Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY
FACULTY OF ARCHITECTURE & PLANNING
B.Arch. Summer 2017-18 Examination

Semester: 5 **Date: 16/05/2018**
Subject Code: 01101304 **Time: 2:00pm to 4:00pm**
Subject Name: Surveying & Levelling **Total Marks: 50**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions whenever required.
4. Draw suitable sketches whenever required.

Q.1 The following reading was taken with damply level and 4m levelling staff, on a continuous sloping ground at common interval of 30m. 0.855,1.545,2.335,3.115,3.825,0.455,1.380,2.055,2.855,3.455,0.585,1.015,1.850,2.755,3.845. The R.L. was 380.500m. Kindly show check for rise and fall method. **(10)**

Q.2 **Answer the following: (Attempt any five)** **(20)**

1. Explain the term Q.B. and W.C.B., relation between them.
2. Convert following WCB TO RCB
   i. 20˚30’**, ii.** 90˚00’**, iii.** 179˚12’, **iv**. 208˚42’, **v**. 327˚03’
3. The following are bearing observed in traverse ABCDEA with a compass an area where local attraction was suspected. Calculate the interior angle of the traverse and correct them if necessary.

Line	FB	BB
AB	$150^{o}00^{'}$	$330^{o}00^{'}$
BC	$230^{o}30^{'}$	$48^{o}00^{'}$
CD	$306^{o}15^{'}$	$127^{o}45^{'}$
DE	$298^{o}00^{'}$	$120^{o}00^{'}$
EA	$49^{o}30^{'}$	$229^{o}30^{'}$

4. Fill in the blanks **(any four)**
   1) If the graphical presentation is carried out in small scale is called_____.
   2) The length of one link in metric chain is_____.
   3) In chain surveying the subsidiary station is denoted by_____ symbol.
   4) The difference between fore bearing and back bearing is ____.
   5) The line connecting equal point of elevation is called_____.
5. Explain objective of surveying, purpose of surveying and uses of surveying.
6. Explain the instruments used in chain survey, describe any two of them with neat sketch.

Q.3 **Explain the term:(Attempt any five)** **(10)**

1. Direct ranging
2. Indirect ranging
3. Explain difference between plans and maps.
4. True meridian
5. Magnetic meridian
6. Arbitrary meridian

Q.4 **Answer the following: (Attempt any two)** **(10)**

1. Explain the precaution against errors and mistakes in chain surveying.
2. Explain the principal of chain surveying in detail.
3. Explain the role of surveying in architecture field.