

Date: 24/05/2019,

Student Exam No \_\_\_\_\_

Ganpat University

B. Tech Sem I & II CBCS (New) Regular & Remedial Examination April-June 2017  
2CI 101 Elements of Civil Engineering

Time: 3 Hours

Max Marks: 60

- 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) Enlist the various branches of civil engineering and explain any one in detail. (5)  
(B) Give the classification of aggregates. (5)
- OR
- Q1 (A) Differentiate between CPM and PERT. (5)  
(B) Enlist various uses of lime. (5)
- Q2 (A) What are the requirements of a good timber? (5)  
(B) Explain: Rapid hardening cement, low heat cement (5)
- OR
- Q2 (A) Give the classification of sand. (5)  
(B) Enlist different types of concrete and explain any one. (5)
- Q3 (A) Enlist the principles of building planning and explain any one. (5)  
(B) Explain hydrological cycle with a diagram. (5)

SECTION - II

- Q4 (A) Explain the two basic principles of surveying. (3)  
(B) A rectangular plot of area 14144 m<sup>2</sup> is represented by 8.5 cm x 6.5 cm on map. Find out the scale of map and mention its R.F. (3)  
(C) What is meant by closing error in a closed traverse? How would you adjust it graphically? (4)
- OR
- Q4 (A) Write short note on "Indirect Ranging". (3)  
(B) What is a compass? What are its essential three parts? State the main types of compass. (3)

- (C) The following bearings were observed with a compass for the closed traverse ABCDA. Find the included angles and corrected bearings of the lines. (4)

Line	F.B.	B. B
AB	120°	300°
BC	200°	20°
CD	310°	131°
DA	30°	209°

- Q5 (A) Differentiate between the following: (5)
1. Base line. Check line and tie line
  2. Horizontal equivalent and contour interval
  3. Flexible pavement and rigid pavement
- (B) What is GPS? Explain its use in civil engineering field. (5)

**OR**

- Q5 (A) Enlist types of level. Describe Dumpy level with neat sketch. (5)
- (B) What do you mean by contour? What are the uses of contour? Draw the neat sketch of Hill and Pond. (5)

- Q6 (A) List the modern tools used in surveying and mapping. Explain any one in detail. (5)

- (B) The following consecutive readings were taken with a dumpy level along a chain line at regular distance of 20 m by using 4 m levelling staff. The instrument was shifted after 4<sup>th</sup> and 8<sup>th</sup> readings. The readings are: (5)

0.250, 0.570, 1.520, 2.540, 0.835, 1.350, 1.770, 2.345, 0.605, 1.270, 2.750.

A bench mark with reduced level of the 1st point as 51.00 m.

- (a) Prepare a page of level book and enter these readings.
  - (b) Calculate RL of all points and
  - (c) Apply the usual checks.
- Use any method of elevation measurement.

**END OF PAPER**