Enrollment No: _____     Exam Seat No:_____

# C.U.SHAH UNIVERSITY
## Winter Examination-2015

**Subject Name:  surveying II**

**Subject Code:  2TE04SUR1       Branch :Diploma civil**

**Semester : 4<sup>th</sup>      Date :**19/11/2015     **Time :**2:30 To 5:30     **Marks :**70

Instructions:
  (1)  Use of Programmable calculator & any other electronic instrument is prohibited.
  (2)  Instructions written on main answer book are strictly to be obeyed.
  (3)  Draw neat diagrams and figures (if necessary) at right places.
  (4)  Assume suitable data if needed.

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**Q-1**          **Attempt the following questions:**                                                                (14)
                 (MCQ  Type of Questions=1 mark*14=14 marks)
   **a)**  If the distance between instrument station and object is small, correction for          1)
           earth's surface _____ not required.

           i)) earth's curvature              iii) vertical angle
           ii) refraction                     iv) earth's curvature & refraction

   **b)**  Find tacheometer constant.                                                               1)

| Inst at | distance | distance | stadia reading | |
|---|---|---|---|---|
| | | | Above | below |
| 0 | A | 200M | 2.0 | 4.0 |
| 0 | B | 400M | 0.5 | 4.50 |

           i) C=0              iii) C=2
           ii) C=3             iv) C=1

   **c)**   Two straight roads intersect at an angle of 70 degree .calculate tangent length if       1)
           they are connected with a circular curve of radius 230M.

           i)328.47                      iii)200
           ii)400                        iv)100
   **d)**  What is EDM?                                                                              1)
           i) electronic distance minute
           ii) electronic direct  minute
           iii) electrical distance minute
           iv)electronic distance measure

**e)** Generally, How much value taken for prism constant? 1)

    i) 0 to 20                    ii) 0 to 30
    ii) 0 to 50                   iv)0 to 40

**f)** Find out length of vertical curve if, 1)
  +0.6%,-0.8% change of slope 0.1%each 30 m chain.

    i) 420                       iii)520
    ii)500                    iv)620

**g)** What is RPU. 1)

    i) remote positioning unit
    ii) remote position unit
    iii) remote processing unit
    iv) radio positioning unit

**h)** Find out of staff point if R.L of instrument axis is 100m, staff readings 1.5, 1)
  1.82,2.29 vertical angle is +4'30''. Constant are 100 and 0.

    i)109.69                  iii)205.69
    ii)105.69                iv)209.05

**i)** Annalatic lens is provided 1)

    i) between diaphragm and objet glass
    ii) just before objective
    iii) just before eyepiece
    iv) improve visibility

**j)** The radius of a circular curve is 100m, deflection angle is 90 degree then the 1)
  length of back ward tangent is

    i) 0m                      iii) 100m
    ii) 70.7m                iv) 0.05m

**k)** Point of tangency is the 1)

    i) beginning of the curve
    ii) end of the curve
    iii) common point when the radius change
    iv) common point when the direction change

**l)** Correction for curvature of for distance is 1km 1)

    i)0.0785                  iii)0.378
    ii)0.0245                iv)0.0254

**m)** Describe multiplying constant and additive constant in tacheometer. 1)

    i)100,0m                iii) 50,0.5m
    ii)100,0.3m            iv)100,3m

**n)** Tacheometry is the best suited
    i)where chaining is impossible
    ii)broken ground
    iii)plain lens
    iv)for accurate survey

**1)**

## Attempt any four questions from Q-2 to Q-8

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| | | |
|---|---|---|
| **Q-2** | **Attempt all questions** | **(14)** |
| **1)** | Write short note on in total station the setting up a back sight. | **7)** |
| **2)** | Explain the vertical curve. | **7)** |
| **Q-3** | **Attempt all questions** | **(14)** |
| **1)** | Write short note on the radial shooting. | **7)** |
| **2)** | Describe instrument axes at same level. | **7)** |
| **Q-4** | **Attempt all questions** | **(14)** |
| **1)** | Explain the total station job planning and estimating. | **7)** |
| **2)** | To determine constant of tacheometer following reading were taken. | **7)** |

| Inst. At | staff at | reading | distance |
|----------|----------|---------|----------|
| 0 | A | 0.505,0.755,1.005 | OA=50M |
| 0 | B | 1.200,1.700,2.200 | OB=100M |

Calculate constant.

| | | |
|---|---|---|
| **Q-5** | **Attempt all questions** | **(14)** |
| **1)** | Explain types of curve. | **7)** |
| **2)** | Write Short note on a Simple curve | **3)** |
| **3)** | Write short note on an analatic lens | **4)** |
| **Q-6** | **Attempt all questions** | **(14)** |
| **1)** | Define Trigonometric leveling. Derive equation for distance and height when base of object is accessible. | **7)** |
| **2)** | Explain reciprocal method. | **7)** |
| **Q-7** | **Attempt all questions** | **(14)** |
| **1)** | Write short note on the controlling error. | **7)** |
| **2)** | Explain equipment maintance. | **7)** |
| **Q-8** | **Attempt all questions** | **(14)** |
| **1)** | Explain stadia hair method. | **7)** |
| **2)** | Explain principle of tacheometry | **7)** |