

KATHMANDU UNIVERSITY
End Semester Examination
July/August, 2024

Level : B.Sc.
Year : III
Time : 2 hrs. 30mins.

Course : ESEE 310
Semester : II
F. M. : 55

17 AUG 2024

SECTION "B"

[8 Q. × 5 = 40 marks]

Attempt *ALL* questions. Abbreviations have usual meaning.

1. a. What are the different types of tape correction and how are they applied. [2]
b. A surveyor paces a 50 m length 8 times with the following results. [3]
57, $56\frac{1}{2}$, 56, 58, $56\frac{1}{3}$, 57, $56\frac{1}{2}$, and 56
How many paces must he step off in order to lay-off a distance 400 m?

2. Describe different types of tapes commonly used in surveying stating the advantages of each. List the equipment used for distance measurement. [3+2]
3. A closed compass traverse was conducted round a forest and following whole circle bearings were observed. Determine which of the station suffers from local attraction and compute the values of the corrected bearings. [5]

Line	Fore Bearing	Back Bearing
AB	74°20'	256°00'
BC	107°20'	286°20'
CD	224°50'	44°50'
DA	306°40'	126°00'

4. What do you mean by checklist? Prepare a sample questionnaire to conduct an interview with locals regarding construction of a landfill Site. [5]

OR

What is Environmental and social survey? What are the fundamental differences between KII and FGD? How this tool helps to address social issues? [2+1.5+1.5]

5. What are contours? What are the uses of contour map? Describe characteristics of contours of hill, depressions and overhanging cliff with neat sketch. [1+1+3]
6. The first railway service in Nepal was begun in 1927 AD with a length of 48 km between Amalekhgunj (Nepal) to Raxaul (India). You are tasked with updating the chainage markers along an old railway line that has shifted due to erosion.
- a. Explain the steps you would take to ensure the new chainage measurements. [2]
b. Prepare a sample table describing the land use along the railway track. Assume both sides of railway have similar land use. [2]
c. Draw the plan of typical topography of the railway line based on the information you mentioned in the sample table. [1]

P.T.O.

7. Differentiate between *ANY TWO* of the following. [2.5+2.5=5]
- a. Ranging and Chaining
 - b. Surveyors Compass and Prismatic Compass
 - c. Physical and Socio- Cultural Environment
8. Write short notes on *ANY TWO* of the following. [2.5+2.5=5]
- a. Method of traversing using Total station
 - b. Principles of levelling
 - c. Abney Level

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Marks Scored:

Level : B.Sc.

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Exam Roll No. :

Time: 30 mins.

Registration No.:

Course : ESEE 310

Semester : II

F. M. : 10

Date : 12 AUG 2024

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose and encircle in the most appropriate option from each set of choices

1. The provided symbol is used to indicate _____ in surveying.



- a. Building b. Road c. Bridge of 100 m d. Bench mark

2. _____ is a process of surveying in which the portion of the earth being surveyed is considered a curve.

- a. Geodetic surveying b. Mine surveying
c. Plane surveying d. Route surveying

3. Walking over the area and observing and observing its man features and boundaries is _____.

- a. Traversing b. Inspection c. Reconnaissance d. Observation

4. _____ used in surveying to denote the distance along a curved or straight line, typically measured from a starting point known as the origin or zero point.

- a. Elevation b. Bearing c. Azimuth d. Chainage

5. A 30 m Chain was found to be 10 cm too short after chaining 1500m. The corrected length of total distance chained is _____.

- a. 1505 m b. 1497.5 m c. 1495 m d. 1502.50 m

6. The vertical direction in stepping method of chain surveying is obtained from _____.

- a. Spirit level b. Plumb bob c. Ranging rod d. Measuring tape

7. The contour interval is inversely proportional to _____.

- a. Steepness of the area b. Scale of the map
c. Extent of area d. Number of contour lines

8. In a map showing contours, the name of the darker contour lines is _____.

- a. Key Contour b. Lines of deviation c. Lines of elevation d. Index contour

9. The whole circle bearing (WCB) of a line is $287^{\circ}15'$. The quadrantal bearing of the line is _____.

- a. $S107^{\circ}15'W$ b. $N107^{\circ}15'$ c. $S72^{\circ}45W$ d. $N72^{\circ}45W$

