* U E - 6 0 3 3 *

UE-6033

B. E. I (Sem. II) (Civil) Examination

April / May – 2012

Basic Civil Engineering

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. 1 (Sem. 2) (Civil)**

Name of the Subject :

☛ **Basic Civil Engineering**

☛Subject Code No. : **6 0 3 3** ☛Section No. (1, 2,.....) : **NIL**

Seat No. :

Student's Signature

(2) Figures to the right indicate full marks.
(3) Draw neat and labelled sketch wherever necessary.
(4) Assume suitable data if necessary and mention it clearly.

1 (a) Fill in the blanks : **10**

(i) Prism square is used for taking _____ offset.

(ii) Line ranger is used for _____.

(iii) Clinometer is used to measure _____.

(iv) Cadastral surveys are carried out for _____.

(v) The difference between forebearing and backbearing is always _____

(vi) For a closed traverse summation of five angles should be _____.

(vii) Vertical distance between two consecutive contours is known as _____.

(viii) Tropical surveys are used for _____.

(ix) _____ is used to mark the end of the chain.

(x) Series of connectted survey lines are known as _____

(b) Match appropriate pairs. **5**

List I	List II
(i) Geodetic surveys	(1) Horizontal angle between magnetic and true meridian

(ii)	Open cross staff	(2)	considers the earths curvature
(iii)	Isogonic lines	(3)	used to take offsets
(iv)	Magnetic declination	(4)	Lines passing through points of equal declination
(v)	Plane table Survey	(5)	used to prepare a plan of given area

2 Attempt any **four** : **20**

(a) Discuss principles of surveying.

(b) Discuss classification of surveying.

(c) The distance between two stations was 1200 m when measured with a 20 m chain. The same distance when measured with 30 m chain was found to be 1195 m. If the 20 m chain was 0.05 m too long, what was the error in 30 m chain?

(d) Differentiate between :

(i) Magnetic bearing and True bearing

(ii) Open traverse and closed traverse

(e) The following are the bearings of a closed traverse. The local attraction was suspected.

Side	FB	BB
AB	44°30'	226°30'
BC	124°30'	303°15'
CD	181°0'	1°0'
DA	289°30'	108°45'

At work station do you suspect local attraction ? Find the correct bearings of the lines.

(f) With a neat sketch explain the construction of :

(i) Prism square

(ii) Surveyors compass

3 Attempt any **three** : **15**

(a) Define any **five** :

(i) Magnetic meridian

(ii) Local attraction

(iii) Bench mark

(iv) Local attraction

(v) Height of instrument

(vi) Datum

(b) Enlist difficulties in leveling and explain any two in detail.

(c) Define contour. Discuss various characteristics of contour.

(d) The following consecutive readings were taken with a level and a 4m staff on a continuously sloping ground at a common interval of 30 m.
0.780, 1.535, 1.955, 2.430, 2.985, 3.480, 1.155, 1.960, 2.365, 3.640, 0.935, 1.045, 1.630 and 2.545. The reduced level of the first point A was 180.75 m. Rule out a page of a level field book and enter the above readings. Calculate the reduced levels of points of Height of Instrument method.

4 Explain the following terms in one sentence each (any ten) **10**

(i) Frog
(ii) Lintel
(iii) Cornice
(iv) Corbel
(v) Mortaz
(vi) Gable
(vii) Sill level
(viii) Foundation
(ix) Sedimentary rocks
(x) Arch
(xi) Plinth
(xii) Parapet
(xiii) Toothing.

5 Draw neat figures and label vital parts of following : **20**
(any **four**)

(i) King post roof truss
(ii) English bond
(iii) Section of flemish bond
01 and 02 brick thickness
(iv) Uncoursed ribble masonry
(v) Battened, legged and braced doors.

6 (a) Explain in detail 'Environment' and 'Environmental pollution'. **10**

(b) Short notes : (any **two**) **10**

(i) Global warming
(ii) Different types of windows
(iii) Public buildings.