## Advanced Surveying - X20601

(2 $2^{\text {nd }}$ Sem Civil PDDC 2013)

## Topic Wise Important Question for Mid Sem Exam. Preparation

## Photogrammetry

1. Define \& Explain scale of vertical Photograph
2. What is relief Displacement? Derive \& Expression for the relief displacement in vertical photograph.
3. Define the following terms use in Arial photogrammetry
I. Oblique Photograph
VII. Flying Height
II. Exposure Station
VIII. Vertical Photograph
III. Principle Point
IX. Flight Line
IV. Photo Nadir Point
X. Azimuth
V. Isocenter
XI. Crab
VI. Swing
XII. Drift
4. Uses of Photogrammetry
5. Sum - Determine the Scale of Vertical Photograph
6. Sum - Determine No of Photograph

## Tacheometric Surveying

1. Differentiate Fixed Hair Method \& Movable Hair Method.
2. Derive the formula for finding the distance \& Elevation of Staff station by tacheometer when staff is held vertical.
3. What is principal of Tacheometry? Derive the expression for horizontal \& Vertical distance in Fixed Hair method when the staff is held vertically \& the measured angle is that of elevation. How will find RL of Staff Station.
4. What is Tachometric Surveying? What are the advantages of Tachometric Surveying? Explain various method of Tachometry.
5. What is tangential method of Tachometry, Derive the Expression for horizontal \& vertical distances by the tangential method when both the angles measured are those of elevation.
6. Discuss briefly various method of Tachometry.
7. Differentiate between Stadia method and Tangential method.
8. Derive the expression for horizontal \& vertical distance by tangential method when both the angle measured are those of depression.
9. The following observations were taken using a tacheometer fitted with an anallatic lens, the staff being held vertically. The constant of tacheometer is 100 .

| Inst. St. | Height of Axis | Staff Station | Vertical Angle | Hair reading in (M) | Remarks |
| :---: | :---: | :---: | :---: | :---: | :---: |
| P | 1.45 | B.M | $-6^{\circ} 12^{\prime}$ | $0.980,1.540,2.100$ | R.L of B.M $=$ |
| P | 1.45 | Q | $+7^{\circ} 05^{\prime}$ | $0.830,1.360,1.890$ |  |
| Q | 1.57 | R | $+12^{\circ} 21^{\prime}$ | $1.890,2.480,3.070$ |  |

Determine the distances $P Q$ and $Q R$ and the R.Ls of $P, Q$ and $R$.
10. The elevation of a point $R$ is to be determined by observation from two adjacent stations of a tacheometric survey. The staff was held vertically upon the point, and the instrument is fitted within an anallatic lens, the constant of the instrument being 100, Compute the elevation of the point R from the following Data, taking both the observation as equally trustworthy.

| Inst. St. | Height of Axis | Staff Station | Vertical Angle | Hair reading in (M) | R.L of Station |
| :---: | :---: | :---: | :---: | :---: | :---: |
| P | 1.45 | R | $+2^{\circ} 40^{\prime}$ | $1.250,2.100,2.950$ | 75.850 M |
| Q | 1.40 | R | $-3^{\circ} 20^{\prime}$ | $0.800,1.900,3.000$ | 95.235 M |

Also, Calculate the distance of $P \& Q$ from $R$.

