

UNIVERSITY OF RUHUNA

Continuous Evaluation Test

B.Sc. in Fisheries and Marine Sciences: 2016 Jan
Level III- Semester-II

LIM 3231 (Surveying & Leveling)

Time: 30 minutes

MCQ Type

Index No:

Answer all questions.

Please ensure that you have written your index number in the space provided above.

Each question has 5 answers, indexed under (i), (ii), (iii), (iv) and (v).

Mark the correct answer by placing "✓".

Only one answer should be marked in each question. If more than one answer is marked for a question, that question will not be evaluated.

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1. Select the incorrect statement from followings
 - (a) Backsight is the first sight (reading) taken after the instrument (level) has been set up
 - (b) Foresight is the last sight or reading taken before the instrument is moved
 - (c) Bench Mark is a variable known point of height above the selected datum
 - (d) Reduced Level is height of a point or object stated with reference to the selected datum
 - (e) Truly horizontal line of sight which passes through the optical centre of the telescope of the leveling instrument is called as the line of collimation

 2. Residual Collimation Error
 - (a) Occurs when telescope is not in a horizontal position
 - (b) Can be reduced by increasing the horizontal distance of the backsights than foresights at each instrument position
 - (c) Cannot be determined by two peg test
 - (d) Is not so important in profile leveling
 - (e) Should be determined after doing the contour leveling

 3. Select the correct statement
 - (a) Reciprocal leveling a system of leveling whereby the difference of height between two points at a considerable distance apart (across a river) can approximately be determined
 - (b) All errors due to curvature of earth, refraction by atmosphere and collimation error by faulty adjustments will be eliminated in reciprocal leveling
 - (c) Two peg test is used to determine the cross hair parallax error
 - (d) Natural errors occur in the field can be avoided in profile leveling
 - (e) Height of collimation method is more accurate than rise and fall method in reduce level calculations

4. Select the incorrect statement of the followings
- (a) Leveling is the determination of the relative heights of the different points in the area under survey
 - (b) Area leveling is employed when the points to be leveled in an area
 - (c) Grid contouring technique is the only method that can be used for making contouring maps
 - (d) Two peg test is used for the evaluation of collimation error of the leveling instrument
 - (e) Closing loop method is the only method that can be used for the evaluation of the error in leveling
5. Select the correct statement for the followings
- (a) Residual collimation error occurs when the telescope is not properly focused.
 - (b) Two-peg test is used for the elimination of the cross-hair parallax error.
 - (c) Natural errors occur in leveling cannot be eliminated.
 - (d) Booking errors occurs when entering the readings in wrong columns and rows.
 - (e) Rain drops cannot influence the readings of the telescope of the leveling instrument
6. Select the correct statement/s with regard to contouring using grid method.
- A. Only one leveling instrument position should be used in the whole field.
 - B. Reduced levels in grid intersection points can be calculated based on rise and fall method or height of collimation method.
 - C. Grid size should be selected based on the topography of the field.
- (a) Only statement C is correct
 - (b) Statements A and B are correct
 - (c) Statements B and C are correct
 - (d) Only statement B is correct
 - (e) All statements are correct
7. Select the incorrect statement of the followings
- (a) Leveling is the determination of the relative heights of the different points in the area under survey
 - (b) Area leveling is employed when the points to be leveled in an area
 - (c) Grid contouring technique is the only method that can be used for making contouring maps
 - (d) Two peg test is used for the evaluation of collimation error of the leveling instrument
 - (e) Closing loop method is the only method can be used for the evaluation of error in leveling
8. Select the correct statement for the followings
- (a) Residual collimation error occurs when the telescope is not properly focused.
 - (b) Two-peg test is used for the elimination of the cross-hair parallax error.
 - (c) Natural errors occur in leveling cannot be eliminated.
 - (d) Booking errors occurs when entering the readings in wrong columns and rows.
 - (e) Rain drops cannot influence the readings of the telescope of the leveling instrument

9. Cross-Hair Parallax Error occurs
- (a) when telescope of the instrument is not in horizontal position
 - (b) due to curvature of the earth
 - (c) when the image of the staff being brought to a focus in front of or behind the cross-hair
 - (d) due to refraction of the atmosphere
 - (e) due to wear and tear of the staff gauge
10. Staff readings at long distances can be taken by the auto level using the knob
- (a) A
 - (b) B
 - (c) C
 - (d) D
 - (e) E
11. Knob "C" shown in the figure 3 is used to
- (a) Level the auto level
 - (b) Focus the auto level
 - (c) Fine rotation of the auto level
 - (d) Eliminate cross-hair parallax error
 - (e) Reduce the collimation error

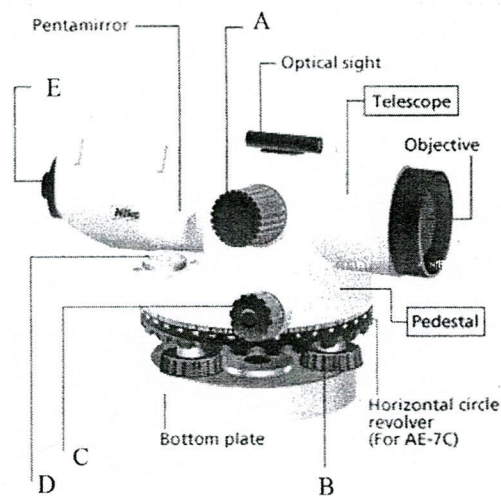


Figure 1

12. Knob "B" shown in the figure 3 is used to
- (a) Level the auto level
 - (b) Focus the auto level
 - (c) Fine rotation of the auto level
 - (d) Eliminate cross-hair parallax error
 - (e) Reduce the collimation error

13. Level line is a
- (a) Perpendicular line to the direction of gravity
 - (b) Line in a horizontal plane
 - (c) Line which is drawn parallel to the horizontal line
 - (d) Curved line that is of constant or uniform height relative to the mean sea level
 - (e) Line which passes through the centre of the earth
14. Contouring method which does not use interpolation technique is
- (a) Direct leveling for contours
 - (b) Grid contouring
 - (c) Contour by sections
 - (d) Contour by radiating lines
 - (e) Indirect contouring
15. Select the correct answer based on the following statements
- A. Level back to the starting point (Back sight of the first leveling instrument position) can be used to check the errors in leveling
 - B. Connecting into another BM of known and proven value can be used to determine the misclosure
 - C. Arithmetic check can be used to determine the errors occurring in the field
- (a) Only statement C is correct
 - (b) Statements A and B are correct
 - (c) Statements B and C are correct
 - (d) Only statement B is correct
 - (e) All statements are correct
16. The slope correction for a length of 30 m along a gradient of 1 in 20, is;
- (a) 3.75 cm
 - (b) 0.375 cm
 - (c) 37.5 cm
 - (d) 2.75 cm
 - (e) 27.5 cm
17. Hydrographic surveys deal with the mapping of;
- (a) Canal system
 - (b) Mountainous area
 - (c) Large water bodies
 - (d) Mine
 - (e) Valley

18. Intersection method can be used to map/plan,
- (a) Ponds, Rivers, Reservoirs, Paddy field
 - (b) Seas, Flat lands, Highways, Ponds
 - (c) Reservoirs, Ponds, Roads, Paddy field
 - (d) Roads, Railways, Mountain areas, Reservoirs
 - (e) Paddy field, Ponds, Seas, Railways
19. If the 2500 m length has been represented by a drawn line 25 mm, the scale of the drawing was;
- (a) 1:1000000
 - (b) 1:100000
 - (c) 1:10000
 - (d) 1:1000
 - (e) 1:100
20. Consider the following statements on the setting of the plane table and select the FALSE statement.
- (a) The table should be leveled.
 - (b) The table should be centered over the exact station mark.
 - (c) The tripod should not be adjusted to convenient height for the surveyor.
 - (d) The table should be oriented.
 - (e) The tripod which is used to set up the plane table should be firm with good spread of the legs.
21. The instruments is not used in plain table survey are;
- (a) Tripod and Alidade
 - (b) Chain and compass
 - (c) Raging poles and arrows (pegs)
 - (d) Ranging poles and Compass
 - (e) Tape and filed book
22. Plane table survey-radiation method is suitable for
- (a) Reasonably flat lands
 - (b) Slopy lands
 - (c) Irregular lands
 - (d) Circular sloppy lands
 - (e) Rectangular sloppy lands

23. Which of the following statement/s is CORRECT on plane table survey-Intersection method?

- A. Intersection method is suitable for surveying reservoirs.
- B. The complete plan can be obtained at the field after completing the necessary measurements.
- C. The accuracy of the plotted points can not readily be verified in the field by checking the observations.
- (a) Only (A) and (B) are correct
- (b) Only (A) and (C) are correct
- (c) Only (A) is correct
- (d) Only (B) is correct
- (e) Only (C) is correct

24. In chain surveying field work is limited to;

- (a) Angular measurement only
- (b) Linear measurement only
- (c) Both angular and linear measurements
- (d) Vertical measurement only
- (e) All angular, vertical and linear measurements

25. Systematic errors in surveying are those errors;

- (a) which cannot be recognized
- (b) whose effects are cumulative and can be eliminated
- (c) whose character is understood
- (d) which happens due to the lack of perfection in human eye
- (e) none of these.

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