

Engineering Survey_Past Question Collection Surveying

1. The most suitable Terrain for plane table surveying is..... [सुदूरपश्चिम प्रदेश सिभिल समूह, चौथो तह 2080/06/27]

- A. hilly terrain
- B. dense forest
- C. flat and open area
- D. urban area

Correct Answer: C

2. The area of field is 36 sq m. Length and breadth of the field on the map is 6 cm and 6 cm respectively. What is the scale of the map? [सुदूरपश्चिम प्रदेश सिभिल समूह, चौथो तह 2080/06/27]

- A. 1: 1000
- B. 1: 100
- C. 1: 200
- D. 1: 10

Correct Answer: B

3. When it is not possible to set of the level Midway between the two points then the difference in elevation between them is measured by..... [सुदूरपश्चिम प्रदेश सिभिल समूह, चौथो तह 2080/06/27]

- A. fly levelling
- B. precise leveling
- C. differential levelling
- D. reciprocal leveling

Correct Answer: D

Explanation:

Differential Leveling: A surveying method to find elevation difference between two points when the instrument cannot be set midway. It involves multiple setups and turning points.

Fly Leveling: Quick, approximate leveling without precise measurements.

Precise Leveling: High-accuracy leveling, often over short distances.

Reciprocal Leveling: Used to eliminate errors caused by curvature and refraction by taking readings from both ends.

4. "Fiducial edge" is the working edge of..... [सुदूरपश्चिम प्रदेश सिभिल समूह, चौथो तह 2080/06/27]

- A. plumbing fork
- B. alidade
- C. level
- D. working edge

Correct Answer: B

Explanation:

- ✓ The fiducial edge is the bevelled edge of the alidade used for sighting and drawing lines accurately.
- ✓ The line of sight of the alidade lies in the plane of the fiducial edge.
- ✓ It helps in plotting points directly on the drawing board during plane table surveying.

5. The main principle of surveying is to work from..... [सुदूरपश्चिम प्रदेश सिभिल समूह, चौथो तह 2080/06/27]

- A. the center to the boundary
- B. the whole to the part
- C. the part to the whole
- D. higher to lower level

Correct Answer: B

6. In differential levelling collimation error can be eliminated by..... [सुदूरपश्चिम प्रदेश सिभिल समूह, चौथो तह 2080/06/27]

- A. changing instrument
- B. taking intermediate sights
- C. taking staff observation between 0.6 M to 2 m
- D. balancing of sights

Correct Answer: D

Explanation:

Differential levelling:

Method to determine height differences between points using a leveling instrument and staff.

Collimation error:

Error caused when the line of sight of the leveling instrument is not perfectly horizontal due to imperfect instrument adjustment.

Balancing of sights:

Taking equal or nearly equal backsight and foresight distances to cancel out systematic errors like collimation error.

7. Leveling across a river is done by..... [सुदूरपश्चिम प्रदेश बिल्डिंग एन्ड आर्किटेक्ट]

उपसमूह पाँचो तह 2080/04/27]

- A. fly leveling
- B. reciprocal leveling
- C. trigonometrical leveling
- D. cross levelling

Correct Answer: B

Explanation:

- ✓ Reciprocal leveling is standard for river crossing where instrument can't be set mid-river
- ✓ Balances errors by simultaneous observations from both banks
- ✓ Trigonometrical leveling is also used for river crossing, especially for longer distances and when precise instruments are available
- ✓ Fly leveling is unsuitable due to obstacles
- ✓ Reciprocal leveling is simpler and widely used in practice for rivers

8. Which of the following does not involve the method of traversing ?

[सुदूरपश्चिम प्रदेश बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचो तह 2080/04/27]

- A. plane table survey
- B. tachometric survey
- C. chain survey
- D. theodolite survey

Correct Answer: B

Explanation:

- A) Plane table survey
- ✓ Involves plotting in the field
- ✓ Often uses traversing for control
- ✓ Involves traversing

B) Tachometric survey

- ✓ Uses a theodolite/stadia for indirect distance measurement
- ✓ Can be used in traverse surveys
- ✓ Involves traversing

C) Chain survey

- ✓ Based only on linear measurements with chains/tapes
- ✓ Uses triangles, not traverses
- ✓ Does not involve traversing

D) Theodolite survey

- ✓ Measures angles precisely
- ✓ Widely used in traversing (both open and closed)
- ✓ Involves traversing

9. The back staff reading on a BM of RL 100.00 M is 1.750 and if foresight reading on a point is 0.500 the reduced level to the point is..... [सुदूरपश्चिम प्रदेश बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचो तह 2080/04/27]

- A. 97.750
- B. 101.250
- C. 98.750
- D. 102.250

Correct Answer: B

Explanation:

RL of point = RL of BM + BS - FS

10. Accidental or compensating errors of length L are proportional to.....
[सुदूरपश्चिम प्रदेश बिल्डिंग आर्किटेक्ट उपसमूह पाँचौं तह 2079/09/02]

A. L

B. \sqrt{L}

C. $\sqrt[3]{L}$

D. $\frac{1}{\sqrt{L}}$

Correct Answer: B

Explanation:

- ✓ Accidental errors increase with length but not linearly
- ✓ According to error theory, accidental errors are proportional to the square root of length (\sqrt{L})
- ✓ This is because errors accumulate randomly and partially cancel out
- ✓ Linear proportionality (L) applies to systematic errors, not accidental ones
- ✓ Compensating errors behave similarly to accidental errors in relation to length

11. The type of Survey in which field surveying works and plotting work proceed simultaneously ? [सुदूरपश्चिम प्रदेश बिल्डिंग आर्किटेक्ट उपसमूह पाँचौं तह 2079/09/02]

- A. tachometric
- B. EDM
- C. compass
- D. plane table

Correct Answer: D

Explanation:

- ✓ Plane table surveying is a method in which field observations and plotting (map

drawing) are done simultaneously at the site.

✓ There is no need to record field notes for later plotting; data is plotted directly onto the map in the field.

12. Height of instrument is equal to..... [सुदूरपश्चिम प्रदेश बिल्डिंग आर्किटेक्ट उपसमूह पाँचौं तह 2079/09/02]

- A. RL of benchmark + foresight
- B. RL of benchmark+ backsight
- C. RL of benchmark+ intermediate sight
- D. back sight+ foresight

Correct Answer: B

13. In Chain survey first step taken is... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. reconnaissance
- B. marking station
- C. running survey line
- D. reference sketch

Correct Answer: A

Explanation:

- ✓ Reconnaissance is the first step in chain surveying
- ✓ It involves inspecting the area and preparing a reference sketch or key plan
- ✓ Helps in selecting suitable survey stations and planning survey lines
- ✓ Marking stations and running survey lines come after reconnaissance
- ✓ Proper reconnaissance ensures efficient and accurate survey

14. Abney level is used for..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. measuring angle of slope
- B. correcting line of collimation
- C. setting out right angles
- D. plotting in accessible points

Correct Answer: A

Explanation:

✓ The Abney level is a portable surveying instrument used to measure slopes or vertical angles quickly and roughly.

✓ It consists of a sighting tube, spirit level, and protractor to read the angle of inclination.

✓ Common uses include measuring ground slope, roof pitch, tree height, and road grades.

15. Ranging is an operation of..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. judging the angle
- B. jogging the distance
- C. determination of slope
- D. establishing intermediate points between terminals

Correct Answer: D

Explanation:

Because ranging is specifically about aligning and marking intermediate points in a straight line.

16. Foresight and back sight are the terms used in..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. leveling operation
- B. angular measurement
- C. horizontal distance measurement
- D. vertical distance measurement

Correct Answer: A

Explanation:

- ✓ Foresight and backsight are specific to leveling operations
- ✓ Used to calculate height differences between points
- ✓ Not terms used in angular or horizontal distance measurements
- ✓ Essential for determining elevations in surveying

17. Chainage is the distance measured... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. along a chain line
- B. perpendicular to a chain line
- C. perpendicular to a tie line
- D. none of the above

Correct Answer: A

18. A relatively fixed point of known elevation about datum is known.....
[कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. reduced level
- B. benchmark
- C. reference point

D. instrument station

Correct Answer: B

Explanation:

Reduced Level (RL): The vertical distance of a point above or below a chosen datum.

Benchmark (BM): A permanent and fixed point whose elevation relative to a datum is precisely known.

Reference Point: Any point used as a reference for surveys but may not have a fixed known elevation.

Instrument Station: Location where surveying instruments are set up.

19. A contour line represents..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. a line joining the points of equal elevation
- B. a line joining the points of equal temperature
- C. a line joining the points of equal wind pressure
- D. none of the above

Correct Answer: A

20. If a contour values decrease towards the center the group of circular closed contours represents..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. Valley
- B. hill
- C. cliff
- D. plain ground

Correct Answer: A

Explanation:

- ✓ Closed contours with decreasing values towards the center represent a depression or valley.
- ✓ Hill: Closed contours with increasing values towards the center.
- ✓ Cliff: Contour lines are extremely close together, indicating a steep drop.
- ✓ Plain ground: Contour lines are widely spaced, indicating gentle slope or flatness.

21. The line normal to plumb line is known as..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2080/01/23]

- A. horizontal line
- B. level line
- C. datum line
- D. vertical line

Correct Answer: B

22. Size of theodolite is specified by..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. diameter of vertical circle
- B. the length of telescope
- C. the diameter of upper plate
- D. diameter of lower plate

Correct Answer: D

Explanation:

- ✓ The size of a theodolite is specified by the diameter of the graduated circle on the lower plate.
- ✓ Common sizes range from 8 cm to 25 cm diameter of this circle.

23. True meridians..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. are parallel to each other
- B. coverage at the point called pole
- C. coverage near equator
- D. none of the above

Correct Answer: B

Explanation:

The true meridians through various stations are not parallel, but converge from the equator to north and south poles.

24. A chain may be elongated due to..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. decrease in temperature
- B. difference in pool
- C. kinks in link
- D. opening in rings

Correct Answer: D

Explanation:

✓ A) Decrease in temperature

→ Causes contraction, not elongation. ✗

✓ B) Difference in pool (pull)

→ Can affect length if too much tension is applied, but not a typical cause of permanent elongation. ✗

✓ C) Kinks in link

→ Tend to shorten the chain by folding links. ✗

✓ D) Opening in rings

→ Common cause of permanent elongation of chain. ✓

25. A discrepancy is the difference between..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. True Value and error
- B. measured value and actual value
- C. two measured value of same quantity
- D. none of the above

Correct Answer: C

Explanation:

Discrepancy: The difference between two or more measurements of the same quantity.

True Value: The exact or correct value of a quantity.

Error: The difference between measured value and true value.

Measured Value: The value obtained from measurement.

26. The book in which the chain or tape measurement are entered is called the.... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. assistant book
- B. survey book
- C. surveyors book
- D. field book

Correct Answer: D

Explanation:

The book in which the chain or tape measurements are entered is called the field book.

It is an oblong book of size about 20 cm × 12 cm and opens lengthwise.

27. On the ground using a..... survey stations may be marked [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. pole
- B. peg
- C. pointer
- D. rod

Correct Answer: B

Explanation:

- ✓ Pegs ensure survey stations are clearly and accurately marked.
- ✓ Poles, pointers, and rods can be used during survey work, but pegs specifically mark station locations.
- ✓ Pegs are easy to see and remain fixed until the survey is completed.

28. Tacheometry is best suited..... [कर्णाली प्रदेश सहायकस्तर चौथो तह 2079/03/22]

- A. where draining is impossible
- B. in any type of grounds
- C. for extremely accurate survey
- D. in broken ground

Correct Answer: D

Explanation:

- ✓ Tacheometry is used to quickly survey distances where direct measurement is difficult.
- ✓ It is effective in rough or broken terrain because it does not require lengthy chains or tapes.

29. The choice scale of the map for plotting survey data depends on....

[लुम्बिनी प्रदेश सहायकस्तर चौथो तह 2080/03/16]

- A. purpose of survey
- B. accuracy required
- C. available resources
- D. all of the above

Correct Answer: D

Explanation:

- ✓ Purpose, accuracy, and resources are all essential when choosing a map scale.
- ✓ Ignoring any one factor can lead to maps that are ineffective or inefficient.
- ✓ Comprehensive map scale selection requires balancing project goals and practical limitations.

30. Total station measures..... [लुम्बिनी प्रदेश सहायकस्तर चौथो तह 2080/03/16]

- A. horizontal distance
- B. slope distance
- C. differences in elevations
- D. all of the above

Correct Answer: D

Explanation:

- ✓ Can measure horizontal and slope distances with high precision.
- ✓ Calculates elevation differences (heights) using trigonometric principles.
- ✓ Provides all essential data for topographical and construction surveys in one device.

31. प्लेन टेबल भनेको के हो ? [लुम्बिनी प्रदेश सहायकस्तर चौथो तह 2080/03/16]

- A. सीधा नक्सा बनाउने टेबुल
- B. डाटा हिसाब गर्ने टेबल
- C. सर्भ गर्ने एउटा विधि
- D. माथिका सबै

Correct Answer: C

32. The scale to measure three dimension is called..... [लुम्बिनी प्रदेश सहायकस्तर चौथो तह 2080/03/16]

- A. vernier scale
- B. scale of chords
- C. diagonal scale
- D. plane scale

Correct Answer: C

Explanation:

- ✓ Diagonal scale is specially designed to measure three dimensions (e.g., units, tenths, hundredths) precisely on a drawing or map.
- ✓ It allows measurement of small subdivisions with high accuracy.
- ✓ Vernier scale is for fine linear/angle reading, not three-dimensional at once.
- ✓ Scale of chords measures angles, not distance dimensions.
- ✓ Plane scale measures up to two units (like meters and decimeters), not three at once.

33. What is the RF for scale 1 cm= 5 m ? [लुम्बिनी प्रदेश सहायकस्तर चौथो तह 2080/03/16]

- A. $\frac{1}{5}$
- B. $\frac{1}{50}$
- C. $\frac{1}{500}$

D. $\frac{1}{5000}$

Correct Answer: C

34. The effect of the earth curvature is not considered in plane survey if it is..... [लुम्बिनी प्रदेश प्रदेश निजामती सेवा अन्तर्गत इन्जिनियरिङ सेवा 2079/12/20]

- A. higher than to 60
- B. lower than 260
- C. higher than 100
- D. lower than 100

Correct Answer: B

Explanation:

- ✓ Plane surveys neglect curvature when the survey area is limited.
- ✓ Generally, curvature effects are negligible if the surveyed area is less than about 250–260 km².
- ✓ If area exceeds this, geodetic methods accounting for curvature are necessary.

35. Closed contours of decreasing values towards their Centre represent.... [लुम्बिनी प्रदेश प्रदेश निजामती सेवा अन्तर्गत इन्जिनियरिङ सेवा 2079/12/20]

- A. a hill
- B. a depression
- C. a saddle
- D. a river bed

Correct Answer: B

36. The main principle of surveying is to work..... [लुम्बिनी प्रदेश प्रदेश निजामती सेवा अन्तर्गत इन्जिनियरिङ सेवा 2079/12/20]

- A. from part to the whole
- B. from whole to the part
- C. from higher level to the lower level
- D. from lower level to the higher level

Correct Answer: B

37. Traversing is generally done by..... [गण्डकी प्रदेश पाँचौ तह, सब इन्जिनियर 2078/11/28]

- A. chain
- B. compass or theodolite
- C. plane table
- D. all of the above

Correct Answer: D

38. Contour interval is..... [गण्डकी प्रदेश पाँचौ तह, सब इन्जिनियर 2078/11/28]

- A. inversely proportional to the scale of the map
- B. directly proportional to the flatness of ground
- C. larger for accurate works
- D. larger if the time available is more

Correct Answer: A

Explanation:

- ✓ Contour interval is vertical distance between any two consecutive contour lines.
- ✓ Always kept same or constant for a map

39. The principles of Surveying are.... [गण्डकी प्रदेश पाँचौ तह, सब इन्जिनियर 2078/11/28]

- A. working from whole to part
- B. location of a point by measurement from two points of reference
- C. both a and b
- D. none of the above

Correct Answer: C

40. If whole circle bearing of a line is 120° its reduced bearing is..... [गण्डकी प्रदेश पाँचौ तह, सब इन्जिनियर 2078/11/28]

- A. S 20° E
- B. S 60° E
- C. N 120° E
- D. N 60° E

Correct Answer: B

41. Closed traverse is suitable in the survey of.... [इन्जिनियरिङ सेवा, सिभिल समूह, चौथो तह 2078/12/26]

- A. river
- B. Road
- C. coastlines
- D. ponds

Correct Answer: D

Explanation:

- ✓ Closed traverse is ideal for surveying closed boundaries like ponds or lakes.
- ✓ It helps in accurately determining the perimeter and area of enclosed features.
- ✓ Rivers and roads are generally linear features, better suited for open traverse.
- ✓ Coastlines can be irregular but often surveyed using closed traverse to close the loop.

42. In a closed traverse the algebraic sum of deflection angle is.....

[इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2078/12/26]

A. 0°

B. 360°

C. $(2n - 4) \times 90^\circ$

D. $(2n + 4) \times 90^\circ$

Correct Answer: B

Explanation:

- ✓ In a closed traverse, the algebraic sum of deflection angles is always 360° .
- ✓ This is because the traverse completes a full loop, turning through a total of 360° .

43. The following sight are taken on a turning point.... [इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2078/12/26]

A. foresight only

B. backsight only

C. foresight and backsight

D. foresight and intermediate sight

Correct Answer: C

44. The minimum number of ranging rods required for direct ranging is.....

[इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2078/12/26]

A. 2 nos

B. 3 nos

C. 4 nos

D. 5 nos

Correct Answer: B

Explanation:

The minimum number of ranging rods required for direct ranging is 3 and 4 for indirect ranging.

45. Locating the position of a plane table station with reference to three known points is known as... [इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2078/12/26]

- A. intersection method
- B. radiation method
- C. resection method
- D. three points problem

Correct Answer: D

46. The technique of plotting all the accessible stations with a single setup of plane table is called.... [इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2078/12/26]

- A. radiation
- B. intersection
- C. resection
- D. traversing

Correct Answer: A

Explanation:

- ✓ Radiation involves plotting all visible points from a single setup
- ✓ Intersection requires at least two setups for plotting points
- ✓ Resection is used to locate the plane table position, not for plotting all points
- ✓ Traversing involves multiple setups along a route, not a single setup

47. Recommended method for surveying slope land is..... [इन्जिनियरिड सेवा, सिभिल समूह, बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचौं तह 2077/12/09]

- A. chain survey
- B. plane table survey
- C. theodolite survey
- D. all of the above

Correct Answer: C

Explanation:

- ✓ Slope land requires accurate measurement of vertical angles and distances to capture terrain variations.
- ✓ Theodolite survey is best suited for slope land due to its ability to measure both horizontal and vertical angles precisely.
- ✓ Chain and plane table surveys are less effective on steep or uneven terrain.

48. Which of the following scale is the smallest one ? [इन्जिनियरिड सेवा, सिभिल समूह, बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचौं तह 2077/12/09]

- A. $1\text{cm} = 10\text{m}$
- B. $1\text{cm} = 100\text{m}$
- C. $1\text{cm} = 1000\text{m}$
- D. $1\text{cm} = 10^4\text{m}$

Correct Answer: D

Explanation:

- ✓ Scale A (1 cm = 10 m) shows the smallest area, so largest scale.
- ✓ Scale B shows more ground than A per cm, so smaller scale than A.
- ✓ Scale C shows even larger ground per cm, smaller scale than B.

✓ Scale D shows largest ground distance (10,000 m) per cm → smallest scale.

49. The horizontal angle between the true meridian and magnetic meridian at a place is called..... [इन्जिनियरिङ सेवा, सिभिल समूह, बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचौं तह 2077/12/09]

- A. azimuth
- B. declination
- C. local attraction
- D. magnetic bearing

Correct Answer: B

Explanation:

- ✓ The angle between true north (true meridian) and magnetic north (magnetic meridian) is called declination.
- ✓ Declination varies from place to place and changes over time.
- ✓ Azimuth is a general directional angle from true north, not specifically the difference between meridians.
- ✓ Local attraction is a local magnetic disturbance, not the angle between meridians.
- ✓ Magnetic bearing is relative to magnetic north, not the angle between meridians.

50. You are going to prepare a topo map of a undulating area the method of surveying prefer is..... [इन्जिनियरिङ सेवा, CIVIL समूह, चौथो तह 2077/10/25]

- A. plane table survey
- B. compass survey
- C. theodolite survey
- D. all of the above

Correct Answer: C

Explanation:

- ✓ Topographic mapping requires accurate elevation and angle measurements
- ✓ Theodolite survey provides precise angles and vertical measurements

51. Which of the following instrument is generally used for baseline measurement..... [इन्जिनियरिङ सेवा, CIVIL समूह, चौथो तह 2077/10/25]

- A. chain
- B. metallic tape
- C. Steel tape
- D. invar tape

Correct Answer: D

Explanation:

- ✓ Baseline requires highest precision
- ✓ Invar tape ensures minimal error due to temperature
- ✓ Hence, Invar tape is generally used for baseline measurement.

52. The errors due to bad ranging is.... [इन्जिनियरिङ सेवा, CIVIL समूह, चौथो तह 2077/10/25]

- A. cumulative positive
- B. cumulative negative
- C. compensating
- D. cumulative positive or negative

Correct Answer: D

Explanation:

Cumulative Positive Error: Errors that add up in the positive direction.

Cumulative Negative Error: Errors that add up in the negative direction.

Compensating Error: Errors that cancel each other out.

Cumulative Positive or Negative: Errors that can accumulate either positively or negatively depending on the mistake.

53. Accidental or compensating errors of length 'L' are proportional to....
[इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2077/10/19]

A. L

B. \sqrt{L}

C. $\sqrt[3]{L}$

D. $\frac{1}{\sqrt{L}}$

Correct Answer: B

54. In normal condition the differences of fore and back bearing should be..... [इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2077/10/19]

A. 0°

B. 90°

C. 180°

D. 270°

Correct Answer: C

55. In whole circle bearing system if bearing of line is $105^\circ 30'$ what is the bearing in RB system.... [इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2077/10/19]

- A. $74^{\circ}30'$
- B. $15^{\circ}30'$
- C. $285^{\circ}30'$
- D. none of them

Correct Answer: A

Explanation:

$$\text{WCB} = 105^{\circ}30'$$

$$\text{RB} = 180^{\circ} - 105^{\circ}30' = 74^{\circ}30'$$

56. Contour lines of different elevations can unite to form one line only in the case of.... [इन्जिनियरिङ सेवा, सिभिल समूह, चौथो तह 2077/10/19]

- A. vertical cliff
- B. a saddle
- C. a watershed line
- D. a hill top

Correct Answer: A

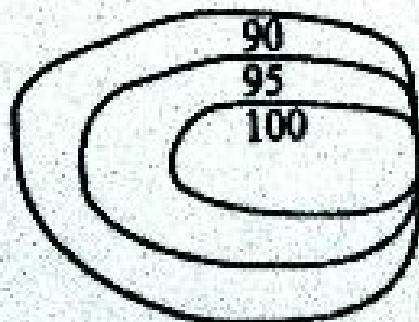
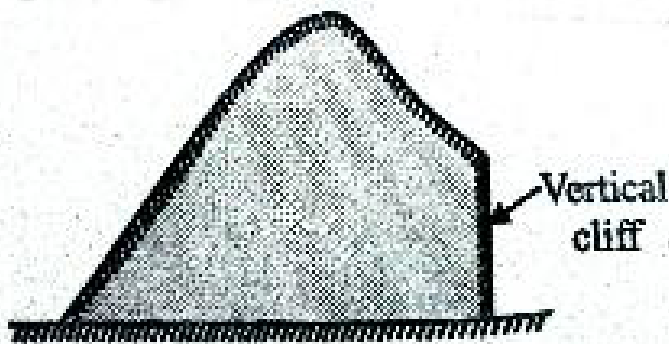


Fig. Vertical Cliff

57. Which among the following is one of the principles of surveying....
[इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2077/10/19]

- A. taking measurements
- B. covering entire area
- C. determining the elevation differences
- D. working from whole to part

Correct Answer: D

58. The correction for sag is always.... [इन्जिनियरिड सेवा, सिभिल समूह, चौथो तह 2077/10/19]

- A. positive
- B. negative
- C. neutral
- D. none of the above

Correct Answer: B

Explanation:

- ✓ Sag causes the measured length to be longer than the horizontal distance
- ✓ Correction for sag reduces the measured length to true horizontal length
- ✓ Therefore, correction for sag is always negative
- ✓ It subtracts from the measured length to get accurate distance

59. Survey based on its use can be classified into... [इन्जिनियरिड सेवा, सिभिल समूह, बिल्डिंग आर्किटेक उपसमूह सहायक पाँचौ तह 2079/11/27]

- A. compass survey
- B. plane table survey
- C. theodolite survey

D. all of the above

Correct Answer: D

60. Which branch of Surveying is used to find the elevations of given points to given or assumed datum ? [इन्जिनियरिड सेवा, सिभिल समूह, बिल्डिंग आर्किटेक उपसमूह सहायक पाँचौ तह 2079/11/27]

- A. leveling
- B. contouring
- C. traversing
- D. plane table surveying

Correct Answer: A

Explanation:

- ✓ Leveling is a branch of surveying used to determine the elevations of points relative to a datum (given or assumed reference surface).
- ✓ It is directly concerned with measuring vertical distances, not horizontal locations.

61. The reference level for measuring vertical distance of the points is... [इन्जिनियरिड सेवा, सिभिल समूह, बिल्डिंग आर्किटेक उपसमूह सहायक पाँचौ तह 2079/11/27]

- A. reduced level
- B. datum
- C. station level
- D. level surface

Correct Answer: B

Explanation:

- ✓ Vertical distances are measured relative to a fixed reference known as the datum.

- ✓ Datum serves as the baseline or zero-level for all elevation measurements.
- ✓ Reduced levels are calculated heights of points above or below the datum.

62. What is the approximate relationship between the radius (R) and the degree (D) of curve required to find a chord between two points on that curve ? [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह, विभिन्न उपसमूह]

A. $R = \frac{1600}{D}$

B. $R = \frac{1619}{D}$

C. $R = \frac{1700}{D}$

D. $R = \frac{1719}{D}$

Correct Answer: D

63. For setting out work control points are established using principle of... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह, विभिन्न उपसमूह]

- A. working from part to whole
- B. working from whole to part
- C. working from vertical to horizontal
- D. working from horizontal to vertical

Correct Answer: B

64. The two point problems is encountered in... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह, बिल्डिंग एन्ड आर्किटेक्ट उपसमूह]

- A. plane table surveying
- B. chain surveying
- C. compass surveying

D. theodolite surveying

Correct Answer: A

Explanation:

- ✓ The two point problem is a type of resection used in plane table surveying to determine unknown instrument positions.
- ✓ It involves orientation by bisecting lines between two known points.
- ✓ This problem does not occur in chain, compass, or theodolite surveying which use different methods for positioning.

65. Principles of Surveying is... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह, बिल्डिंग एन्ड आर्किटेक्ट उपसमूह]

- A. process of finding relative position
- B. measuring distance
- C. setting up map
- D. all of the above

Correct Answer: A

Explanation:

Surveying is the process of finding the relative position of various points on the surface of the earth by measuring distance among them and setting up a map to any reasonable scale.

The basic principles of surveying

- i) to work from whole to part
- ii) to locate the position of a point by measurement from two reference points
- iii) consistency of work
- iv) independent check

66. The lines formed by joining the points of equal attitude is known as....
[नेपाल इन्जिनियरिङ सेवा, सिभिल समूह, बिल्डिंग एन्ड आर्किटेक्ट उपसमूह]

- A. isobar
- B. isotherm
- C. isometry
- D. contour

Correct Answer: D

Explanation:

The lines formed by joining the points of...

- a) Equal altitude or elevation= contour line
- b) Equal pressure= isobar
- c) Equal temperature= isotherm

67. Leveling across a river is done by..... [सुदूरपश्चिम प्रदेश बिल्डिंग एन्ड आर्किटेक्ट
उपसमूह पाँचो तह 2080/04/27]

- A. fly leveling
- B. reciprocal leveling
- C. trigonometrical leveling
- D. cross levelling

Correct Answer: B

68. Which of the following does not involve the method of traversing ?
[सुदूरपश्चिम प्रदेश बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचो तह 2080/04/27]

- A. plane table survey
- B. tachometric survey
- C. chain survey

D. theodolite survey

Correct Answer: B

69. The back staff reading on a BM of RL 100.00 M is 1.750 and if foresight reading on a point is 0.500 the reduced level to the point is..... [सुदूरपश्चिम प्रदेश बिल्डिंग एन्ड आर्किटेक्ट उपसमूह पाँचो तह 2080/04/27]

- A. 97.750
- B. 101.250
- C. 98.750
- D. 102.250

Correct Answer: B

70. Accidental or compensating errors of length L are proportional to..... [सुदूरपश्चिम प्रदेश पाँचौं तह सब इन्जिनियर 2079/09/02]

- A. L
- B. \sqrt{L}
- C. $\sqrt[3]{L}$
- D. $\frac{1}{\sqrt{L}}$

Correct Answer: B

71. The type of Survey in which field surveying works and plotting work proceed simultaneously ? [सुदूरपश्चिम प्रदेश पाँचौं तह सब इन्जिनियर 2079/09/02]

- A. tachometric
- B. EDM
- C. compass

D. plane table

Correct Answer: D

72. Height of instrument is equal to..... [सुदूरपश्चिम प्रदेश पाँचौं तह सब इन्जिनियर 2079/09/02]

- A. RL of benchmark + foresight
- B. RL of benchmark+ backsight
- C. RL of benchmark+ intermediate sight
- D. back sight+ foresight

Correct Answer: B

73. Vertical distance between two consecutive contours is called..... [स्थानीय सरकारी सेवा अन्तर्गत इन्जिनियरिङ सेवा, सिभिल समूहसहायकस्तर चौथो तह 2080/01/23]

- A. contour intervals
- B. contour gradient
- C. vertical equivalent
- D. horizontal equivalent

Correct Answer: A

Explanation:

- ✓ Contour interval = vertical difference between adjacent contours.
- ✓ Helps determine terrain steepness—smaller intervals indicate gentler slopes.
- ✓ Standard value chosen depending on map purpose and topography.

74. Theodolite is used for... [स्थानीय सरकारी सेवा अन्तर्गत इन्जिनियरिङ सेवा, सिभिल समूहसहायकस्तर चौथो तह 2080/01/23]

- A. measuring horizontal distance
- B. measuring angle
- C. measuring height
- D. all of the above

Correct Answer: B

Explanation:

- ✓ Theodolite's main purpose is to measure angles (horizontal and vertical).
- ✓ It does not directly measure horizontal distances.
- ✓ Height differences are derived using angle measurements combined with distance data.
- ✓ Measuring distance requires other instruments like EDM or tape.

75. Which of the following statements is correct ? [स्थानीय सरकारी सेवा अन्तर्गत इन्जिनियरिङ सेवा, सिभिल समूहसहायकस्तर चौथो तह 2080/01/23]

- A. error due to refraction may not eliminated by reciprocal levelling
- B. tilting levels are commonly used for precision work
- C. the last reading of levelling is always a foresight
- D. benchmark is unknown elevation

Correct Answer: C

Explanation:

- ✓ Option A: Reciprocal leveling is specifically designed to eliminate errors due to refraction and curvature, so this statement is incorrect.
- ✓ Option B: Tilting levels are generally used for routine leveling, but precise leveling often uses dumpy levels or auto levels; tilting levels are less precise.
- ✓ Option C: The last reading in leveling is usually a foresight if the line ends at a point whose elevation is to be determined; this is generally true.
- ✓ Option D: Benchmark by definition has a known elevation, so this is incorrect.

76. Which of the following methods of plane table surveying is used to locate the position of an inaccessible point ? [स्थानीय सरकारी सेवा अन्तर्गत इन्जिनियरिङ सेवा, सिभिल समूहसहायकस्तर चौथो तह 2080/01/23]

- A. radiation
- B. intersection
- C. traversing
- D. resection

Correct Answer: B

77. The chain survey is done to measure... [स्थानीय सरकारी सेवा अन्तर्गत इन्जिनियरिङ सेवा, सिभिल समूहसहायकस्तर चौथो तह 2080/01/23]

- A. length
- B. angle
- C. level
- D. all of the above

Correct Answer: A

Explanation:

- ✓ Chain survey primarily measures lengths of sides in a survey area.
- ✓ Angles and levels are not measured in chain surveys; those require other instruments.
- ✓ Chain survey is simple and focuses on linear distances only.

78. Closed contours of decreasing values towards their Centre represent... [स्थानीय सरकारी सेवा अन्तर्गत इन्जिनियरिङ सेवा, सिभिल समूहसहायकस्तर चौथो तह 2080/01/23]

- A. A hill
- B. a depression

- C. a plain
- D. a river bed

Correct Answer: B

79. Contours of increasing values towards its center represent..... [नेपाल प्रहरी, प्राविधिक, इन्जिनियरिङ, आवास तथा भौतिक इन्जिनियरिङ 2080/12/12]

- A. a depression
- B. a river bed
- C. a valley
- D. a hill

Correct Answer: D

80. The Central angles subtended by an Arc of 30 m of the curve is..... [नेपाल प्रहरी, प्राविधिक, इन्जिनियरिङ, आवास तथा भौतिक इन्जिनियरिङ 2080/12/12]

- A. $\frac{573}{R}$
- B. $\frac{1146}{R}$
- C. $\frac{1718.9}{R}$
- D. $\frac{3435.9}{R}$

Correct Answer: C

81. When the angular measurement of a traverse is more precise than the linear measurement the balancing of a traverse is done by..... [नेपाल प्रहरी, प्राविधिक, इन्जिनियरिङ, आवास तथा भौतिक इन्जिनियरिङ 2080/12/12]

- A. transit rule
- B. empirical rule

- C. bowditch's rule
- D. curve setting

Correct Answer: A

Explanation:

- ✓ When angles are more precise than distances, Transit Rule distributes errors proportionally to latitudes and departures.
- ✓ Transit Rule affects angles less, making it suitable for theodolite traverses with precise angular data.
- ✓ Bowditch's Rule is used when angular and linear measurements have similar precision.

82. The main principle of surveying is to work from..... [नेपाल प्रहरी, प्राविधिक, इन्जिनियरिङ, आवास तथा भौतिक इन्जिनियरिङ 2080/12/12]

- A. whole to part
- B. higher level to lower level
- C. part to whole
- D. lower level to higher level

Correct Answer: A

83. is not the method of plane table surveying. [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. radiation
- B. intersection
- C. resection
- D. tri section

Correct Answer: D

Explanation:

✓ Radiation, intersection, and resection are standard, well-known plane table methods.

84. What is the back bearing AB if bearing of AB is 60 degrees ? [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. 300 degrees
- B. 240 degrees
- C. 210 degrees
- D. 120 degrees

Correct Answer: B

Explanation:

Back bearing = Fore bearing \pm 180°

where, $FB > 180^\circ$, use minus sign

$FB < 180^\circ$, use plus sign

$BB = 60 + 180 = 240^\circ$

LOKSEWA
with Ghoksewa



85. A curve of wearing radius is known as..... [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. transition curve
- B. simple curve
- C. compound curve
- D. reverse curve

Correct Answer: A

Explanation:

✓ Wearing radius refers to the path of the wheel, which is slightly larger than the centerline radius.

✓ This radius is considered in transition curves to ensure smooth change and comfort.

- ✓ Transition curves help vehicles adjust from straight to curved paths, accommodating the wearing radius.
- ✓ Simple, compound, and reverse curves refer to geometric curve types, not specifically wearing radius

86. The value of correction due to local attraction at a place..... [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. is a constant for all bearing
- B. varies with the bearing
- C. changes from time to time
- D. times is negative and sometimes is positive

Correct Answer: A

87. A fixed point of known elevation above datum is..... [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. reference line
- B. benchmark
- C. datum line
- D. reduced level

Correct Answer: B

88. A plumb line is a..... [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. vertical line
- B. line parallel to a vertical line
- C. line perpendicular to level line

D. line parallel to the bubble tube axis

Correct Answer: C

89. An imaginary line joining the points of equal elevation on earth surface is..... [कर्मचारी सञ्चय कोष, प्राविधिक, इन्जिनियरिङ, पाँचौ 2078/12/07]

- A. level line
- B. contour surface
- C. contour gradient
- D. contour line

Correct Answer: D

90. locating the position of a plane table station with reference to three known points is known as..... [नेपाल प्रहरी, इन्जिनियरिङ्ग, सिभिल, बिल्डिङ्ग, प्राविधिक प्रहरीनायक निरीक्षक 2078/09/26]

- A. intersection method
- B. radiation method
- C. resection method
- D. 3 point problem

Correct Answer: D

91. The first reading from a level station is..... [नेपाल प्रहरी, इन्जिनियरिङ्ग, सिभिल, बिल्डिङ्ग, प्राविधिक प्रहरीनायक निरीक्षक 2078/09/26]

- A. foresight
- B. intermediate sight
- C. backsight
- D. any sight

Correct Answer: C

92. What is the name of service to desperate mountains, rivers, forest and other cultural details ? [वैकल्पिक ऊर्जा प्रवर्द्धन केन्द्र, प्राविधिक, पाँचौ 2077/11/17]

- A. cadastral service
- B. topographical surveys
- C. city surveys
- D. plane surveys

Correct Answer: B

93. The direction of steepest slope on a contour is.....

- A. along the contour
- B. at an angles to the contour
- C. at right angles to the contour
- D. none of the above

Correct Answer: C

Explanation:

- ✓ Contour lines represent constant elevation, so no slope along them
- ✓ Steepest slope is perpendicular (at right angles) to contour lines
- ✓ Elevation changes most rapidly in the direction normal to contours
- ✓ Slope direction is never along or at an arbitrary angle to contours

94. Error due to imperfect adjustment of plate levels is termed as.....

- A. personal error
- B. instrumental error
- C. natural error
- D. none of the above

Correct Answer: B

Explanation:

- ✓ Imperfect adjustment of plate levels is a fault in the instrument setup.
- ✓ Such errors come from the instrument, not from the person or natural causes.
- ✓ Therefore, this is classified as an instrumental error.

95. Which method is generally used for locating the plane table stations ?

- A. radiation
- B. intersection
- C. resection
- D. all of the above

Correct Answer: C

Explanation:

- ✓ Radiation and intersection methods are used to locate points/details from a known plane table station.
- ✓ Resection is specifically used to locate the position of the plane table station itself by sighting three or more known points.
- ✓ Traversing is used for extending the survey by connecting stations but not primarily for locating the plane table station.
- ✓ Hence, to locate the plane table station on the map, resection is the general method.

96. The two peg method is used to check the parallelism between the.....

- A. line of collimation and axis of bubble tube
- B. line of collimation and axis of telescope
- C. axis of bubble tube and vertical axis
- D. all of the above

Correct Answer: A

Explanation:

The two peg method is a procedure used in surveying instruments (like theodolites) to check the parallelism between the line of collimation and the axis of the bubble tube (also called the spirit level).

97. The Rise and fall method of levelling provides a complete check on.....

[काठमाडौं उपत्यकाका खानीपानी लिमिटेड, प्राविधिक, सिभिल, पाँचौ 2077/11/08]

- A. backsight
- B. intermediate sight
- C. foresight
- D. all of the above

Correct Answer: D

Explanation:

- ✓ Rise and fall method checks all readings (backsight, intermediate sight, foresight)
- ✓ It calculates elevation differences between consecutive points, ensuring internal consistency
- ✓ Helps detect mistakes or errors in any sight reading
- ✓ Provides a complete check on the leveling process

98. A line normal to the plumb line at points is known as..... [काठमाडौं खाध संस्थान, प्राविधिक, इन्जिनियरिङ, सिभिल, पाँचौ 2075/01/12]

- A. horizontal line
- B. vertical line
- C. level line
- D. line of collimation

Correct Answer: C

99. A relatively permanent point of reference whose level is known is called..... [काठमाडौँ खाद्य संस्थान, प्राविधिक, इन्जिनियरिङ, सिभिल, पाँचौँ 2075/01/12]

- A. reduce level
- B. benchmark
- C. datum
- D. sea level

Correct Answer: B

Explanation:

- ✓ Benchmark is a fixed and permanent point with known elevation relative to datum.
- ✓ Datum is a reference level, not a physical point.
- ✓ Reduced level is the vertical height value of points relative to datum.

100. Contour lines of different elevation can unite to form one line only is the case of.... [काठमाडौँ खाद्य संस्थान, प्राविधिक, इन्जिनियरिङ, सिभिल, पाँचौँ 2075/01/12]

- A. a vertical Cliff
- B. a saddle
- C. a water shed line
- D. a hill top

Correct Answer: A

101. An imaginary line connecting the points of equal elevation on the ground surface is known as..... [नेपाल वायुसेवा निगम, सामान्य, प्राविधिक/ निर्माण/ सिभिल इन्जिनियरिङ, चौथो तह]

- A. contour interval
- B. contour lines
- C. smoothness

D. contour gradient

Correct Answer: B

102. Setting of the plane table consists of operations..... [नेपाल वायुसेवा निगम, सामान्य, प्राविधिक/ निर्माण/ सिभिल इन्जिनियरिङ, चौथो तह]

- A. levelling
- B. centering
- C. levelling and centering
- D. orienting

Correct Answer: C

Explanation:

- ✓ Setting the plane table requires placing it exactly over the ground point → Centering.
- ✓ Then making the table horizontal → Levelling.
- ✓ Both steps are essential before taking measurements or orienting the table.
- ✓ Orienting is done after the table is set but is not part of initial "setting".

103. In order to determine the natural features such as valleys river lakes etc the surveying preferred is..... [नेपाल वायुसेवा निगम, सामान्य, प्राविधिक/ निर्माण/ सिभिल इन्जिनियरिङ, चौथो तह]

- A. City surveying
- B. location surveying
- C. cadastral surveying
- D. topographical surveying

Correct Answer: D

104. R is the radius of the curve in meter D is the degree of curve in degrees and length of the curve is 30 M then the relation between R and D is..... [नेपाल वायुसेवा निगम, सामान्य, प्राविधिक/ निर्माण/ सिभिल इन्जिनियरिङ, चौथो तह]

A. $R = \frac{1520}{D}$

B. $R = \frac{1720}{D}$

C. $R = \frac{4500}{D}$

D. $R = \frac{5400}{D}$

Correct Answer: B

105. fine aggregates are of the smaller size than..... [सुदूरपश्चिम प्रदेश जनरल/ हाइवे उपसमूह पाँचौं तह 2078/08/24]

A. 4.75 mm

B. 4.50 mm

C. 4.25 mm

D. 4.00 mm

Correct Answer: A

Explanation:

- ✓ Aggregates smaller than 4.75 mm are classified as fine.
- ✓ Examples include sand, crushed stone fines, and silt.
- ✓ Sizes above 4.75 mm are considered coarse aggregates.
- ✓ Correct identification ensures proper mixing and performance in concrete and mortar.

106. Probable accidental error in precise leveling as recommended by international geodetic associations should not exceed..... [सुदूरपश्चिम प्रदेश

जनरल/ हाइवे उपसमूह पाँचौं तह 2078/08/24]

A. $\pm 0.1\sqrt{K}mm$

B. $\pm 0.5\sqrt{K}mm$

C. $\pm 1\sqrt{K}mm$

D. $\pm 2\sqrt{K}mm$

Correct Answer: C

Explanation:

- ✓ Probable error depends on the square root of the distance (K).
- ✓ Precise leveling demands very small errors for accuracy.
- ✓ $\pm 0.1\sqrt{K}mm$ is the internationally accepted standard for precise leveling.

107. The method most suitable for plotting in hilly area is..... [सुदूरपश्चिम प्रदेश
जनरल/ हाइवे उपसमूह पाँचौं तह 2078/08/24]

- A. radiation
- B. resection
- C. intersection
- D. traversing

Correct Answer: C

Explanation:

- ✓ Intersection method is best for hilly areas
- ✓ Suitable when distances are large or direct measurement is hard
- ✓ Ideal for mountainous terrain and small-scale surveys
- ✓ Points are plotted by intersecting rays from two stations
- ✓ Overcomes obstacles like steep slopes and inaccessible ground

108. Theodolite is used for..... [सुदूरपश्चिम प्रदेश जनरल/ हाइवे उपसमूह पाँचौं तह 2078/08/24]

- A. measuring horizontal distance
- B. measuring angle
- C. measuring height
- D. all about

Correct Answer: B

109. An invar tape is made of an alloy of..... [सुदूरपश्चिम प्रदेश जनरल/ हाइवे उपसमूह पाँचौं तह 2078/08/24]

- A. Copper and steel
- B. steel and brass
- C. brass and Nickel
- D. Nickel and steel

Correct Answer: D

Explanation:

✓ Invar tape is made of an alloy consisting of 36% nickel and 64% steel.

110. If the fore bearing of a line is 240 degrees its back bearing is..... [कर्णाली प्रदेश सहायकस्तर पाँचौं तह 2080/12/30]

- A. 180°
- B. 120°
- C. 60°
- D. 30°

Correct Answer: C

111. Approximately concentric closed contours with decreasing values

towards Centre indicates..... [कर्णाली प्रदेश सहायकस्तर पाँचौं तह 2080/12/30]

- A. pond
- B. steep ground
- C. plain ground
- D. vertical Cliff

Correct Answer: A

112. Which of the following scales is largest one..... [कर्णाली प्रदेश सहायकस्तर पाँचौं तह 2080/12/30]

- A. 1cm= 50 m
- B. 1: 4200
- C. $R.F = \frac{1}{300000}$
- D. 1 cm= 50 km

Correct Answer: B

Explanation:

- ✓ Largest scale means the scale that shows the most detail (largest representative fraction).
- ✓ Scale can be compared by converting all to representative fraction (R.F).
- ✓ Option A: 1 cm = 50 m → $R.F = 1/5,000$ (since 50 m = 5,000 cm)
- ✓ Option B: 1:4200 → $R.F = 1/4,200$ (larger than 1/5,000)
- ✓ Option C: $R.F = 1/300,000$ → much smaller scale (less detail)
- ✓ Option D: 1 cm = 50 km → $R.F = 1/5,000,000$ (smallest scale)
- ✓ Among A and B, 1/4,200 is larger scale than 1/5,000, so B is larger scale.

113. A benchmark is a.... [कर्णाली प्रदेश सहायकस्तर पाँचौं तह 2080/12/30]

- A. reference point

- B. a very first station
- C. the last station where the survey closes
- D. points of known elevation

Correct Answer: D

114. Principle of surveying is..... [कर्णाली प्रदेश सहायकस्तर पाँचौं तह 2080/12/30]

- A. work from whole to the part
- B. work from part to whole
- C. both a and b
- D. none of above

Correct Answer: A

115. A total station instrument measure..... [कर्णाली प्रदेश स्यानिटरि र हाइवे उपसमूह 2079/11/27]

- A. horizontal distance
- B. difference in level
- C. difference in label and coordinates
- D. all of the above

Correct Answer: D

116. If the contour values decrease towards the center the group of circular closed contours represent..... [कर्णाली प्रदेश स्यानिटरि र हाइवे उपसमूह 2079/11/27]

- A. Valley
- B. hill
- C. cliff
- D. plain ground

Correct Answer: A

117. In a map the scale..... [कर्णाली प्रदेश स्यानिटरि र हाइवे उपसमूह 2079/11/27]

- A. the relationship between distance in the map and actual distance
- B. is used to replicate the real object to small piece of paper
- C. follows certain standard
- D. all of the above

Correct Answer: D

Explanation:

- ✓ Map scale defines the relationship between map distance and ground distance
- ✓ Maps replicate real objects on reduced-size paper using this scale
- ✓ Scales follow certain standards (like representative fraction, verbal or graphical scales)

118. In a simple levelling the leveling instrument is set approximately at the midpoint between two points to..... [कर्णाली प्रदेश स्यानिटरि र हाइवे उपसमूह 2079/11/27]

- A. take the staff reading accurately
- B. to get a good focus at the staff
- C. to eliminate the error on the instrument
- D. all of the above

Correct Answer: C

Explanation:

- ✓ It minimizes instrumental errors like line of sight errors.

119. A series of closely spaced contours lines represent a..... [कर्णाली प्रदेश स्यानिटरि र हाइवे उपसमूह 2079/11/27]

- A. gentle slope
- B. steep slope
- C. moderate slope
- D. uniform slope

Correct Answer: B

Explanation:

- ✓ Contour lines represent elevation on a map.
- ✓ Closely spaced contour lines indicate a rapid change in elevation over a short distance.
- ✓ This means the terrain is steep.
- ✓ Widely spaced contour lines indicate gentle slopes.
- ✓ Moderate slope corresponds to contour lines spaced at intermediate distances.
- ✓ Uniform slope means contour lines are evenly spaced.


120. A closed contour line with one or more lower ones inside it represent

a..... [कर्णाली प्रदेश स्थानिकी र हाइवे उपसमूह 2079/02/21]

- A. lake
- B. hill
- C. Valley
- D. cliff


Correct Answer: C


Explanation:

A) Lake 

✓ A specific type of depression filled with water—perfect match.

B) Hill  Higher values inside loops indicate hills—not applicable.

C) Valley  Represented by V- or U-shaped open contours, not closed loops.

D) Cliff  Indicated by very close contour lines or touching lines—not by nested lower loops.

121. Total station is used to measure..... [कर्णाली प्रदेश स्यानिटरी र हाइवे उपसमूह 2079/02/21]

- A. angle
- B. distance
- C. elevation
- D. all of the above

Correct Answer: D

Explanation:

- ✓ Measures both angles (horizontal & vertical) precisely.
- ✓ Directly measures distances with high accuracy.
- ✓ Calculates elevations by combining angle and distance data.
- ✓ Widely used for efficient, accurate, and versatile surveying work.

122. The method most suitable for plotting in hilly areas is..... [कर्णाली प्रदेश स्यानिटरी र हाइवे उपसमूह 2079/02/21]

- A. radiation
- B. resection
- C. intersection
- D. traversing

Correct Answer: C

Explanation:

Hilly area consists of many inaccessible points. Intersection method of plane table surveying is used to locate inaccessible points on plane table.

123. The RL of benchmark is 1000.0 m and back sight reading at the benchmark is 2.555 m and find the staff reading of IS of RL is 1000.055 m..... [कर्णाली प्रदेश स्यानिटरी र हाइवे उपसमूह 2079/02/21]

- A. 2.555 m
- B. 2.5 m
- C. 3 m
- D. 0.050 5m

Correct Answer: B

Explanation:

R.L. of IS = R.L. of B.M. + B.S. - Staff reading on IS

? Staff reading on IS = $1000 + 2.555 - 1000.055 = 2.5$ m

124. During surveying working from whole to part is done..... [कर्णाली प्रदेश स्यानिटरी र हाइवे उपसमूह 2079/02/21]

- A. to prevent the accumulation of error
- B. to localize the error
- C. both of the above

D. none of the above

Correct Answer: C

Explanation:

- ✓ Working from whole to part helps control and reduce overall errors
- ✓ It allows errors to be localized in smaller parts rather than accumulating unchecked
- ✓ Both preventing accumulation and localizing errors are important reasons
- ✓ This approach improves accuracy and error management in surveying

125. Contour lines of different elevations can unite to form one line only in case of..... [लुम्बिनी प्रदेश सहायकस्तर पाँचौ तह 2081/01/14]

- A. a vertical Cliff
- B. a saddle
- C. a water shed line
- D. a hill top

Correct Answer: A

Explanation:

- ✓ Only in vertical cliffs can contour lines of different elevations coincide.
- ✓ At features like hill tops or saddles, contours form closed loops but do not unite.
- ✓ Watershed lines are ridges dividing drainage basins—they do not cause contour unification.
- ✓ Contour merging signals an infinitely steep (vertical) slope, characteristic of cliffs.

126. Reciprocal ranging is adopted when the flowing is encountered..... [लुम्बिनी प्रदेश सहायकस्तर पाँचौ तह 2081/01/14]

- A. a dense forest

- B. a river
- C. a hillock
- D. a tall building

Correct Answer: C

Explanation:

Reciprocal ranging is to be done: Hillock

Reciprocal Levelling is to be done: River

Random ranging is to be done: Dense Forest

127. Which instrument is not required for plane table survey ? [लुम्बिनी प्रदेश सहायकस्तर पाँचौ तह 2081/01/14]

- A. alidade
- B. plumbing fork
- C. spirit level
- D. chain (measurement tape)

Correct Answer: D

Explanation:

Chain is not always required for plane table survey, as distances can be measured by other methods or estimated directly on the table.

128. Contour line- (find the wrong one)..... [लुम्बिनी प्रदेश सहायकस्तर पाँचौ तह 2081/01/14]

- A. always closes itself
- B. are in equal distance from one another
- C. shows the points of equal elevation
- D. is drawn by joining points of a fixed elevation interpolating surveyed points

Correct Answer: B

Explanation:

Contour is defined as an imaginary line on the ground surface joining the points of equal elevation. Contours show distinct characteristic features of the terrain as follows:

Contour lines cross a watershed or ridgeline at right angles. No two contour lines can meet or cross each other except in the rare case of an overhanging or vertical cliff or wall.

The direction of the steepest slope is along with the shortest distance between the contours.

In the direct method of contouring, the contours are not interpolated. Closely spaced contour lines indicate a steep slope.

129. Which of the following is the first principle of surveying ? [लुम्बिनी प्रदेश एकीकृत उपसमूह पाँचौ तह 2079/12/18]

- A. whole to whole
- B. part to part
- C. part to whole
- D. whole to part

Correct Answer: D

130. In Precision theodolite traverse for road and Railways the angular error of closure should not exceed.....cm [लुम्बिनी प्रदेश एकीकृत उपसमूह पाँचौ तह 2079/12/18]

A. $15'' \sqrt{N}$

B. $30'' \sqrt{N}$

C. $1' \sqrt{N}$

D. $45'' \sqrt{N}$

Correct Answer: A

Explanation:

The allowable angular error of closure in a precision theodolite traverse for road and railway surveys should not exceed $15'' \sqrt{N}$

131. कन्टुर म्यापमा कन्टुरहरू एकै ठाउँमा जोडिए भने यस्तो ठाउँले के जनाउँछ ? [लुम्बिनी प्रदेश एकीकृत उपसमूह पाँचौ तह 2079/12/18]

- A. सम्म परेको ठाउँ
- B. झुण्डिरहेको चट्टाने पहिरो परेको ठाउँ
- C. उवडाखावड ठाउँ
- D. एक तर्फ स्लोप भएको ठाउँ

Correct Answer: D

Explanation:

- ✓ कन्टुर रेखाहरू नजिक भएर जोडिनु भनेको तीव्र ढलान हो।
- ✓ अत्यन्त नजिक वा एकै ठाउँमा कन्टुरहरू जोडिनु झुण्डिरहेको चट्टान वा पहिरो जनाउँछ।
- ✓ सम्म परेको ठाउँ भनेको तलमाथि भएको तर तीव्रता नभएको भू-भाग हो।
- ✓ उवडाखावड ठाउँ कन्टुरहरू अनियमित तर दूरीमा फरक हुने हुन्छ।
- ✓ एक तर्फ स्लोप भएको ठाउँमा कन्टुरहरू एकतर्फ झुकाव देखाउँछन्, तर जोडिँदैनन्।

132. लम्बाइ मार्फत गर्दा बढी शुद्धता (Accuracy) पाउन के गर्नुपर्ला ? [लुम्बिनी प्रदेश एकीकृत उपसमूह पाँचौ तह 2079/12/18]

- A. चेनबाट मापन गर्ने

- B. टेपबाट मापन गर्ने
- C. एबनी लेभलबाट मापन गर्ने
- D. टेको मिटरबाट मापन गर्ने

Correct Answer: B

Explanation:

- ✓ लम्बाइ मापनमा बढी शुद्धता चाहिएको खण्डमा टेपबाट मापन गर्ने उत्तम हुन्छ।
- ✓ चेनले कम शुद्धता दिन्छ, किनभने यसमा लचिलोपन र विस्तार हुन्छ।
- ✓ एबनी लेभल र टेको मिटर कोण मापनका लागि हुन्, लम्बाइ नाप्न सिधै प्रयोग हुँदैन।
- ✓ टेपले सही तरिकाले तन्काएर र जमीनसँग सिधा राखेर मापन गर्दा बढी शुद्धता आउँछ।

133. The contour line can cross one another on map only in the case of.....

[लुम्बिनी प्रदेश सहायक पाँचौं तह 2079/12/18]

- A. a valley
- B. a ridge
- C. a saddle
- D. an overhanging Cliff

Correct Answer: D

134. The benchmark of a station a is 500 m and the backsight reading at the point A is 2 m and foresight reading of station b is 3 m find RL of station b

[लुम्बिनी प्रदेश सहायक पाँचौं तह 2079/12/18]

- A. 502 m
- B. 503 m
- C. 499 m
- D. 505 m

Correct Answer: C

Explanation:

RL of B = RL, of A + Backsight- Foresight reading
= 500 + 2 - 3 = 499 m

135. During temporary adjustment of theodolite parallax is removed by.....
[लुम्बिनी प्रदेश सहायक पाँचौं तह 2079/12/18]

- A. focusing the eyepiece for distinct vision of cross hairs
- B. bringing the image of the object in the Plane of the cross hair
- C. none of the above
- D. both a and b

Correct Answer: D

Explanation:

✓ Parallax is removed by two main steps:

- (A) Focusing the eyepiece so that the crosshairs appear sharp and distinct.
- (B) Adjusting the objective lens to bring the image of the object exactly in the plane of the crosshairs.

136. Which of the following is not a method of plane table surveying ?
[लुम्बिनी प्रदेश सहायक पाँचौं तह 2079/12/18]

- A. trisection
- B. intersection
- C. resection
- D. radiation

Correct Answer: A

137. Setting out a simple curve by two theodolites method eliminates.....
[जनरल/ स्यानिटरी/ इरिगेशन उपसमूह, पाँचौं तह 2080/10/19]

- A. linear measurement
- B. angular measurement
- C. linear and angular measurement
- D. none of the above

Correct Answer: C

Explanation:

In this method, two theodolites are used and linear measurements are completely eliminated. It is based on the principle that the angle between the tangent and the chord is equal to the angle subtended by the chord in the opposite segment.

138. Closed contours of decreasing values towards their Center

represents..... [जनरल/ स्यानिटिरी/ इरिगेशन उपसमूह, पाँचौं तह 2080/10/19]

- A. hill
- B. depression
- C. saddle or pass
- D. river bed

Correct Answer: B

139. In reciprocal levelling the error which is not completely eliminated is

due to..... [गण्डकी प्रदेश इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौ तह 2078/11/28]

- A. Earth curvature
- B. non adjustment of line of collimation
- C. refraction
- D. non adjustment of the bubble tube

Correct Answer: C

Explanation:

✓ Reciprocal levelling completely eliminates errors due to Earth curvature and line of

collimation by averaging reciprocal observations.

140. The objective of Surveying is to be prepared..... [गण्डकी प्रदेश इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौ तह 2078/11/28]

- A. drawing
- B. cross section
- C. map
- D. none of the above

Correct Answer: C

Explanation:

- ✓ Surveying is mainly done to prepare a map representing the area surveyed.
- ✓ A map shows details like boundaries, features, and elevations of land in plan.
- ✓ Drawings or cross-sections can be derived from maps but are not the main direct objective.
- ✓ The main objective is to present the measured features and layout on a map for future reference and planning.

141. The point on which both foresight and backsight readings are taken during the operation of levelling known as..... [गण्डकी प्रदेश इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौ तह 2078/11/28]

- A. instrument station
- B. benchmark
- C. foresight point
- D. change point

Correct Answer: D

Explanation:

- ✓ Change point is used to shift instrument position during leveling
- ✓ Both backsight and foresight readings are taken on change points
- ✓ Instrument station is where instrument is placed, not where both readings are taken
- ✓ Benchmark is a known elevation point, not necessarily where both readings are taken

142. Error which are not possible to correct is.... [गण्डकी प्रदेश इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौ तह 2078/11/28]

- A. positive cumulative error
- B. negative cumulative error
- C. compensating error
- D. none of the above

Correct Answer: C

143. Principle of surveying is..... [इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौ तह 2078/11/12]

- A. to work from part to whole
- B. location of point by measurement from two control points
- C. location of point by measurement from two unknown points
- D. of the above

Correct Answer: B

144. If the plane table is not horizontal in a direction at right angles to the elite the line of sight is parallel to the feudal edge only for..... [इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौ तह 2078/11/12]

- A. horizontal sites
- B. inclined sights upward

- C. inclined sight downward
- D. none of these

Correct Answer: A

Explanation:

✓ When the plane table is tilted (not horizontal) perpendicular to the ruling edge, the line of sight remains parallel to the ruling edge only if the sight is horizontal.

145. Closed contours of decreasing values towards their Centre represent.....

[इन्जिनियरिङ सेवा, सिभिल समूह, पाँचौं तह 2078/11/12]

- A. a hill
- B. a depression
- C. a saddle or pass
- D. a river bed

Correct Answer: B

146. The triangle formed by joining the position of the known points on

plane table survey is known as..... [नेपाल इन्जिनियरिङ सेवा, CIVIL समूह, पाँचौं तह 2077/12/07]

- A. Equilateral triangle
- B. Great triangle.
- C. Medium triangle.
- D. Small triangle.

Correct Answer: B

Explanation:

Great Triangle: A large triangle formed by joining three well-defined and widely spaced known points (stations) in plane table surveying.

Medium Triangle: Smaller than great triangle, used for intermediate control.

Small Triangle: Very small triangle used for detailed surveys.

Equilateral Triangle: Triangle with all sides equal; not a standard term in plane table control.

147. If L is the perimeter of a close traverse, D is the closing error in departure. The correct correction for the departure of traverse side of length L according to Bowditch rule is.... [नेपाल इन्जिनियरिङ सेवा, CIVIL समूह, पाँचौं तह 2077/12/07]

A. $\Delta D \frac{L}{l}$

B. $\Delta D \times \frac{l^2}{L}$

C. $L \times \frac{l}{LD}$

D. $\Delta D \times \frac{l}{L}$



Correct Answer: D

Explanation:

Bowditch rule (also called Compass rule) is used to distribute the closing error in a traverse proportionally to the lengths of traverse sides.

L = total perimeter (sum of all sides) of the traverse.

l = length of the particular traverse side. ΔD = closing error in departure.

The correction for departure on each side is proportional to the side length l relative to total perimeter L .

Formula for departure correction:

Correction in departure = $\Delta D \times l/L$

148. A discrepancy is the difference between..... [नेपाल इन्जिनियरिङ सेवा, CIVIL समूह, पाँचौं तह 2077/12/07]

- A. True value and error.
- B. Measured value and actual value.
- C. Two major value of the same quantity.
- D. None of the above.

Correct Answer: C

149. The method of plane tabling generally adopted to obtain details and plotting inaccessible points is... [जनरल/ हाइवे/ इरिगेशन उपसमूह, सहायक पाँचौं तह 2079/12/18]

- A. radiation
- B. intersection
- C. resection
- D. all of the above

Correct Answer: B



150. The method of leveling used to carry out the reconnaissance of an area is..... [जनरल/ हाइवे/ इरिगेशन उपसमूह, सहायक पाँचौं तह 2079/12/18]

- A. check leveling
- B. fly leveling
- C. profile leveling
- D. simple leveling

Correct Answer: B

Explanation:

- ✓ Reconnaissance requires quick, approximate elevation data over a wide area.
- ✓ Fly leveling is fast and less precise, ideal for reconnaissance surveys.

- ✓ Check leveling is for accuracy control, not reconnaissance.
- ✓ Profile leveling is detailed and time-consuming, not suitable for reconnaissance.
- ✓ Simple leveling is basic but not designed for broad area reconnaissance.

151. Temporary adjustment of theodolite include..... [जनरल/ हाइवे/ इरिगेशन
उपसमूह, सहायक पाँचौं तह 2079/12/18]

- A. centering
- B. leveling
- C. focusing
- D. all of the above

Correct Answer: D

152. A staff reading taken on a point whose elevation is to be determined as
on a change point is called..... [जनरल/ हाइवे/ इरिगेशन उपसमूह, सहायक पाँचौं तह
2079/12/18]

- A. fore sight reading
- B. back sight reading
- C. intermediate sight
- D. none of above

Correct Answer: A

Explanation:

Foresight reading: Staff reading at a point of unknown elevation

Back sight reading: Staff reading at a point of known elevation

Intermediats sight: Staff reading at an unknown elevation between FS. and B.S.

153. A kind of Survey in which field observation and plotting in graphical

representation go simultaneously is.... [सिभिल समूह, सहायकस्तर पाँचो तह
2079/12/25]

- A. theodolite survey
- B. tape survey
- C. plane table survey
- D. chair survey

Correct Answer: C

154. Profile levelling is usually done for determining.... [सिभिल समूह,
सहायकस्तर पाँचो तह 2079/12/25]

- A. contours of an area
- B. capacity of a reservoir
- C. area of forest zone
- D. elevations along a straight line

Correct Answer: D

Explanation:

✓ Profile levelling is the process of determining the elevations of points along a specific line, usually a straight line.

✓ It helps in plotting a vertical section or profile of the ground surface.

✓ It is commonly used in road, railway, and canal construction to understand the slope and gradient.

155. A transverse deflection angle is... [सिभिल समूह, सहायकस्तर पाँचो तह
2079/12/25]

- A. less than 90°
- B. more than 90° but less than 180°
- C. difference between the included angle and 180°
- D. the difference between 360° and the included angle

Correct Answer: C

Explanation:

- ✓ The deflection angle is the difference between the included angle and 180° .
- ✓ It represents how much the traverse line turns from the previous direction.
- ✓ Deflection angles are usually less than 180° , measured right or left from the extension of the previous line.

156. Benchmark is a... [सिभिल समूह, सहायकस्तर पाँचो तह 2079/12/25]

- A. point of known elevation
- B. the very first station
- C. reference point
- D. last station where the survey closes

Correct Answer: A

Explanation:

A benchmark is a permanent reference point with a known elevation used in surveying and construction to establish a vertical datum

- ✓ It provides a fixed elevation for measuring other points.
- ✓ Used for vertical control in leveling, mapping, and construction.
- ✓ Usually marked with a disc or monument set in stone or concrete.
- ✓ GTS (Great Trigonometrical Survey) benchmarks are the most precise and established by national agencies.
- ✓ Benchmarks serve as reference points for consistent elevation measurements over time

157. If the whole circle bearing of a line is 180° its reduces bearing is.....
[नेपाल इन्जिनियरिङ सेवा, सिभिल समूह 2078/08/20]

- A. $S0^\circ E$
- B. $S0^\circ W$
- C. S
- D. N

Correct Answer: C

Explanation:

✓ Whole Circle Bearing (WCB) of 180° means the line points exactly south.

158. A total station measures Vertical angle of 45° from a point on land to the top of a pole that lies 30 m for the height of the pole is..... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह 2078/08/20]

- A. 20 m
- B. 51 m
- C. 15 m
- D. 30 m

Correct Answer: D

Explanation:

Vertical angle (elevation):

✓ Angle measured between a horizontal line and a line to an elevated point.

To find pole height when vertical angle = 45° and horizontal distance = 30 m:

✓ Use $\tan \theta = \text{opposite} / \text{adjacent}$ i.e.

✓ $\tan 45^\circ = \text{height} / 30 \text{ m} = 1$

Hence:

✓ height = 30 m — the same as the horizontal distance for a 45° angle

159. Isogenic lines are the lines having the same value of... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह 2078/08/20]

- A. elevation
- B. bearing
- C. Dip
- D. declination

Correct Answer: D

Explanation:

The line having same value of elevation = Contour lines

The line having same value of dip = Isoclinic line

The line having same value of declination = Isogonic line

The line passing through zero declination = Agonic line

160. Reciprocal ranging is adopted when which of the following is encountered during surveying ? [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह 2078/08/20]

- A. a dense forest
- B. a hillock
- C. a river
- D. A tall building

Correct Answer: B

Explanation:

Reciprocal ranging is a surveying technique used when direct sight between two points is obstructed. This obstruction can be caused by various obstacles, such as a hillock

(raised piece of land).

161. The fundamental principle of surveying is to work from the.... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह 2078/08/20]

- A. part to whole
- B. whole to part
- C. lower point to higher point
- D. all of the above

Correct Answer: B

162. The bearings of the lines AB and BC are 130° and 50° respectively the included angle ABC is.... [नेपाल इन्जिनियरिङ सेवा, सिभिल समूह 2078/08/20]

- A. 50°
- B. 100°
- C. 30°
- D. 180°

Correct Answer: B

163. A plumb line is a..... [सिभिल समूह, सहायक पाँचो तह 2078/04/30]

- A. line perpendicular to the horizontal line
- B. line perpendicular to the level line
- C. line parallel to vertical line
- D. vertical line

Correct Answer: B

Explanation:

A level line is line parallel to the mean spheroidal surface of earth.

A line normal to plumb line is level line.

Level line and horizontal lines are same for smaller lengths.

164. Basic principle of surveying is.... [सिभिल समूह, सहायक पाँचो तह 2078/04/30]

- A. working in detail
- B. working from part of whole
- C. working from whole to part
- D. none of the above

Correct Answer: C

165. In reciprocal levelling the error which is not completely eliminated is due to.... [सिभिल समूह, सहायक पाँचो तह 2078/04/30]

- A. earth's curvature
- B. non adjustment of line of collimation
- C. non adjustment of the bubble tube
- D. refraction

Correct Answer: D

Explanation:

- ✓ Refraction correction partially elements curvature correction.
- ✓ Curvature makes object look lower than they really are.
- ✓ Refraction makes object look higher than they really are.
- ✓ Reciprocal levelling is used when it is not possible to set instrument in between two visible points like river, ponds etc

Reciprocal ranging → hill lock.

166. Survey plotting can be done with an accuracy of.... [सिभिल समूह, सहायक

पाँचो तह 2078/04/30]

- A. 0.5 mm
- B. 0.25 mm
- C. 1.00 mm
- D. 1.00 cm

Correct Answer: B

Explanation:

0.25 mm

- ✓ Standard plotting accuracy
- ✓ Commonly accepted for detailed and precise mapping

167. Chain surveying uses the principle of..... [सिभिल समूह, सहायक चौथो तह 2078/04/29]

- A. traversing
- B. chaining
- C. ranging
- D. triangulation

Correct Answer: D

Explanation:

- ✓ Chain surveying is based on the principle of triangulation — dividing the area into small triangles for accurate plotting.
- ✓ Only linear distances (sides of triangles) are measured; no angular measurements are needed.
- ✓ Triangles provide a stable framework for plotting and help control errors.
- ✓ Traversing involves angles and distances, not just linear measurements.
- ✓ Chaining and ranging are techniques used within chain surveying but not the core principle.

168. Levelling deals with measurements in a.... [सिभिल समूह, सहायक चौथो तह 2078/04/29]

- A. horizontal plane
- B. inclined plane
- C. vertical plane
- D. both vertical and horizontal plane

Correct Answer: C

Explanation:

- ✓ Levelling measures vertical distances (elevations) between points.
- ✓ It determines height differences relative to a reference datum.
- ✓ Measurements are taken along the vertical plane to assess elevation changes.

Thus, levelling is concerned with measurements in the vertical plane.

169. In levelling operation..... [सिभिल समूह, सहायक चौथो तह 2078/04/29]

- A. when the instrument is being shifted the staff must not be moved
- B. when the staff is being carried forward the instrument must remain stationary
- C. both 'a' and 'b'
- D. none of the above

Correct Answer: C

Explanation:

- ✓ When instrument is moved to a new position, staff should stay fixed at a reference point to maintain consistency.
 - ✓ When staff is moved forward to the next point, the instrument must stay fixed to take accurate readings.
 - ✓ Both conditions ensure accuracy and minimize errors in levelling.
-

170. What does the Abbreviation GPS stand for ? [Provincial public service commission Sector 2]

- A. Global positioning system
- B. Global point selection
- C. geographical Position System
- D. geographical point software

Correct Answer: A

171. The horizontal angle between the true meridian and magnetic bearing at a place in a compass survey is called..... [Provincial public service commission Sector 2]

- A. local attraction
- B. declination
- C. true bearing
- D. all of the above

Correct Answer: B

Explanation:

- ✓ Declination is the angle between true north and magnetic north
- ✓ Local attraction causes errors but is not the angle itself
- ✓ True bearing is measured from true meridian, not the difference between meridians
- ✓ Declination varies by location and time

172. Surveys based on instrument used can be classified into..... [Provincial public service commission Sector 2]

- A. compass survey
- B. plane table survey

- C. theodolite survey
- D. all the above

Correct Answer: D

173. A map that shows the detailed physical features of a particular area is called..... [2078/07/07]

- A. topographical map
- B. symbolic map
- C. thematic map
- D. atmospheric map

Correct Answer: A

174. Surveys which despite the natural features of a country are known as.... [2078/07/07]

- A. cadastral surveys
- B. topographical surveys
- C. Engineering surveys
- D. all of the above

Correct Answer: B

Explanation:

- ✓ Topographical surveys document both natural and artificial features without altering focus due to natural terrain.
- ✓ They provide a detailed map of the physical features of a land area, regardless of difficulty posed by natural conditions.
- ✓ Cadastral and engineering surveys focus on specific purposes and may or may not emphasize natural features.
- ✓ Hence, the surveys known for mapping despite natural features are primarily

topographical surveys.

175. A 150m line is represented by 20cm on plan. what is its representative fraction ? [2078/07/07]

A. $\frac{1}{700}$

B. $\frac{1}{750}$

C. $\frac{1}{800}$

D. $\frac{1}{850}$

Correct Answer: B

Explanation:

✓ $RF = \text{Map Distance} / \text{Ground Distance}$

176. Which of the following classes of Positioning technique posses high precision ? [2078/07/07]

A. GPS

B. viscous techniques

C. real time techniques

D. kinematic techniques

Correct Answer: D

Explanation:

✓ GPS (A) provides general positioning but with moderate precision unless enhanced by other methods.

✓ Viscous techniques (B) is not a standard positioning method and lacks precision context here.

✓ Real-time techniques (C) like RTK improve accuracy but are a category, not a

specific technique.

✓ Kinematic techniques (D) involve continuous movement tracking with carrier phase measurements, offering centimeter-level precision in real-time or post-processing.

177. When 1 cm on a map represents 10m on the ground the representative fraction of the scale in.... [2078/07/07]

A. $\frac{1}{10}$

B. $\frac{1}{100}$

C. $\frac{1}{1000}$

D. $\frac{1}{10000}$

Correct Answer: C

178. The method of levelling used to carry and the reconnaissance of area is... [2078/05/19]

- A. check levelling
- B. fly levelling
- C. profile levelling
- D. simple levelling

Correct Answer: B

Explanation:

fly levelling: it is a type of Differential levelling in surveying where rapidity, but low precision is required. it is generally used for the reconnaissance of the area or for approximate checking of the levels.

179. The angle between two plane mirrors of optical square is....

[2078/05/19]

- A. 30°
- B. 45°
- C. 60°
- D. 90°

Correct Answer: B

180. The techniques of plotting all the accessible stations with a single setup of plane table is called... [2078/05/19]

- A. resection
- B. radiation
- C. intersection
- D. mediation

Correct Answer: B

Explanation:

Radiation is the method of locating the point by drawing radial lines from the plane table station to that point.

Intersection is a method of locating a point by the intersection of two rays from two different stations.

Resection is the method of locating the station occupied by the plane table when the position of that station had not been previously plotted from other stations.

181. In quadrilateral bearing system, whole bearing of $293^\circ 30'$ can be expressed as... [2078/05/19]

- A. $W 23^\circ 'N$
- B. $N 66^\circ 30' W$

C. S 113°30' N

D. N 23°30' W

Correct Answer: B

182. The parcel numbering system in Nepal is... [2077/11/04]

A. free numbering system

B. fractional numbering system

C. coded numbering system

D. filter numbering system

Correct Answer: A

Explanation:

Free numbering system: Parcels are numbered sequentially in a straightforward manner without subdivision or fractional designations.

183. As per the survey measurement regulation, which of the following activities is restricted to out by a survey license holder ? [2077/11/04]

A. cadastral map of Nepal

B. engineering survey

C. base maps of Nepal

D. thematic maps

Correct Answer: C

184. As per the survey measurement regulation, who is the member secretary off mapping commit of Nepal ? [2077/11/04]

A. director general of Survey department

- B. spoke person of ministry of Land management
- C. secretary of ministry of Land management
- D. chief of topographical survey

Correct Answer: A

Explanation:

- ✓ The Survey Department is the main authority for mapping and surveying.
- ✓ The Director General (DG) leads the Survey Department and acts as member secretary.
- ✓ Ministry officials (Secretary or spokesperson) have policy roles but not direct secretarial role in the committee.
- ✓ Chief of Topographical Survey is a subordinate position within Survey Department.

185. Two fulfill objective of revenue act, 2023, which one has authority to formulate regulations ? [2077/11/04]

- A. Ministry of Land management, Cooperative and Poverty Alleviation
- B. Government of Nepal
- C. Survey Department
- D. Department of Land Reform and Management

Correct Answer: A

186. As per Land act 2021, article describe about selling value of land in Nepal ? [2077/11/04]

- A. 5
- B. 7
- C. 8
- D. 9

Correct Answer: B

187. In geographical co-ordinate system reference line means... [2077/11/04]

- A. grid lines
- B. graticule lines
- C. North and South line
- D. Datum

Correct Answer: B

Explanation:

- a. Grid lines: Lines forming a rectangular coordinate system on maps, usually in projected coordinate systems (e.g., UTM), not spherical.
- b. Graticule lines: Network of latitude (parallels) and longitude (meridians) lines on the globe forming the geographic coordinate system.
- c. North and South line: Refers to meridians (lines of longitude), but not the full reference system.
- d. Datum: A reference surface (ellipsoid) used to define coordinates, not the lines themselves.

188. Optical square ले कुन सिद्धान्तमा कार्य गर्दछ ? [2077/11/04]

- A. refraction
- B. right angle
- C. reflection
- D. double reflection

Correct Answer: D

Explanation:

- ✓ Optical square works on the principle of double reflection.

- ✓ It uses two mirrors placed at 45° to each other, causing a light ray to deviate by twice the angle between the mirrors, i.e., 90° .
- ✓ This allows setting out or measuring right angles (90°) accurately in surveying.
- ✓ The instrument combines reflection and refraction but the fundamental working principle is double reflection.

189. तलका मध्ये कुन चाहिँ tachometric system होइन ? [2077/11/04]

- A. stadia system
- B. tangential system
- C. substance bar system
- D. leveling system

Correct Answer: D

Explanation:

Tachometric surveying is a method of Surveying in which horizontal distances and (relative) vertical elevations are determinant from subtended intervals and vertical angles observed with an instrument.

190. लेभलिय यन्त्रबाट staff reading लिँदा top hair reading= 1.50 र bottom hair reading= 1.00 आयो भने middle hair reading कति आउनु पर्छ ? [2077/11/04]

- A. 1.40
- B. 1.30
- C. 1.25
- D. 1.15

Correct Answer: C

191. सबैभन्दा बढी शुद्धता दिने मेजरिङ टेप कुन हो ? [2077/11/04]

- A. invar tape
- B. Steel tape
- C. metallic tape
- D. linen tape

Correct Answer: A

192. Which spheroids is used in GPS survey computation ? [2077/11/04]

- A. Everest 1830 spheroid
- B. WGB 84 and spheroid
- C. Bessel's spheroid
- D. Everest 1845 spheroid

Correct Answer: B

Explanation:

Spheroid (Ellipsoid):

A mathematically defined surface approximating the shape of the Earth used as a reference in geodetic surveys.

Everest spheroid:

Traditionally used in South Asia, especially Nepal and India, for local mapping.

Bessel's spheroid:

Used in some European and Asian countries historically.

WGS 84 (World Geodetic System 1984):

The global standard reference ellipsoid used by GPS systems worldwide.

193. Which distance measure EDM ? [2077/11/04]

- A. horizontal
- B. slope
- C. vertical
- D. zenithal

Correct Answer: B

Explanation:

- ✓ EDM measures the straight-line (slope) distance between two points.
- ✓ It does not directly measure horizontal or vertical distances.
- ✓ Horizontal distance is calculated from slope distance and vertical angle.
- ✓ Vertical distance is derived from elevation differences, not directly by EDM.
- ✓ Zenithal refers to angle, not distance.

194. Error theory of probability... [2077/11/04]

- A. mistake
- B. accidental
- C. blunder
- D. Systematic

Correct Answer: B

Explanation:

- ✓ Theory of probability deals with accidental (random) errors
- ✓ Accidental errors are small, random, and follow a normal (Gaussian) distribution curve
- ✓ Mistakes and blunders are large errors, not explained by probability theory
- ✓ Systematic errors are predictable and correctable, not random
- ✓ Probability theory helps estimate most probable value and precision in presence of accidental errors

195. Modified UTM projection मा Central Meridian मा scale factor कति हुन्छ ?
[2077/11/04]

- A. 1:1000
- B. 0.9996
- C. 0.9999
- D. 1.000

Correct Answer: C

196. The reduced bearing of a line is N 87° W is whole circle bearing is...
[2077/11/04]

- A. 87°
- B. 273°
- C. 93°
- D. 3°

Correct Answer: B

Explanation:

As we know N 87°W is 4th quadrant, to convert reduces bearing into whole circle bearing,

$$WCB = 360^\circ - RB = 360^\circ - 87^\circ = 273^\circ$$

197. In constant level tube size of the bubble remains constant because upper wall is... [2077/11/04]

- A. of relatively larger radius
- B. off relatively smaller radius
- C. flat
- D. concrete downwards

Correct Answer: A

Explanation:

- ✓ The upper wall has a relatively larger radius which reduces curvature effect and stabilizes bubble size.
- ✓ Larger radius means less surface tension variation, keeping bubble size constant.

198. Benchmark is established by..... [2077/11/04]

- A. hypsometry
- B. barometric levelling
- C. spirit levelling
- D. trigonometric levelling

Correct Answer: C

Explanation:

Benchmark is established by spirit leveling in which it consists of a telescope with a cross hair and a tube level or bubble level used to indicate whether a service is horizontal.

199. The direction of steepest slope on contour is... [2077/11/04]

- A. along the contour
- B. at an angle of 45° to the contour
- C. at right angles to the contour
- D. at an angle of 60° to the contour

Correct Answer: C

Explanation:

- ✓ Contour lines represent points of equal elevation, so no elevation change along them.
- ✓ The steepest slope is always perpendicular (at right angles) to contour lines.
- ✓ Moving across contour lines results in maximum change in elevation.

200. When a mirror reverse negative is exposed in contact with the normal flame in vacuum printer what result is obtained ? [2077/11/04]

- A. right reading positive
- B. right reading negative
- C. mirror reversed positive
- D. mirror reversed negative

Correct Answer: A

Explanation:

- ✓ Mirror reverse negative has lateral reversal (left-right flipped) and inverted tones.
- ✓ Contact exposure in a vacuum printer flips the lateral orientation again, canceling mirroring.
- ✓ Emulsion-to-emposure contact ensures the final print is right-reading (correct orientation).
- ✓ Tone inversion (negative to positive) occurs when printing on positive paper.

201. Which of the following monuments is used for temporary Benchmarks in Nepal? [2077/11/04]

- A. wooden peg
- B. brass mark
- C. steel mark
- D. iron rivet

Correct Answer: A

Explanation:

- ✓ Temporary Bench Mark (TBM) – A short-term reference point set up at the end of a day's leveling work, usually on firm features like tree roots, culvert parapets, or pegs
- ✓ Wooden peg – A simple stake driven into the ground; durable enough for a day or two and easily identifiable for resuming work

- ✓ Brass mark – Typically used for more permanent benchmarks (e.g., brass discs or bolts in concrete), not for temporary ones.
- ✓ Steel mark and iron rivet – These are permanent or semi-permanent markers, not meant for temporary use.

202. If a, b and c are the length of sides of a triangle and s is half the perimeter, then which formula is used to calculate the area of the triangle A ? [2077/11/04]

A. $A = \sqrt{s(s-a)(s-b)(s-c)}$

B. $A = \sqrt{(s-a)(s-b)(s-c)}$

C. $A = \frac{1}{2} \sqrt{s(s-a)(s-b)(s-c)}$

D. $A = \frac{1}{2} \sqrt{(s-a)(s-b)(s-c)}$

Correct Answer: A

203. Which of the following errors cannot be estimated in the levelling process ? [2077/11/04]

- A. collimation error
- B. staff graduation error
- C. zero error of the staff
- D. error due to the earth curvature

Correct Answer: B

Explanation:

✓ Collimation Error:

Occurs when the line of sight (collimation axis) of the level instrument is not truly horizontal even after proper leveling, causing systematic errors in staff readings.

✓ Staff Graduation Error: Caused by incorrect or non-uniform markings on the levelling staff, leading to inaccurate measurement of heights.

✓ Zero Error of the Staff:

Happens when the zero mark on the staff does not align with the true base of the staff, resulting in all readings being offset by a constant value.

✓ Error Due to the Earth Curvature:

Arises because the earth's surface is curved, but the instrument's line of sight is straight, causing staff readings to be higher than actual over long distances.

204. What is the seat size of topographical map at the scale of 1:25,000 in Nepal ? [2077/11/04]

- A. 15' 15'
- B. 7'30" 7'30"
- C. 60cm 50cm
- D. 25cm 25cm

Correct Answer: C

205. During aerial photography mission, if the axis of camera is tilted intentionally, then the photograph is termed as..... [2077/11/04]

- A. vertical photograph
- B. nearly vertical photograph
- C. tilted photograph
- D. oblique photograph

Correct Answer: D

Explanation:

Vertical photograph:

Camera axis is exactly or nearly perpendicular (90°) to the ground surface.

Nearly vertical photograph:

Camera axis slightly deviated from vertical, but still close to perpendicular.

Tilted photograph:

General term when camera axis is tilted; not specific to aerial photography terminology.

Oblique photograph:

Camera axis intentionally tilted away from vertical at a noticeable angle, capturing the ground at an angle rather than straight down.

206. Which of the following instruments cannot be used to measure distance between two points ? [2077/11/04]

- A. theodolite
- B. tacheometer
- C. plani meter
- D. auto level

Correct Answer: C

Explanation:

A planimeter known as of Platometer is a measuring instrument used to determine the area of an arbitrary two dimensional shape.

207. Which instruments using in digital cadastral survey ? [2077/11/04]

- A. theodolite
- B. total station
- C. telescopic alidade
- D. levelling machine

Correct Answer: B

Explanation:

- ✓ Digital cadastral survey requires accurate angle and distance measurement with data recording
- ✓ Total station integrates angle measurement and EDM with digital data storage
- ✓ Theodolite lacks electronic distance measurement and digital data recording
- ✓ Telescopic alidade and levelling machine are less suitable for digital surveys
- ✓ Total station improves speed, accuracy, and data management in cadastral surveys

208. Hydrographic surveys deals with mapping of... [2077/11/04]

- A. large water bodies
- B. heavenly bodies
- C. mountaineers region
- D. Canal system

Correct Answer: A

Explanation:

- ✓ Hydrographic surveys focus on mapping and measuring underwater terrain and features of water bodies.
- ✓ They provide vital data for maritime navigation, marine construction, dredging, and offshore activities.
- ✓ These surveys do not deal with heavenly bodies, mountainous regions, or irrigation canals specifically.

209. Which of the following is not relevant in locating transmission tower in transmission alignment survey ? [2077/11/04]

- A. No settlement should be there under the transmission line
- B. Number of deflection need not be minimum
- C. Lower part of the sag of wire should not close to the ground
- D. Transmission line should not have steep slope.

Correct Answer: B

Explanation:

- ✓ Settlement under towers must be avoided for stability.
- ✓ Sag must maintain clearance from ground for safety.
- ✓ Steep slopes are avoided to reduce structural and maintenance issues.
- ✓ Minimizing number of deflections is important for line efficiency and cost.

210. Irrigation canals are generally aligned on [2077/11/04]

- A. ridge line
- B. contour line
- C. valley line
- D. straight line

Correct Answer: A

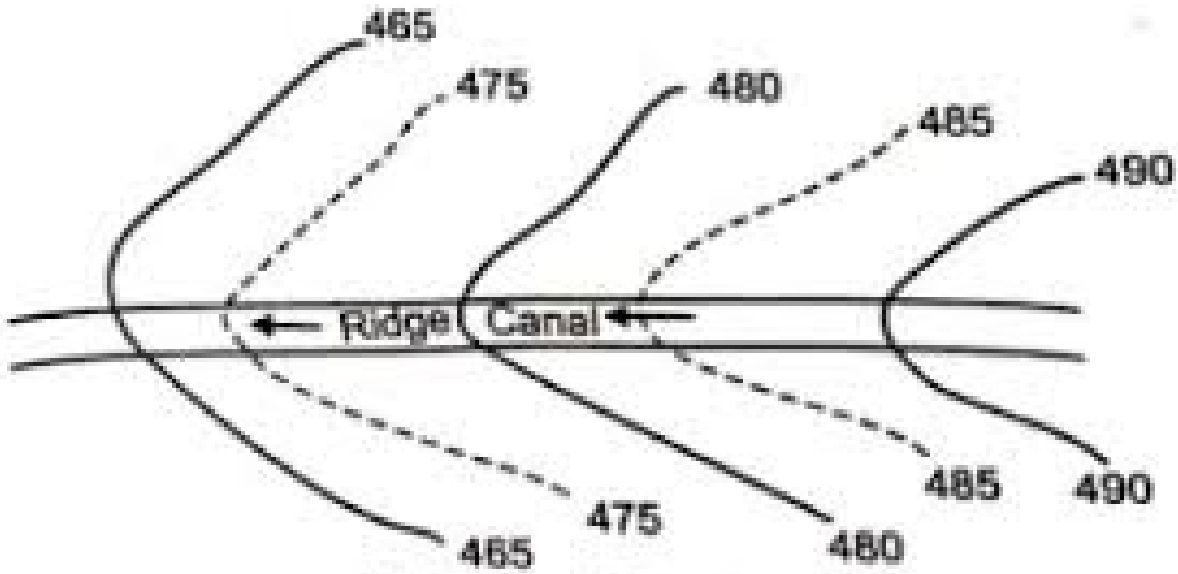


Fig. 6.3 : Ridge Canal

Explanation:

Why?

Aligning canals on ridge lines allows us to irrigate both side of the ridge maximising the irrigated land. While most canals in hills are contour whenever possible we align irrigation canals on ridge lines

211. Who one is not signed in field book in cadastral survey? [2077/11/04]

- A. Asst surveyor
- B. Surveyor
- C. Toll chief
- D. Director general

Correct Answer: D

Explanation:

- ✓ Field book is a primary record of measurements and observations in cadastral survey.
- ✓ It is usually signed by the surveyor and assistant surveyor who perform the

fieldwork.

- ✓ The toll chief (team leader) also signs to verify the data collected.
- ✓ The Director General is a high-level official and does not directly sign field books; their role is administrative and supervisory.

212. Curve setting मा Forward Tangent भन्नाले के बुझिन्छ? [2077/11/04]

- A. Point of curve मा तानिएको tangent
- B. Vertex मा तानिएको tangent
- C. Origin मा तानिएको tangent
- D. Point of curve र vertex सम्मको दुरी

Correct Answer: D

Explanation:

The tangent line drawn on a curve at its end (point of tangency) is known as forward tangent. the tangent line drawn on a curve at its starting point (point of commencement) is known as the rear or backward tangent.

213. Which of the following is true for UTM projection? [2077/11/04]

- A. Conical projection
- B. Cylindrical projection
- C. Azimuthal projection
- D. Zenithal projection

Correct Answer: B

Explanation:

UTM Projection

- ✓ Global coordinate system dividing Earth into 60 zones, each 6° longitude wide

- ✓ Uses Transverse Mercator projection for minimal distortion
- ✓ Coordinates in meters: Eastings (from central meridian) & Northings (from equator)
- ✓ False easting: 500,000m; False northing: 0m (Northern Hemisphere) / 10,000,000m (Southern Hemisphere) assigned to the Central Meridian to avoid negative values and simplify calculations.
- ✓ Scale factor at central meridian: 0.9996
- ✓ Ideal for large-scale mapping but distorts near zone edges

214. Which map projection is used in the recent topographical maps of Nepal? [2077/11/04]

- A. Universal Transverse Mercator Projection
- B. Modified Universal Transverse Mercator Projection
- C. Lambert Conical Projection
- D. Cassini Projection

Correct Answer: B

Explanation:

- ✓ This system is based on the Everest 1830 geographic coordinate system, which is preferred for its accuracy in mapping Nepal's geography, especially due to the country's east-west expansion.
- ✓ In total, 706 map sheets cover the whole Nepal including 590 sheets in 1:25000 scale and 116 maps sheets of 1:50000 scale in Modified Universal Traverse Mercator (MUTM) projection system.

MUTM Projection (Nepal)

- ✓ Modified UTM for Nepal, reducing zone width to 3° longitude

- ✓ Divides Nepal into MUTM 81, MUTM 84, and MUTM 87
- ✓ Uses Everest 1830 ellipsoid instead of WGS84
- ✓ Scale factor at central meridian: 0.9999 (better local accuracy)
- ✓ False easting: 500,000m; False northing: 0m
- ✓ Improves accuracy but creates issues near zone boundaries
- ✓ Used for surveying, cadastral mapping, and GIS applications in Nepal
- ✓ To mitigate these issues, alternative projection systems, such as the Lambert Conformal Conic (LCC), are being explored for national mapping projects in Nepal.

215. Which of the following measures whole circle bearing measure?

[2077/11/04]

- A. Prismatic compass
- B. Surveyors compass
- C. Magnetic compass
- D. Ordinary compass

Correct Answer: A

Explanation:

- ✓ The Prismatic compass is specifically designed to measure whole circle bearings, also called the azimuthal system.
- ✓ The Surveyor's compass measures bearings in the quadrantal system, not whole circle bearings.
- ✓ The prismatic compass has a graduated circle that rotates with the magnetic needle, allowing direct reading of whole circle bearings.
- ✓ Magnetic compass is a general term; prismatic and surveyor's compasses are types of

magnetic compasses, but only the prismatic compass measures whole circle bearings.

✓ Ordinary compass is not a surveying instrument and does not measure whole circle bearings accurately.

216. Third order levelling मा permissible error कति छ? [2077/11/04]

- A. $1.4\sqrt{k}$ mm
- B. $2.0\sqrt{k}$ mm
- C. $6.0\sqrt{k}$ mm
- D. $10.0\sqrt{k}$ mm

Correct Answer: C

217. Contour lines... [2077/10/24]

- A. cross each other
- B. end abruptly
- C. are uniformly stressed
- D. close somewhere

Correct Answer: D

Explanation:

- ✓ Contour lines never cross except in rare cases like overhanging cliffs.
- ✓ They do not end abruptly; they either form closed loops or continue beyond map edges.
- ✓ They are equally spaced only if the slope is uniform, not generally "uniformly stressed."
- ✓ Contour lines always close either inside or outside the map boundary, forming loops.

218. The horizontal angle between the true and magnetic meridian at a place is called... [2077/10/24]

- A. azimuth
- B. declination
- C. local attraction
- D. magnetic bearing

Correct Answer: B

Explanation:

- ✓ Azimuth is the angle measured clockwise from a reference meridian (usually true north) to a line—does not describe the angle between true and magnetic meridians.
- ✓ Local attraction refers to disturbances in the magnetic field caused by local sources of magnetism, not the angle between meridians.
- ✓ Magnetic bearing is the angle measured from the magnetic meridian to a line—distinct from declination, which is strictly between reference meridians.
- ✓ Correcting for declination is crucial for accurate navigation, mapping, and engineering applications.

219. If the smallest division of a vernier is longer than the smallest division of its primary scale the vernier is known as... [2077/10/24]

- A. direct vernier
- B. double vernier
- C. retrograde vernier
- D. simple vernier

Correct Answer: C

Explanation:

- ✓ Smallest division shorter than primary scale= direct vernier
- ✓ A scale which has common representative fraction but read in different measures is

called comparative scale.

220. The fundamental principle of surveying is to work from the...

[2077/10/24]

- A. whole to the part
- B. part to the whole
- C. world level to the higher level
- D. higher level to the lower level

Correct Answer: A

221. What is the approximate relationship between the radius (R) and the degree (D) of curve required to find a chord between two points on that curve ? [2075/01/23]

A. $R = \frac{1600}{D}$

B. $R = \frac{1619}{D}$

C. $R = \frac{1700}{D}$

D. $R = \frac{1719}{D}$

Correct Answer: D

222. For setting out work control points are established using principle of...

[2075/01/23]

- A. working from part to whole
- B. working from whole to part
- C. working from vertical to horizontal
- D. working from horizontal to vertical

Correct Answer: B

223. The contour interval should be....to the scale of the map [2075/01/23]

- A. directly proportional
- B. equal
- C. similar
- D. inversely proportional

Correct Answer: D

Explanation:

- ✓ Smaller scale maps (cover larger area) require larger contour intervals to avoid clutter.
- ✓ Larger scale maps (cover smaller area with more detail) use smaller contour intervals for precision.
- ✓ This shows that contour interval decreases as the scale increases, i.e., they have an inverse relation.

224. The main principle of surveying is to work...

- A. from whole to the part
- B. from part to the whole
- C. from higher level to the lower level
- D. from lower level to the higher level

Correct Answer: A

Explanation:

Main principles of Surveying is to:

work from whole to part

To locate new station by at least two measurements (linear and angular)

225. The first reading is taken as...

- A. fore sight
- B. back sight
- C. intermediate sight
- D. H.I.

Correct Answer: B

Explanation:

First reading B.M. is back side and height of instrument is given as [H.I.= R.L.+B.S.]

226. In a survey it was recorded the $\sum \text{rise} = 0$, then....

- A. the ground is sloping
- B. it is continuously Rising
- C. It is continuously falling
- D. the survey had many invert readings

Correct Answer: C

LOKSEWA
with Ghoksewa



227. The straight line between two station is called.... [2075/01/22]

- A. straight line
- B. traverse
- C. traverse angle
- D. traverse leg

Correct Answer: D

Explanation:

Traverse: A series of connected straight lines joining survey stations.

Traverse Leg: The individual straight line segment between two consecutive traverse stations.

Traverse Angle: The angle between two consecutive traverse legs.

228. For the well condition triangle no angle should be less than...

[2074/01/09]

- A. 30°
- B. 45°
- C. 60°
- D. 75°

Correct Answer: A

Explanation:

Well condition triangle: angles should not be less than 30 degree and not greater than 120 degree

229. If R.L. of B.M. is 100 m, the back side is 2m and foresight is 2.5m, the R.L. of forwarded station is... [2074/01/09]

- A. 102.5 m
- B. 99.50
- C. 100.50 m
- D. 102.00 m

Correct Answer: B

230. Indirect ranging is adopted when the two ends of a line are...

[2074/01/09]

- A. mutually invisible
- B. two distant

- C. on a sloping ground
- D. separated by a valley

Correct Answer: A

Explanation:

Direct ranging: when two points mutually intervisible number of ranging rods for

direct ranging: 3

indirect ranging: 4

231. The imaginary line lying throughout the surface of ground and preserving a constant inclination to horizontal is known as.... [2074/01/09]

- A. contour line
- B. horizontal equivalent
- C. contour interval
- D. contour gradient

Correct Answer: D

Explanation:

Contour gradient preserves a fixed slope throughout its length on the ground. Differs from contour lines, which connect points of equal elevation, not constant slope.

- ✓ Horizontal equivalent: horizontal distance between any two consecutive contour
- ✓ Contour line is an imaginary line passing through points of equal elevation.
- ✓ Contour interval is the vertical distance between two consecutive contours.