

max mark 70  
Date: 25/05/2015

Student Exam No:

GANPAT UNIVERSITY  
B.TECH SEM – II (ME/MC/CIVIL/EE)  
REGULAR EXAMINATION April - June 2015  
2CI101 ELEMENTS OF CIVIL ENGINEERING

Max Time: 3 Hours

Max Marks: 60

Instructions: -

- (1) This question paper has two sections. Attempt each section in separate answer books.
- (2) Figures on right indicate marks
- (3) Be precise and to the point in answering the descriptive questions.

SECTION - I

- Q1(A) Explain various branches of Civil Engineering. (5)  
(B) Define Lime. Explain different types of lime. (5)

OR

- Q1(A) Explain in brief the various physical properties of cement. (5)  
(B) Explain different transportation systems or ways. (5)

- Q2(A) Explain with a neat sketch the hydrological cycle. (5)  
(B) What are the requirements and uses of good aggregate? Differentiate between coarse and fine aggregate. (5)

OR

- Q2(A) Enumerate various principles of planning and briefly explain them. (5)  
(B) Write a short note on slump cone test of concrete. (5)

- Q3(A) Write a short note on types of mortar. (3)  
(B) What are the requirements of good timber? (3)  
(C) Explain Gantt bar charts. Write down its advantages and disadvantages also. (4)

SECTION - II

- Q4(A) Define surveying. Give the classification of surveying in detail. (5)  
(B) Define the following terms: (5)  
Surveying, leveling, Scale, Representative Fraction, Cadastral Survey.

OR

- Q4(A) Write a short note on GPS and Remote sensing. (5)
- (B) Define Scale. Explain different types of scale. (5)

Q5(A) Enlist different instruments used in surveying. And explain metric chain (20 m) with neat sketch. (5)

- (B) The following bearing was observed during the time of survey. Based on that calculate the interior angle for the traverse ABCDEA. Apply Necessary Check also. (5)

Line	Forward Bearing
AB	160°
BC	40°
CD	270°
DE	205°
EA	108°

OR

- Q5(A) Define : (5)  
Check Line, Tie Line, Tie Station, Base Line, Ranging.

- (B) Differentiate between the prismatic and Surveyor compass. (5)

Q6(A) Define the following terms: (5)

Levelling, Plumb line, Bench Mark, Mean sea level, Reduced Level.

Q6(B) The following consecutive readings were taken with the help of 4 m leveling staff and leveling machine. The readings are 2.150, 2.520, 2.225, 2.695, 2.395, 2.685, 2.585, 2.050, 2.950, and 2.600. The instrument is shifted after 2<sup>nd</sup>, 6<sup>th</sup> and 8<sup>th</sup> readings. Take R.L of bench mark is 80 m. (5)

- (a) Make a page of level book.  
(b) Calculate the R.L of each station.  
(c) Apply usual checks.

Use any methods of leveling.

END OF PAPER