88

Civil / IV CBSGS / Surveying-II 23.5.14

QP Code : NP-19707

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question **No.1** is **compulsory.**
(2) Attempt any **three** questions from the remaining questions.
(3) Assumptions made should be clearly stated.
(4) **Figures** to the **right** indicate **full marks.**

1. Attempt any **two** questions :—
   (a) Explain in detail the tacheometric radial contouring project? **10**
   (b) Describe the procedure of setting out a bridge? **10**
   (c) Write an exhaustive note on block contouring project? **10**

2. (a) A tacheometer is set up at an intermediate point on a straight line PQ and the following readings were marked on a vertically held staff. **10**

Inst St^{n}	Staff St^{n}	Vertical Angle	Staff intercept (m)	Central hair Reading (m)	Remarks
0	P	$+6^{0}00'$	2.055	1.875	K = 100
0	Q	$-3^{0}30'$	2.250	2.105	C = 0.3

Compute :— (i) The horizontal distance PQ?
(ii) The RLs of P and Q if the RL of instrument station '0' is 100.000 m and the ht. of instrument is 1.410 m?

(b) Explain the methods of determining tacheometic constants? **10**

3. (a) Describe the linear methods of setting out a simple circular curve? **10**
   (b) Two tangents intersect at chainage 1230 m, the deflection angle being 30^{0}. Calculate all the data necessary for setting out a simple circular curve of 330 m radius by Rankine's method? Take P.I. = 30m. **10**

4. (a) Differentiate between the composite curve and compound curve with sketches? **10**
   (b) Explain the procedure of setting out a vertical curve by chord gradient method. **10**

5. (a) What is total station? State the various uses of the same? **10**
   (b) Write explanatory note on EDM. State its working principle and corrections to the distances measured by EDM. **10**

6. Write notes on :— (any **four**) **20**
   (a) Principle of tacheometry
   (b) Setting out a culvert
   (c) Reverse curve
   (d) GPS
   (e) GIS.
