

GANPAT UNIVERSITY
B.TECH SEM II (CL/EE/ME/MC/MARINE)
REGULAR EXAMINATION MAY/JUNE- 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) Explain various aids and devices used to control, regulate and guide traffic. (6)
(B) What are the requirements of good quality bricks? (6)
OR
Q1(A) List the hydraulic structures constructed for storage of water and explain them. (6)
(B) Enumerate various principles of planning and briefly explain them. (6)
Q2(A) Explain components of road pavement with neat sketch. (6)
(B) What is hydrology? What are its applications? (5)
OR
Q2(A) List the various sources of water. Describe them in detail. (6)
(B) Draw a highway cross-section and show various components. (5)
Q3(A) Define Concrete. Write a short note on concreting operations. (4)
(B) What are the various physical properties of cement? Describe any one in detail. (4)
(C) Define mortar. What are the requirements of good mortar? (4)

SECTION - II

- Q4(A) Write a short note on classification of Surveying. (6)
(B) Explain various branches of Civil Engineering (6)

OR

- Q4(A) Write a short note on construction management. (6)
 (B) Define Ranging. What are the methods of ranging? Explain reciprocal ranging in detail with neat sketch. (6)

- Q5(A) Define bench marks. Explain different types of benchmarks. (4)
 (B) Differentiate between geodetic survey and plane survey. (4)
 (C) What is contour? Discuss its characteristics with the help of neat sketches. (4)

OR

- Q5(A) Write a short note on EDM. (5)
 (B) The following are the bearings of closed traverse. Find the included angles and apply necessary checks. (7)

Line	F.B.	B.B.
AB	20° 30'	200° 00'
BC	110° 00'	290° 00'
CD	195° 00'	15° 00'
DA	286° 30'	106° 00'

- Q6(A) What are the objectives of preparing contour maps? State the uses of contour map. (3)
 (B) The following observations were taken with a dumpy level and 4 m Levelling staff. The instrument was shifted after 4th and 9th readings. The readings are: (8)

2.650, 1.745, 0.260, 2.525, 2.160, 1.235, 0.870, 1.365, 0.625, 1.790, and 2.535.

Enter the above readings in a page of level book and calculate the RL of points. If the first reading was taken with a staff held on bench mark of 100 m. Use either Rise and Fall method or HI method. Apply arithmetic checks also.

END OF PAPER