

GUJARAT TECHNOLOGICAL UNIVERSITY

B. ARCH - SEMESTER- III - EXAMINATION- WINTER- 2017

Subject Code: 1035006

Date: 27-11-2017

Subject Name: SURVEYING AND LEVELLING

Time: 10:30 AM TO 12:30 PM

Total Marks: 50

Instructions:

1. Attempt All questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a) Explain the fundamental principles of surveying with suitable example **04**
 - (b) Give advantages and disadvantages of plane table surveying **04**
 - (c) Define representative fraction. Construct a diagonal scale 1cm=10m to read meter and decimeter and show 32.4m and 47.8m on it. Also find R.F. of this Scale. **08**

- Q.2**
- (a) List out instruments used in chain surveying. Illustrate with neat sketches different types of chains used in chaining. **08**
 - (b) A 20 m chain was tested and found no error before the start of the work. After measuring a distance of 2150m, it was found 16 cm too long. After measuring another distance of 950m, the chain was found 20cm too long testing at the end of day's work. Find the true distance measured during the day. **08**

OR

- (b) Explain the construction and working of planimeter with neat sketch. **08**
- Q.3**
- (a) Explain different methods of setting out of buildings with neat sketches. **09**
 - (b) The following bearings were observed with a compass for closed traverse ABCDA. Calculate each interior angle and show the check. **09**

Line	F.B.
AB	S 55° 30' E
BC	N 68° 15' E
CD	N 47° 15' W
DA	S 17° 45' W

OR

- Q.3**
- (a) Explain characteristics of contours with sketches and list out uses of contour map. **09**
 - (b) The following consecutive readings were taken with a 4 m leveling staff on a continuously sloping ground. The reduced level of first point was 210 m. Prepare a page of level book and enter all the readings. Calculate R.L. of each staff station by rise and fall method and apply necessary check. Readings are as follow: **09**
0.130, 0.950, 1.360, 2.320, 0.365, 1.485, 2.850, 3.760, 0.230, 1.550, 2.790
