

Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– 1st / 2nd EXAMINATION (NEW) – SUMMER 2018

Subject Code: 2110004

Date: 24-05-2018

Subject Name: Elements of Civil Engineering

Time: 02:30 pm to 05:00 pm

Total Marks: 70

Instructions:

1. Question No. 1 is compulsory. Attempt any four out of remaining Six questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Objective Question

(a) Choose the most correct answer of the following multiple choice questions. 07

1. Age of tree may be ascertained by
(a) Radius of its stem (b) Circumference of its stem (c) Number of branches
(d) Number of annual rings
2. The principle of compass surveying is
(a) Triangulation (b) Traversing (c) Parallelism (d) None of these
3. The size of modular brick is
(a) 20 x 10 x 10 cm (b) 19 x 9 x 9 cm (c) 20 x 10 x 5 cm (d) None of these
4. The chain man who drags the chain is called the
(a) Captain (b) Follower (c) Leader (d) Labour
5. Write full form of BRTS in context with transportation engineering.
6. As per Principal of Planning- Privacy, door should be located at
(a) Center (b) Corner (c) At any location (d) All of above
7. Total station is used for
(a) measuring horizontal, vertical and slope distance
(b) measuring horizontal, vertical and percentage of slope
(c) measuring height of an object
(d) all the above

(b) Choose the most correct answer of the following multiple choice questions. 07

1. Cross staff is used for
(a) Setting out right angles (b) Measuring horizontal angles
(c) Both (a) and (b) (d) None of these
2. The imaginary lines joining places of equal dip are called
(a) Agonic line (b) Isogonic line (c) Isoclinic line (d) Contour
3. The surface water sources are _____
(a) Streams & rivers (b) Rainfall (c) Wells (d) None of above
4. The W.C.B. of a line is 50°, its Q.B. is
(a) N50°W (b) N50°E (c) W50°N (d) E50°N
5. The quantities of water required for domestic use is
(a) 50 lpcd (b) 100 lpcd (c) 135 lpcd (d) 270 lpcd
6. Planimeter is useful to measure
(a) length (b) area (c) volume (d) time
7. The Satellite constellation of GPS consists of _____.
(a) 4 satellites (b) 6 satellites (c) 18 satellites (d) 24 satellites

- Q.2** (a) What is local attraction? What are the sources of local attraction? **03**
 (b) Write a note on the impact of infrastructure development on the economy of the country. **04**
 (c) The following are the bearings of closed traverse. Find the included angles and draw the traverse. **07**

Line	Fore Bearing	Back Bearing
PQ	N 50° 00' E	S 50° 00' W
QR	S 60° 00' E	N 60° 00' W
RS	S 15° 00' W	N 15° 00' E
SP	N 70° 30' W	S 70° 30' E

- Q.3** (a) Explain the components of GIS. **03**
 (b) Describe various instruments used in chain surveying. **04**
 (c) Enumerate various principles of planning. Explain aspect, privacy and roominess in detail. **07**

- Q.4** (a) What do you mean by building bye-laws? Explain FSI in detail. **03**
 (b) Explain different types of Building loads. **04**
 (c) Following is a page of level book. Fill in the missing readings and apply the usual check. **07**

Station	B.S.	I.S.	F.S.	Rise	Fall	R.L.
1	?	-	-	-	-	150.000
2	-	2.457	-	-	0.827	?
3	-	2.400	-	0.057	-	?
4	2.697	-	?	-	?	148.070
5	?	-	2.051	0.646	-	148.716
6	-	2.500	-	1.068	-	149.784
7	-	2.896	-	-	?	149.388
8	-	?	-	-	0.124	?
9	-	-	2.672	0.348	-	149.612

- Q.5** (a) Define: (1) Bench mark (2) Reduced level (3) Magnetic meridian. **03**
 (b) Draw the neat sketch for the following: RCC lintel with Chajja. **04**
 (c) Explain different types of traffic signs used for traffic control. Draw neat sketch of the following traffic signs: **07**
 (i) T- Intersection (ii) Give Way (iii) Stop

- Q.6** (a) Describe application of remote sensing. **03**
 (b) Describe: (i) isogonic line (ii) Application of contour map **04**
 (c) Enlist various types of cement. Discuss properties of any two. **07**

- Q.7** (a) Explain watershed Development. **03**
 (b) Enumerate the qualities of good brick. **04**
 (c) Explain with neat sketch the various terminologies related to staircase. **07**
