

Student Exam No:

GANPAT UNIVERSITY
B.TECH SEM I (CE/IT/EC/BM)
REGULAR EXAMINATION DEC- 2012
CI101 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) Define Mortar. What are the requirements of good mortar? (6)
(B) Write a short note on different transportation systems or ways. (6)

OR

- Q1(A) Write a short note on slump cone test. (6)
(B) Explain the various types of roads. (6)

- Q2(A) Define Concrete. Explain different concreting operations. (6)
(B) List the various sources of water. Describe them in brief. (5)

OR

- Q2(A) Enlist different types of paints. What are the requirements of good paints? (6)
(B) Explain with a neat sketch the hydrological cycle. (5)

- Q3(A) Write a short note on types of mortar. (4)
(B) What are the requirements of good timber? (4)
(C) What are the different types of sand? Explain bulking of sand. (4)

SECTION - II

- Q4(A) Which instruments are used for chain surveying? Explain any two in detail. (6)
(B) What is Ranging? Explain Reciprocal ranging. (6)

OR

- Q4(A) Explain Gantt bar charts. Write down its advantages and disadvantages. (6)

(B) Give difference between prismatic compass and surveyor's compass. (6)

Q5(A) Define: Check line, Base line, Tie line and Offset. (4)

(B) The following are the observed bearings of the lines of a traverse ABCDEA with a compass. Calculate the interior angles and also apply check necessary. (7)

Line	F.B.
AB	N 45° 10' E
BC	S 10° 10' W
CD	N 90° 0' E
DE	S 15° 0' W
EA	N 30° 20' W

OR

Q5(A) What is G. P. S.? Write down its advantages. (4)

(B) The following are the observed bearings of the lines of a traverse ABCDEA with a compass. (7)

Line	FB	BB
AB	12° 30'	192° 30'
BC	95° 00'	275° 00'
CD	110° 35'	290° 30'
DE	160° 00'	340° 00'
EA	310° 30'	130° 00'

Find the included angles and corrected angles of the traverse and also apply necessary check.

Q6(A) What are the characteristics of contour lines? (4)

(B) The following consecutive readings were taken with a dumpy level along a chain line at a common interval of 20 m. The instrument was shifted after the fourth and eighth reading. The last reading was taken on a BM of RL 120.250 m. (8)

2.385, 1.740, 0.625, 3.550, 2.745, 2.075, 1.845, 0.975, 0.545, 1.640, 2.355 and 3.740 m.

Enter the readings in the form of a level book page and enter on it the above readings and find the RL of all points by either rise and fall method or HI method. Apply the usual checks also.

END OF PAPER