Effect of cooling rate, typical of conventional

Cooling curve A :→ Very slow cooling rate, typical of conventional annealing. Transformation product is coarse pearlite with low hardness.

Curve B :- Transformation will give the medium pearlite. Temp. difference is more in comparision to curve A. Curve B involve faster cooling rate than curve A and may be considered typical of normalizing.

Curve-C :- This curve is typical of a slow oil quench and the mixture of medium and fine pearlite will achieve.

Curve-D :- This curve is typical of an intermidiate cooling rate and austenite will start to transform to fine pearlite.

Curve-E :- This curve is typical of a drastic quench, the substance remains austenite until the martensite line (M_s) is reached, and changes to Martensite between the M_s & M_f lines.

Curve f :- cooling curve of obtain a bainite structure by cooling rapidly enough to miss the nose of curve and holding in the temp. range at which bainite is formed until transformation is completed.

Curve g :- This curve is tangent to the nose of TTT curve. The cooling rate associated with curve-g is approximate critical cooling rate for steel.