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**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
MID TERM EXAMINATION - APR 2023**

Semester : Semester II - 2022

Course Code : CIV1005

Course Name : Sem II - CIV1005 - Surveying

Program : CIV

Date : 18-APR-2023

Time : 9:30AM - 11AM

Max Marks : 50

Weightage : 25%

Instructions:

- (i) Read all questions carefully and answer accordingly.
 - (ii) Question paper consists of 3 parts.
 - (iii) Scientific and non-programmable calculator are permitted.
 - (iv) Do not write any information on the question paper other than Roll Number.
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PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. The least value that can be measured by a metric chain during chain survey is?
a) 0.2mm (CO1) [Knowledge]
b) 0.2cm
c) 0.2m
d) 0.002m
2. Which is the instrument from the one listed below that can be used without a tripod?
a) Prismatic Compass (CO1) [Knowledge]
b) Surveyor Compass
c) Sextant
d) both A and B
3. The process of locating intermediate points on a survey line is
a) Aligning (CO1) [Knowledge]
b) Extending
c) Ranging
d) Offsetting
4. To get a well-proportioned or well-shaped triangle, no angle should be less than _____
a) 35° (CO1) [Knowledge]
b) 45°
c) 30°
d) 15°

5. The last reading taken from the instrument is referred to as: (CO2) [Knowledge]
- a) End sight
 - b) Free sight
 - c) Fore sight
 - d) Back sight

PART B

ANSWER ALL THE QUESTIONS

(4 X 5 = 20M)

6. Explain the classification of survey based on instruments used. List and explain any 5. (CO1) [Comprehension]
7. Obstacles to ranging can be due to hills, trees, or intervening ground. Explain any two methods for determining the width of a river with the help of a neat sketch. (CO1) [Comprehension]
8. Compass is used to find bearing of angles. Predominantly two types of compass are used in the field for determining the bearing of angles and they are surveyor's compass and prismatic compass. Differentiate between surveyor's compass and prismatic compass. (CO1) [Comprehension]
9. A benchmark is a point of reference by which something can be measured. List the different types of benchmark and explain any three in detail. (CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

(2 X 10 = 20M)

10. The Principle of Compass Survey is Traversing, which involves a series of connected lines the magnetic bearing of the lines are measured by prismatic compass. A closed traverse is conducted with four stations A, B, C, D and E taken in anticlockwise order, in the form of a regular pentagon. If the Fore bearing of AB is $N 30^\circ 0' E$, find the fore bearings of the other sides. (CO1) [Application]
11. The following consecutive readings were taken with a dumpy level and a 4 m levelling staff on a continuously sloping ground at 30m intervals: 0.680, 1.455, 1.855, 2.330, 2.885, 3.380, 1.055, 1.860, 2.265, 3.540, 0.835, 0.945, 1.530 and 2.250. RL of the starting point was 80.750 m. The instrument was shifted after the sixth and tenth reading. Identify and compute appropriate parameter to obtain the profile for a pipe line alignment by the height of instrument method and provide a check. (CO2) [Application]