

 APIg value = $\frac{141.5}{sp.g @\frac{60}{60} °F}-131.5$

3. A crude of high APIg would yield more distillate and less residual fuel and less residual fuel than that of a lower APIg