

KATHMANDU UNIVERSITY
End Semester Examination [C]
April/May, 2023

Level : B.E.
Year : II
Time : 2 hrs. 30 mins.

03. May
Course : GEOM 205
Semester : I
F.M. : 40

SECTION "B"
[6Q × 4 = 24 marks]

Attempt **ALL** question.

1. What do you mean by Topographical survey? Write the advantages of topographical survey by tacheometric method. [1+3]
2. What is centering of PT? Method of rough centering is preferred for small scale mapping why? Distinguish between centering and leveling of plane table survey. [1+1+2]
3. Write the principle of tacheometry. Calculate the distance between point A and B where staff readings (T= 1.572, M= 1.286. B=1.000) and zenithal angle is 30° provided that multiplying constant 100 and additive constant 0.3. [2+2]
4. What is contour? Write the characteristics of contour. [2+2]
5. The following perpendicular offsets were taken from a chain line to parcel boundary:

Chainage(m)	0	20	30	40	50	60	70	80
Offset (m)	4.0	5.0	6.0	5.0	7.0	6.0	4.5	6.0

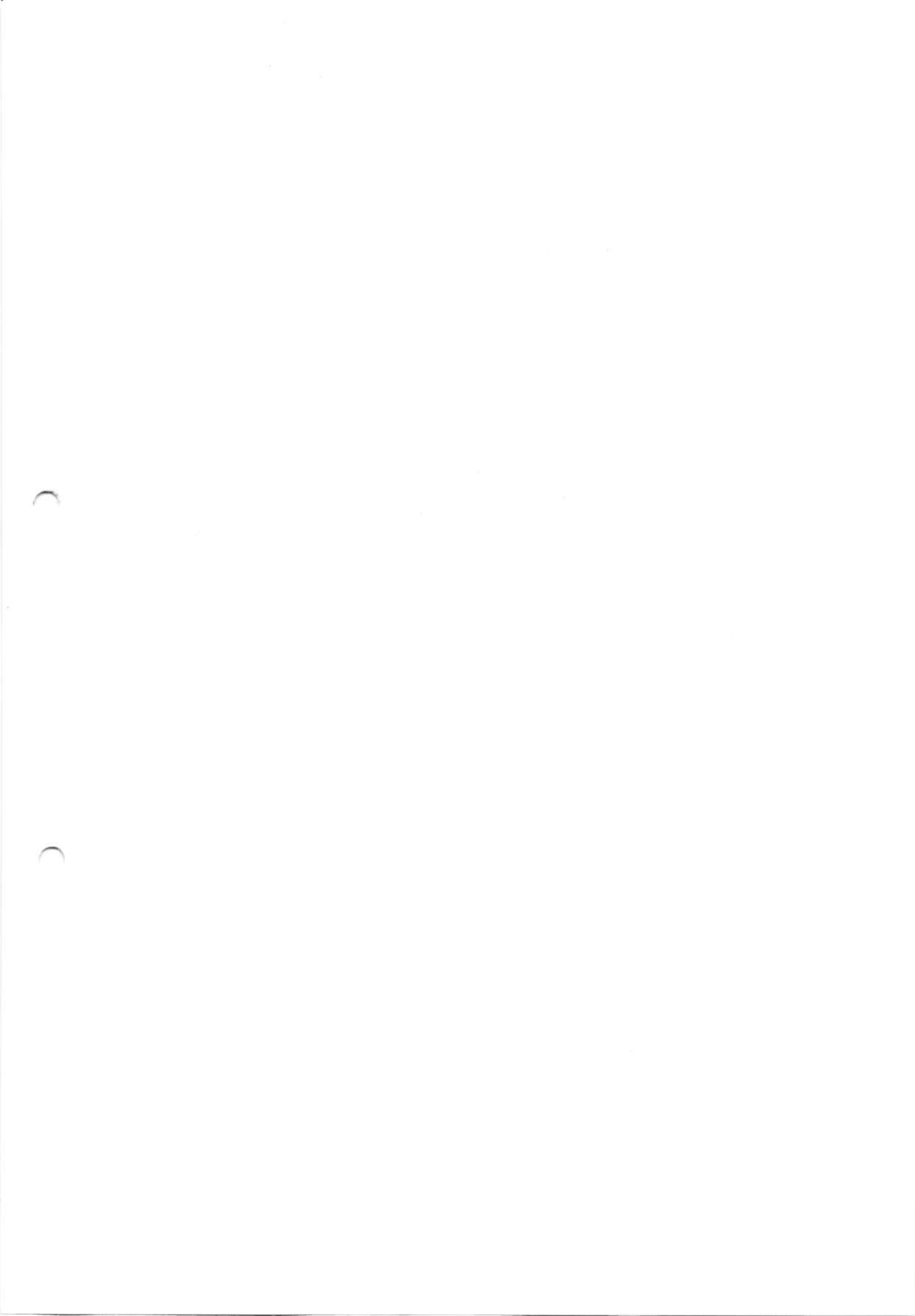
Calculate the area by Trapezoidal rule. [4]

6. Write short notes on **ANY TWO**. [2 + 2]
 - a. Orientation of PT.
 - b. Triangle of error.
 - c. Importance of sketching in Total Station Survey.

SECTION "B"
[2Q × 8 = 16 marks]

Attempt **ALL** question.

7. What is resection? Explain the method getting resection by solving three-point problem?
8. Write the characteristics of anallactic lens? Deduce $D = A S \cos^2 \theta + B \cos \theta$ for inclined sight with staff normal, where A and B are tacheometric constant. [3+5]
9. Briefly explain the methods of volume calculation? deduce the formula for calculation of volume by two level section.



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Marks Scored:

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F. M. : 10

Registration No.:

Date : 3. May - 023

SECTION "A"

[20Q. \times 0.5 = 10 marks]

Encircle the most appropriate option.

- The process that vertically align the plane table in a plumb line is _____.
A. Centering B. Levelling C. Orientation D. Intersection
- In plane table survey, line of sight is provided by _____.
A. Scale B. Plane alidade C. U-fork D. Telescope
- Which plane table is abundantly used in small scale mapping?
A. Traverse table B. Coast survey table
C. Jonson's table D. Precision table
- The mathematical model of Horizontal Beaman's scale 'H' of telescopic alidade is _____.
A. $H = 10 \sin^2\theta$ B. $H = 10 \sin^2z$ C. $H = 10 \cos^2\theta$ D. $H = 10 \tan^2\theta$
- In a tacheometer, multiplying constant is _____.
A. 0 B. 100 C. C - d D. c+d
- Stadia wires are used for _____.
A. Measuring H- angle B. Measuring distance
C. Measuring V-angle D. Providing line of sight
- A tacheometric method, where staff intercept (s) is kept constant _____.
A. Fixed hair method B. Movable hair method
C. Tangential method D. Subtense bar method
- Which measurement is not taken for calculating elevation in tacheometric survey?
A. Horizontal distance B. Instrument height
C. Target height D. Middle wire reading
- When two contours of same value run opposite to one another without closing, form _____.
A. cliff B. top C. Valley D. Depression
- Two or more concentric contours having lower and lower central value represents _____.
A. Pond B. Hill C. Pass D. Cliff

11. Which statement is **NOT TRUE**?
- Plane table survey is generally used for large scale mapping.
 - EDM stands for distance meter.
 - Centering aligns the ground station and its plotted position on map in a same vertical line.
 - Total station is the combination of EDM, theodolite, and computer.
12. Which EMR is used to measure the continental distance?
- Radio wave
 - Microwave
 - Light wave
 - Infrared
13. Which is the first EDM?
- Tellurometer
 - Maknometer
 - Geodimeter
 - Sonometer
14. Which is not an error of EDM?
- Cyclic error
 - Index error
 - Scale error
 - Gross error
15. What is the accuracy of EDM?
- Part per thousand
 - 1:10000
 - Part per million
 - Part per hundred
16. The number of ordinates while calculation the area of an irregular boundary by simpson's method are _____.
- even
 - twice of total ordinates
 - odd
 - one-fourth of total ordinate
17. The distance directly measured by EDM is _____.
- horizontal
 - slope
 - zenithal
 - all of these
18. Subtense bar is used for _____.
- Measuring horizontal distance
 - Measuring slope distance
 - Measuring vertical distance
 - Very long distance upto 100 km
19. Graphic generalization is most referred to
- reclassification
 - omission
 - selection
 - addition
20. In Simpson's rule of area calculation, the irregular boundary is taken as
- ellipsoidal
 - rectangular
 - trapezoidal
 - parabolic