00771

DIPLOMA IN CIVIL ENGINEERING DCLE(G)

Term-End Examination

December, 2013

BCE-031 : ADVANCED SURVEY

Time : 2 hours *Maximum Marks : 70*

Note : *Question No.1 is **compulsory**. Attempt **any four** questions from the rest of the questions. **Use** of scientific calculator is **allowed**.*

1. Define or Describe in brief ***any seven*** of the following : **7x2=14**

(a) Swinging

(b) Face left and face right

(c) Line of collimation

(d) Stadia Rods

(e) Lattitude and Departure

(f) Closing Error

(g) Indirect levelling

(h) Reciprocal levelling

(i) GDOP

(j) PRN code

2. (a) What are different methods of designating a curve ? Derive relationship between degree of curve and radius. **2x7=14**

(b) Two straights intersect at chainage 2056.44 m and angle of intersection is 120°. If radius of curve is 600 m. Calculate

(i) Tangent distance

(ii) Chainage of point of commencement

(iii) Length of curve

(iv) Length of long chord

3. (a) What are constants of Tacheometer and How are they determined ? **2x7=14**

(b) Following table gives the site measurement of a traverse ABCDEA.

Calculate the length and bearing of EA.

Line	Length(M)	Bearing
AB	204	87° 30′
BC	226	20° 20′
CD	187	280 °
DE	192	210° 30′
EA	?	

4. (a) How do automatic level differ from conventional sprit levels ? **2x7=14**

(b) What are three segments of GPS ? Explain.

5. Explain ***any four*** of the following : **4x3½=14**

(a) Total station

(b) EDM

(c) GIS

(d) Auto level

(e) Micro optic theodolite

(f) Use of GPS

6. The Horizontal angle subtended at the theodolite station by a substance bar with Vanes 3.0 m apart is 0°10'40". Calculate Horizontal distance between theodolite and substance bar. **14**

7. Write short notes on ***any four*** of the followings : **4x3½=14**

(a) Reciprocal levelling

(b) Super Elevation

(c) Transition curves

(d) Need of curves

(e) Stadia system

(f) Geodetic survey

(g) Cadastral survey