Student Exam No:

GANPAT UNIVERSITY
B.TECH SEM – I (CE/EC/BM/IT/MARINE/CIVIL INT)
REGULAR EXAMINATION NOV/DEC - 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 the importance of planning in a construction project. Write down its advantages also.   (5)

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

OR

Q1(A)   Explain the test which is done to check the workability of concrete.   (5)

(B)   Write a short note on different transportation systems.   (5)

Q2(A)   What are the various requirements of a building?   (5)

(B)   Enlist the various roles of a civil engineer.   (5)

OR

Q2(A)   Enlist the advantages and disadvantages of bituminous roads and cement concrete roads.   (5)

(B)   Explain the test for determining the compressive strength of cement.   (5)

Q3(A)   Differentiate between PERT and CPM.   (3)

(B)   Explain the geological classification of rocks.   (3)

(C)   What are the requirements of a good quality timber?   (4)

Page 1 of 2

SECTION – II

Q4(A) Define surveying. Discuss the classification of surveying based on instruments and objects. **(5)**

(B) Draw a neat sketch of the open cross-staff and explain its use. **(5)**

OR

Q4(A) Define the followings terms: (i) Offset (ii) Check line (iii) Ranging (iv) Tie station (v) Base line **(5)**

(B) Write a short note on:(i) Selection of survey station (ii) Line ranger **(5)**

Q5(A) Define the followings terms: (i)True bearing (ii) Magnetic Declination **(2)**

(B) Convert the following bearings. **(3)**

(i) N 60° 15' W (ii) 230° (iii) S 45° 15' W

(C) Given below are the bearings of lines of a closed traverse ABCDEA. Calculate the included angles and apply necessary checks. **(5)**

Line	AB	BC	CD	DE	EA
Fore bearing	117° 45'	32° 30'	292° 00'	199° 45'	135° 15'

OR

Q5(A) What do you mean by reduced level and datum surface? **(2)**

(B) Explain the Bowditch's rule for adjusting closing error. **(4)**

(C) What is GPS? Explain its use in civil engineering field. **(4)**

Q6(A) What do you mean by contour interval and contour map? **(2)**

(B) What is the function of telescope, levelling head and bubble tube in a levelling instrument? **(3)**

(C) The following consecutive readings were taken with a dumpy level and 4 m levelling staff on continuously slopping ground at a common interval of 30 m on line AB. **(5)**

0.585, 0.930, 1.95, 2.845, 3.645, 3.930

The reduced level of the first point was 50.00 m. Calculate the reduced levels at all the points by any methods. And also apply necessary checks.

END OF PAPER