Faculty: Engineering   **Level: Bachelor**   **Exam Year:2080**   **Year/Part: II/I**
Mangsir

Program: Civil Engineering   **Subject: Surveying (EG507CE)**

GROUP A (Multiple Choice Questions)   **[10x1=10]**

i.   Answers should be given by filling the Objective Answer Sheet.
ii.   Rough can be done in the main answer sheet
iii.   Maximum time of 20 minutes within the total time is given for this group.

1) Which of the following scales is largest one?

   a. 1cm=50m   b. 1:42000   c. RF=$\dfrac{1}{300000}$ d. 1cm=50km

2) The error due to bad ranging is

   a. Cumulative; positive   b. Cumulative; negative
   c. Compensating   d. Cumulative; positive or negative

3) A building is an obstacle to

   a. changing but not ranging   b. ranging but not chanin
   c. both ranging andchaning   d. Neither ranging nor chaning

4) Size of theodolite is specified by

   a. the length of telescope   b. the diameter of vertical circle
   c. the diameter of lower plate   d. the diameter of upper plate

5) A level line is a

   a. Horizontal line
   b. line parallel to mean spheroidal surface earth
   c. line passing through the centre of cross hairs and centre of eye piece
   d. line passing through the objective lens and eye piece of dumpy or tilting level

6) The rise and fall method of levelling provides a complete check on

   a. foresight only   b. backsight only
   c. foresight and backsight   d. foresight and intermediate sight

7) Intersection method of detailed plotting is most suitable for

   a. forests   b. urban areas   c. hilly areas   d. plain

8) Which one of the following methods estimates best area of an irregular and curved boundary?

   a. Trapezoidal method   b. simpons's method
   c. Average ordinate method   d. Mid-ordinate method

MODEL QUESTION

- -

Code No. _____

Marks Secured: _____

In Words: _____

Examiner's Sign: _____ Date: _____

Scrutinizer's Marks: _____

In Words: _____

Scrutinizer's Sign: _____ Date: _____

Corrected Fill

Ⓐ ● Ⓒ Ⓓ

Incorrected Fill

✗Ⓐ ●Ⓑ ◉ ✓Ⓓ

Multiple Choice Questions' Answer Sheet

1. Ⓐ Ⓑ Ⓒ Ⓓ	6. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ	7. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ	8. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ	9. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ	10. Ⓐ Ⓑ Ⓒ Ⓓ

Faculty: Engineering	**Exam Year:2080 Mangsir**	**Year/Part: II/I**
Program: Civil Engineeringp	**Level: Bachelor**	**F.M.: 50**
Subject: Surveying (EG507CE)	**Time: 3 Hours**	**P.M.: 20**

✓ *Group A contains Multiple Choice Questions of 10 marks.*
✓ *Candidates are required to give their answers in their own words as far as practicable.*
✓ *The figures in the margin indicate Full Marks.*
✓ *Assume suitable data if necessary.*

9) Two point problem and three point problem are methods of

    a. resection   **b.** oreintation
    c. traversing   d. resection and orientation

10) The amount of information to be represented on the map depends on

  a. Scale   b. Projection   c. Conventional sign   d. All of the above

Group B (Attempt any eight questions)   [8*2=16]

1. Differentiate between Map and Plan. How is scale used in Mapping?
2. Explain the principles of chain surveying. what are the limitation of chain surveying?
3. The following bearings were taken in a closed traverse ABCD:

Line	Fore Bearing	Back Bearing
AB	45°15'	225°15'
BC	123°15'	303°15'
CD	181°00'	1°00'
DA	289°30'	109°30'

Calculate the interior angle of the traverse.
4. What are the sources of errors in linear measurement of tape and state which are additive or substrative?
5. What is levelling? Explain the types of levelling.
6. Explain the principles of plane tabling. List the method of plane tabling
7. Explain the temporary and permanent adjustment of level.
8. What is mass haul diagram? explain how economical overhaul is determined.
9. What is cartography? Importance of cartography

Group C(Attempt all questions)

10. Define surveying and state principles of surveying. Differentiate between Accuracy and precision.   [4]
11. A steel tape is 30m long between end graduation at a temperature of 27°C under a pull of 45N when lying on flat. The tape is stretched over two supports between which it records

30,000m, and is supported at two intermediate supports equally spaced. All the supports are at same level, and the tape is allowed to sag freely, between the supports.

If the temperature in the field is 32°C and the pull on the tape is 75N, Calculate the actual length between the end graduations, and the equivalent length at mean sea level if the measurement was made at an elevation of 1000.00m.

Area of Cross-section of the tape = 7.0mm^2
Mass of tape   =1.6 kg
Coefficient of expansion   =1.1*10^{-5}
Young's modulus   =2*10^{5}N/mm^2
Radius of Earth   =6370km

[4]

12. The following readings were successively taken with the instrument in levelling work 0.32,0.53,0.62,1.78,1.91,2.35,1.75,0.35,0.69,1.24and 0.98m.
The position of the instrument was changed after 3rd,7th and 9th readings. Draw out the form of a level book and enter the above reading properly. Assume the RL OF THE 1st point as 81.53m. Calculate R.L of all points and apply usual checks. [4]

13. Explain the procedure for the measurement of horizontal and vertical angles by direction and repetition method. What are errors in theodolite [4]

14. What is triangulation and trilateration. Derive analyticallyintersection method [4]

15. How is area calculated? Explain different methods to calculate area. [4]

Or

How is volume calculated? Explain method to calculate volume and also correction.

[4]

∞∞*All the Best* ∞∞