



**SE-6033**

**B. E. - I (Sem. II) (All) Examination**

**April / May - 2011**

**Basic Civil Engineering**

Time : 3 Hours]

[Total Marks : 100

**Instruction :**

(1)

नीचे दशांशों में निशानोंवाली विगतो उत्तरवडी पर अवश्य लखवी. Fillup strictly the details of signs on your answer book.		Seat No. :	
Name of the Examination :		<input type="text"/>	
Name of the Subject :		<input type="text"/>	
Subject Code No. : <input type="text" value="6"/> <input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value="3"/>		Section No. (1, 2,.....) : <input type="text" value="Nil"/>	
		Student's Signature	

- (2) Figures to the right indicate full marks.
- (3) Non programmable calculators are allowed.
- (4) Assume suitable data if necessary and mention them clearly.
- (5) Draw neat and clean figures, if necessary.

1 (a) Fill in the blanks :

6

- (1) The curvature of the earth surface is taken in to account if the extent of survey is not less than \_\_\_\_\_ km<sup>2</sup>.
- (2) The main principle of the surveying is to work from whole to the \_\_\_\_\_.
- (3) Lines joining the points of zero declination are \_\_\_\_\_ lines.
- (4) Vertical distance between two consecutive contours is known as \_\_\_\_\_.
- (5) An imaginary lines joining the points of equal elevation is known as \_\_\_\_\_.
- (6) The difference between F.B. and B.B. is always \_\_\_\_\_.

(b) Match appropriate pairs : 4

**List-I**

**List-II**

- |                       |                          |
|-----------------------|--------------------------|
| (a) Dumpy level       | (i) Perpendicular offset |
| (b) Prismatic compass | (ii) Linear measurement  |
| (c) Arrow             | (iii) Reduced level      |
| (d) Open cross staff  | (iv) Angular measurement |

(c) State that the following True or False : 5

- (1) The length of Gunter's chain is 100 ft.
- (2) Ranging rod is used to measure the length of chain line.
- (3) There are 150 links in 30 m chain.
- (4) In optical square the mirrors are fixed at an angle of  $45^\circ$ .
- (5) Prismatic compass is used for measurement of elevation.

2 (a) Give the difference between plane surveying and geodetic surveying. 4

**OR**

2 (a) Explain the function of the following : (any four) 4

- (1) Plumb bob
- (2) Ranging rod
- (3) Line ranger
- (4) Chain
- (5) Open cross staff.

(b) The distance between two stations was measured with a 20.00 m chain and found to be 2910 m. Find the true distance if the chain was 20 cm too long. 6

(c) Differentiate between following : 10

- (1) Temporary B.M. and permanent B.M.
- (2) Simple levelling and differential levelling.
- (3) Back sight and fore sight.
- (4) Level surface and horizontal surface.
- (5) Magnetic meridian and true meridian.

**OR**

- 2 (c) (i) Convert the following W.C.B. in to Q.B. 5
- (1)  $140^{\circ}30'$
- (2)  $40^{\circ}30'$
- (3)  $185^{\circ}30'$
- (4)  $130^{\circ}45'$
- (5)  $130^{\circ}30'$ .
- (ii) Following bearings were observed with a prismatic compass for a closed traverse ABCDA.
- |         |                    |
|---------|--------------------|
| Line AB | $75^{\circ}30'$    |
| Line BC | $110^{\circ}00'$   |
| Line CD | $230^{\circ}45'$   |
| Line DA | $310^{\circ}15'$ . |
- Draw traverse and calculate the included angles. 5
- 3 (a) Give the difference between rise and fall method and height of instrument method. 5

**OR**

- 3 (a) Explain the characteristics of contours. 5
- (b) Define following terms : (any **five**) 5
- (1) Level line
- (2) Change point
- (3) Contour interval
- (4) Datum
- (5) Offset
- (6) Declination
- (7) Altitude.
- (c) The following readings were observed with a dumpy level and 4m levelling staff. The instrument was shifted after 3<sup>rd</sup> and 6<sup>th</sup> readings :
- 2.665, 3.225, 2.905, 1.850, 0.980, 2.620, 1.585, 0.960, 0.425 m.
- Enter the above readings in a page of level book 5  
and determine R.L. of various points, If R.L. of first reading was 240.00 m. Use rise and fall method and provide necessary check.

- 4 Define following terms in one sentence each : (any ten) **10**
- (1) Kiln
  - (2) Brick masonry
  - (3) Frog
  - (4) Course
  - (5) Foundation
  - (6) Rise
  - (7) Sill level
  - (8) Flush door
  - (9) Rocks
  - (10) Ashlar masonry
  - (11) Bonds in brickwork
  - (12) Gable.
- 5 Draw neat and clean figures of following : (any four) **20**
- (1) King post roof truss
  - (2) Dog legged stair
  - (3) Grillage foundation
  - (4) Flush door
  - (5) Garden wall bond in brickwork.
- 6 Write short notes : (any four) **20**
- (1) Reinforced cement concrete - its uses and advantages
  - (2) Different types of foundations
  - (3) Greenhouse effect and global warming
  - (4) Stone masonry
  - (5) Different types of windows, (Explain any one in detail with figure).
-