Student Exam No:

GANPAT UNIVERSITY
B.TECH SEM I (CE/IT/BM/EC/MARINE)
REGULAR EXAMINATION DEC- 2013
2CI101 ELEMENTS OF CIVIL ENGINEERING

Time: 3 Hours **Max Marks: 70**

Instructions: - (1) Answer to the two sections must be written in separate answer books.
(2) Figures to the right indicate full marks.
(3) Assume suitable data if required.

SECTION - I

Q1(A) Draw a cross – section of a tree stem and explain its various components. (6)

(B) Explain various branches of Civil Engineering. (6)

OR

Q1(A) Explain various aids and devices used to control, regulate and guide traffic. (6)

(B) What are the different properties of concrete? Explain them in brief. (6)

Q2(A) What is mortar? What are its uses? What are the requirements of good mortar? (6)

(B) Explain Classification of building based on occupancy. (5)

OR

Q2(A) Explain different types of roads. (6)

(B) Explain with a neat sketch the hydrological cycle. (5)

Q3(A) What is hydrology? What are its applications? (4)

(B) Explain different types of lime. (4)

(C) Differentiate between PERT and CPM. (4)

SECTION – II

Q4(A) Define Surveying? Explain the fundamental principles of Surveying. (6)

(B) The length of a line was measured with 30 m chain and it worked out to be 645.00 m. it was consequently found out that the chain was 1.8 m too long? Calculate the true length of line? And what would have been the true length of line, if the chain was 2.8 m too short? (6)

OR

Q4(A) Write a short note on "Direct Ranging" with neat sketch. (6)

(B) Write a short note on "Planimeter" with neat sketch. (6)

Q5(A) Define the following terms:- (a) Base line (b) Check line (c) True Bearing (d) Magnetic Meridian (4)

(B) Following are the fore bearing observed on a closed traverse ABCDA. Compute the included angles for traverse and show the check. (7)

Line	F.B. of Line
AB	140 ° 30'
BC	80 ° 30'
CD	340 ° 00'
DA	290 °
EA	230 ° 30'

OR

Q5(A) What is total station? Give its advantages and disadvantages. (4)

(B) The following were observed with a compass for the closed traverse ABCDA. Find the included angles and also apply necessary check. (7)

Line	F.B.
AB	N 55 ° E
BC	N 78 ° E
CD	S 42 ° W
DA	N 60 ° W

Q6(A) Write a short note on characteristics of contours with neat sketches. (4)

(B) The following consecutive readings were taken with a dumpy level along a chain line at a common interval of 25 m. The position of the instrument having been moved after 6th and 9th readings. (8)

0.400, 0.765, 1.270, 2.560, 3.220, 3.950, 0.390, 1.690, 3.500, 0.800, 1.920, 2.450, and 3.980.

Assume the RL of the 1st point as 100.00 m.

(a) Prepare a page of level book and enter these readings.

(b) Calculate RL of all points and

(c) Apply the usual checks.

Use any method of elevation measurement.

END OF PAPER