

### Test 2

- Q.1 The bearing of three lines are as follows:  $PQ = N21^{\circ}45'E$ ,  $QS = N80^{\circ}30'E$ ,  $SQ = S32^{\circ}45'E$   
Find radius of a curve tangential to the three lines. Length  $QS = 450$  m. Also find tangent lengths.
- Q.2. Tacheometric observations were carried out assuming that a staff of 3.5 m was vertical.  $K = 100$ ,  $C = 0$ , vertical angle  $= 12^{\circ}$ , staff intercept  $= 0.685$  m. After measurements, staff was out of plumb by 100 mm in backward direction. Compute the error in horizontal distance.
- Q.3. What is grade contour? Explain method of laying down grade contour using angle measuring device in field.