

GANPAT UNIVERSITY

B.Tech. Semester II (CIVIL), Regular Examination – May/June : 2012

C 101: Elements of Civil Engineering

Max. Time: 3 Hours

Max. Marks: 70

Exam. No. of the candidate: _____

- 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

- Q-1 (A) Enlist various branches of Civil Engineering. Explain geotechnical, water resources and structural engineering. 6
(B) What is ranging? Explain Reciprocal ranging. 5
- OR**
- Q-1 (A) Explain Gantt bar charts. Write down its advantages and disadvantages also. 6
(B) Which instruments are used for chain surveying? Explain any two in detail. 5
- Q-2 (A) What are the characteristics and uses of contour lines? 6
(B) What do you know about Remote Sensing? Explain its process and write its uses also. 6
- OR**
- Q-2 (A) Explain total station. Write down its uses, advantages and disadvantages. 6
(B) Show with neat sketches the characteristics features of contour lines of the following: a pond, a hill, a ridge, a valley, a vertical cliff and saddle. 6
- Q-3 (A) Give the difference between Rise fall and H. I. method. 4
(B) The following bearings were observed while working with a compass. Mention which stations are affected by local attraction and determine the correct bearings. 8

Line	PQ	QR	RS	SP
FB	55 ⁰	212 30 ⁰	205 ⁰	257 ⁰
BB	234 ⁰	294 ⁰	25 ⁰	75 30 ⁰

Section – II

- Q-4 (A) What is workability? Which tests are carried out for workability? Explain any one in detail. 6
- (B) What are the requirements of good quality bricks? 5
- OR**
- Q-4 (A) What is mortar? What are its uses? What are the requirements of good mortar? 6
- (B) Draw a cross – section of a tree stem and explain its various components. 5
- Q-5 (A) Draw a highway cross-section and show various components. 6
- (B) Explain construction and working of Planimeter with neat sketch. 6
- OR**
- Q-5 (A) Write a short note on Watershed development. 6
- (B) Give classification of canals based on discharge and relative importance. 6
- Q-6 (A) Explain with a neat sketch the hydrological cycle. 4
- (B) The following readings were observed with dumpy level and 4m leveling staff on a continuously sloping ground. The first reading was taken on B. M. of R. L. 400m. The readings are 3.555, 2.225, 1.830, 0.675, 3.445, 2.885, 1.635, 1.115, 0.775, 3.775 and 2.935. Enter the reading in tabular form and calculate R. L. Also apply check, solve by any method. 8

END OF PAPER