Roll No._____ **[Total no. of pages 1]**
Total no. of Questions-7

B.Arch. (Semester 3rd)
SURVEYING AND LEVELLING-I
Subject Code: BARC1-322
Paper ID: 120119

Time Allowed: 3 Hours **Max. Marks: 60**

Instructions to Candidates:

1) Attempt total Five questions. Question no. 1 is compulsory. Attempt Four questions from rest, selecting at least one from each unit.
2) Missing data, if any may be assumed suitably.

Q1. (i) What do you understand by 'GTS Bench Marks'?
(ii) Differentiate between Cumulative and compensating errors in chaining.
(iii) Draw sketches for contours depicting a valley and hanging cliff.
(iv) Define the term Reduced-Level and Datum.
(v) Differentiate between True and Magnetic bearing.
(vi) Does local attraction affect bearing of lines and angle between two lines? (2x6=12)

Unit-I

Q2. (a) Explain step by step method of Reciprocal ranging used when a small hillock coming across the chain line. (6)
(b) How will you measure a line between two points which are visible to each other but chaining is obstructed due to a river passing obliquely/normally through the line? (6)

Q3. (a) Why zero is marked at South in the Prismatic Compass? Also explain how fore bearings are converted into back bearings in Quadrantal bearings system. (6)
(b) Followings bearings were observed in a running close traverse with a compass. Calculate Back bearings of lines and the interior angles. Apply check. (6)

AB	40^0-00'	BC	70^{0-} 00'
CD	210^0-00'	DE	280^{0-}00'

Unit-II

Q4. (a) Discuss the advantages and disadvantages of Plane table surveying? (6)
(b) Discuss method of Re-sectioning used in PT Survey. Explain in detail. (6)

Q5. (a) Draw a neat labelled sketch of transit theodolite. (6)
(b) Explain the method of repetition for measurement of Horizontal angle with a theodolite. (6)

Unit-III

Q6. (a) What do you understand by term Bench Mark? Discuss different types of Bench marks in brief. (4)
(b) Explain Rise and Fall method of levelling in detail. (4)
(c) Write short notes on Box sextant and Planimeter. (4)

Q7. (a) Explain various methods used for interpolation of contours. (6)
(b) Describe the characteristics of contours. Also discuss uses of contour maps. (6)