Which of the following scales is largest one ?

a. 1 cm = 50 m
b. 1 :42000
c. $R.F = \frac{1}{300000}$
d. 1 cm =50 km

If the probable error in single observation is ±0.04 m and that of the mean is ±0.01 m, then the number of observations are

a. 4
b. 10
c. 16
d. 64

Theory of probability is applied to

a. Accidental errors only
b. Cumulative error only
c. Both accidental and cumulative error
d. None of the above

A survey is conducted with a view to prepare the map of an area to a scale of 1 : 1000 if a scale with least count of 0.1 mm is used for plotting. What would be the accuracy in length measurement in the field ?

a. 0325 m
b. 0.01 m
c. 0.1 m
d. 1 m

The difference between the most probable value of a quantity and its observed value is

a. True error
b. Weighted observation
c. Conditional error
d. Residual error

Geodetic surveying is different from plate surveying because of

a. The curvature of the earth
b. The large difference of elevations between various point
c. Coverage of very large area
d. Undulations of very large area

The error due to bad ranging is

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

'Offsets' are

a. Short measurements from chain line
b. Ties or check lines which are perpendicular to chain line
c. Sets of minor instruments in chain surveying
d. Chain lines which go out of alignment

Which of the following instrument is generally used for base line easurements ?

a. Chain
b. Metallic tape
c. Steel tape
d. Invar tape

An invar tape is made of an alloy of

a. Copper and steel
b. Brass and nickel
c. Brass and steel
d. Nickel and steel

Number of links in a 30 m metric chain is

a. 100
b. 260
c. 180
d. 200

'Ranging' is the process of

a. Fixed ranging rods on the extremities of the area
b. Aligning the chain in a straight line between two extremities
c. Taking offsets from a chain line
d. Chaining over a range of mountains

The principle of 'working from whole to part' is used in surveying because

a. Plotting becomes easy
b. Survey work can be completed quickly
c. Accumulation of errors is prevented
d. All of the above

Figure 2.1 shows one of the brass tallies of a 30 m chain. Distance of this tally from the nearest end of the chain is

a. 5 m
b. 10 m
c. 15 m
d. 20 m

During chaining along a straight line, the leader of the party has 4 arrows in his hand while the following has 6. distance of the following from the starting point is

a. 4 chains
b. 6 chains
c. 120 m
d. 180 m

A metallic tape is made of

a. Steel
b. Invar
c. Linen
d. Cloth and wires

For a well-conditioned triangle, no angle should be less than

a. 20^0
b. 30^0
c. 45^0
d. 60^0

The position of a point can be fixed more accurately by

a. Cross staff
b. Optical square
c. Oblique offsets
d. Perpendicular offsets

The main object of running a tie line is

a. To check accuracy of work
b. To take details of nearby objects
c. To take offsets for details surveying
d. None of the above

Which of the following is an obstacle to chaining but not to ranging

a. River
b. Hillock
c. Building
d. None of the above

A building is an obstacle to

a. Chaining but not ranging
b. Ranging but not chaining
c. Both chaining and ranging
d. Neither chaining nor ranging

The main difference between an optical square and a prism square is

a. Difference in principle of working
b. That optical square is more accurate than prism square
c. That no adjustment is required in a prism square the angle between the reflecting surfaces cannot be changed
d. All of the above

The angle of intersection of the two plane mirrors of an optical square is

a. 30^0
b. 45^0
c. 60^0
d. 90^0