

SSC JE DDA JE 2022

(SURVEYING MOST EXPECTED QUESTIONS TCS PATTERN)

Q : 1) What is the common scale adopted in the form of a representative fraction for the forest map?

- A : 1/10000
- B : 1/100
- C : 1/25000
- D : 1/1000

Q : 2) Gunter's chain is ___m long.

- A : 21.12
- B : 20.12
- C : 22.12
- D : 23.12

Q : 3) The correction due to wrong alignment of the tape:

- A : Depends upon whether the alignment is wrong to the right or left of the line
- B : Is always positive
- C : Can be positive or negative
- D : Is always negative

Q : 4) Calculate the magnetic declination, if the magnetic bearing of a line is N 81°E and true bearing of the line is N77°E.

- A : +4 degree east ward
- B : -8 degree east ward
- C : 4 degree west ward
- D : +4 degree south ward

Q : 5) Which of the following is TRUE for the limit of accuracy in a compass surveying ?

- A : Should not more than 5 minutes
- B : Should not be less than 5 minutes
- C : Should not more than 10 minutes
- D : Should not be less than 10 minutes

Q : 6) The horizontal angle made by the survey line with reference to arbitrary meridian passing through one of the extremities is called

- A : Arbitrary bearing
- B : True bearing
- C : Magnetic bearing
- D : Arbitrary meridian

Q : 7) While using a theodolite, how to change the reading on the horizontal circle while measuring an horizontal angle ?

- A : Upper clamp is tightened and lower clamp is loosened.
- B : Both, upper and lower clamp are tightened.
- C : Both, upper and lower clamp are loosened.
- D : Upper clamp is loosened and lower clamp is tightened.

Q : 8) Which of the following is NOT a traversing survey?

- A : Chain and compass survey
- B : Chain survey
- C : Tacheometer survey
- D : Plane table survey

Q : 9) Select the Incorrect statement from following.

- A : In the total station, the angles and distance are recorded in the digital form.
- B : The total station has all facilities of tacheometer operated electronically.
- C : The total station is operated through the control panel.
- D : The total station cannot measure horizontal distance less than 2 km.

Q : 10) If 'e' is the closing error in the bearing for a 5 sided traverse, then what will be correction in the bearing of 5th line?

- A : 0.8 e
- B : 0.5 e
- C : e
- D : 0.2 e

Q : 11) The departure of survey line of a traverse is defined as :

- A : Its coordinate length measured at right angles to the meridian direction
- B : Its coordinate length measured parallel to an assumed meridian direction
- C : The projection of the line in any reference direction

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D : its coordinate length measured in the north-south meridian

Q : 12) Which of the following qualities is desirable in a good surveyor's telescope?

- A : Spherical aberration
- B : Achromatism
- C : Very high magnification
- D : Chromatic aberration

Q : 13) Choose the correct option from among the following with respect to the given statements. Statement (i): The effect of the curvature of the earth is to cause an object to appear lower. Statement (ii): The effect of refraction is to cause an object to appear higher.

- A : Only (i) is correct
- B : Both (i) and (ii) are correct
- C : Only (ii) is correct
- D : (i) is correct and (ii) is incorrect

Q : 14) In the case of dumpy level, the two peg test is performed to ensure that :

- A : Horizontal cross hairs in a plane perpendicular to the vertical axis.
- B : Horizontal cross hairs is parallel to the bubble tube axis
- C : The axis of the bubble tube is perpendicular to the vertical axis
- D : Line of collimation of the telescope is parallel to the bubble tube axis

Q : 15) Determine the approximate quantity of earthwork for a road in embankment having a length of 120 m on a uniform level ground. The width of formation is 10 m and side slopes are 3 : 1. The heights of the bank at the ends are 1 m and 1.5 m, respectively. Use trapezoidal method considering average of areas at the two ends.

- A : 1785 m³
- B : 1485 m³
- C : 1885 m³
- D : 2085 m³

Q : 16) A road embankment 10 m wide at the formation level with side slopes 2:1 and with average height of 5 m is constructed with an average gradient 1: 40 from the contour 220 m to

280 m. Find the volume of earth work.

- A : 1, 40, 000 m³
- B : 6, 40, 000 m³
- C : 2, 40, 000 m³
- D : 3, 40, 000 m³

Q : 17) What is the purpose of conducting the resection method in the plane table surveying?

- A : To determine the location of the instrument
- B : To plot the details
- C : To survey hilly region
- D : To survey plain region

Q : 18) In which of the following types of surveying, is the instrument alidade used?

- A : Aerial
- B : Tacheometric
- C : Chain
- D : Plane table

Q : 19) Which of the following statements is/are true?

- (i) Contour lines cross valley line at 90°
 - (ii) Contour lines cross ridge line at 90°
 - (iii) Contour lines are widely spaced where ground has steep slope
- A : Both statements ii and iii are true
 - B : Only statement i is true
 - C : Both statements i and iii are true
 - D : Both statements i and ii are true

Q : 20) Choose the INCORRECT characteristic of a contour from among the following.

- A : A watershed line crosses the contours at right angles.
- B : The direction of steepest slope is along the longest distance between the contours.
- C : Two contour lines touch in the case of a vertical cliff.
- D : In the direct method of contouring, the contours are not interpolated.

Q : 21) What is the minimum number of satellites required from which signals can be recovered to enable a global positioning system receiver to determine latitude, longitude and altitude?

- A : Four
- B : Three

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C : One

D : Two

Q : 22) A smart station is used to indicate:

A : A total station with software to calculate and display quantities

B : Total station with an electromagnetic distance measuring equipment

C : A total station with an integrated GPS module

D : A total station attached

Q : 23) The curvature of the earth's surface is taken into account if the extent of survey is more than

A : 100 km²

B : 160 km²

C : 500 km²

D : 260 km²

Q : 24) Which of the following scale is the smallest one?

A : 4:200000

B : 1 cm = 5000 m

C : 1 cm = 50 m

D : RF = 1/50000

Q : 25) The fundamental principle of surveying is to work from the:

A : Whole to part

B : Part to whole

C : Lower level to higher level

D : Higher level to lower level

Q : 26) Difference in length of an arc and its subtended chord on earth's surface for a distance of 18.2 km is-

10 mm

15 mm

22 mm

100 mm

Q : 27) Which of the following statement is CORRECT for estimating the corrected area from a map of shrunk factor 'F'?

A : It is directly proportional to F

B : It is directly proportional to square of F

C : It is inversely proportional to F

D : It is inversely proportional to square of F

Q : 28) Which of the following scale of the map is not affected due to shrinking of map ?

A : Engineer's scale

B : Graphical scale

C : Representative fraction

D : None of these

Q : 29) The maximum error (mm) on the drawing should not be greater than ____.

A : 0.01

B : 0.025

C : 0.25

D : 0.1

Q : 30) The vernier that is calibrated in the direction opposite to the main scale is called ____.

A : Direct vernier

B : Double vernier

C : Extended vernier

D : Retrograde Vernier

Q : 31) In geodetic surveying, sum of all the internal angles (degree) of a spherical triangle should be ____.

A : Equal to 180

B : Equal to 360

C : Greater than 180

D : Less than 180

Q : 32) The construction of optical square is based on the principal of

A : Reflection

B : Refraction

C : Double refraction

D : Double reflection

Q : 33) Method used for chaining on sloping ground is-

A : By stepping method

B : By hypotenusal allowance method

C : By clinometer method

D : Both stepping method and hypotenusal method

Q : 34) Maximum allowable limit upto that a measurement may vary from the true value is known as-

A : Permissible error

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- B : Residual error
- C : Expected error
- D : Safe error

Q : 35) Check lines (or proof lines) in chain surveying are essentially required -

- A : To plot the chain lines
- B : To plot the offsets
- C : To indicate the accuracy of the survey
- D : To increase the out-turn

Q : 36) For taking offsets with an optical square on the right hand side of the chain line it is held-

- A : By right hand upside down
- B : By left hand upright
- C : By right hand upright
- D : By left hand upside down

Q : 37) An angle of 45° with chain line May be set out with

- A : Optical square
- B : Open cross staff
- C : French cross staff
- D : Prismatic square

Q : 38) Which one is the correct order of the tapes based on their accuracy

- A : Linen tape > Invar tape > Metallic tape > Steel tape
- B : Invar tape > Steel tape > Metallic tape > Linen tape
- C : Metallic tape > Steel tape > Linen tape > Invar tape
- D : Metallic tape > Steel tape > Invar tape > Linen tape

Q : 39) Which one is CORRECT option for the cumulative error ?

1. It decreases with an increased in measurement.
 2. It is directly proportional to the length of the line.
 3. It may be positive or negative
 4. It is inversely proportional to the length of the line.
- A : 1,3 and 4
 - B : 1 and 3

- C : 2 and 3
- D : Only 2

Q : 40) In the prismatic compass, the graduations start from zero, marked at the _____ end of the needle and run _____.

- A : North, clockwise
- B : South, anticlockwise
- C : South, clockwise
- D : North, anticlockwise

Q : 41) If the whole circle bearing of any lines is W_1 , that of the preceding line is w_2 and 'd' is the deflection angles to the right, then choose the correct expression:

- A : $W_1 = W_2 + d$
- B : $W_1 = W_2 - d$
- C : $W_1 = W_2 + 2d$
- D : $W_1 = W_2 - 2d$

Q : 42) If the magnetic bearing of the sun at a place at noon in southern hemisphere is 167° the magnetic declination at that place is :

- A : $13^\circ E$
- B : $13^\circ W$
- C : $77^\circ N$
- D : $23^\circ S$

Q : 43) The fore bearings of the lines AB and BC are 40° and 120° respectively. The include angle between AB and BC is :

- A : 40°
- B : 60°
- C : 80°
- D : 100°

Q : 44) Inclination of the compass needle to the horizontal towards the pole is called

- A : Dip
- B : Declination
- C : Azimuth
- D : Bearing

Q : 45) The 'Scale plate' of a theodolite is:

- A : The upper plate
- B : The lower plate
- C : Both the above
- D : None of the above

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Q : 46) The angle between the prolongation of the preceding line and the forward line of a traverse is called:

- A : Direct angle
- B : Excluded angle
- C : Deflection angle
- D : Included angle

Q : 47) In a theodolite the line of collimation is_____.

- A : Parallel to axis of plate
- B : Parallel to the vertical axis
- C : Perpendicular to the trunnion axis
- D : parallel to the horizontal axis

Q : 48) Left swing is not much favored in theodolite survey, because -

- A : Most of surveyors are accustomed to right hand
- B : It is inconvenient to turn the telescope anti-clockwise
- C : The reading increase clockwise
- D : Vertical scale comes to an inconvenient position to be read

Q : 49) Which one of the correct sequence for the temporary adjustment of the theodolite?

- A : Centering, elimination of parallax, levelling and setting
- B : Centering, setting, elimination of parallax and levelling
- C : Setting, Centering, elimination of parallax and levelling
- D : Setting, levelling, elimination of parallax and Centering

Q : 50) In which of the following plane, the telescope of the theodolite twined in order to swing?

- A : Horizontal axis
- B : Horizontal plane
- C : Included plane
- D : Vertical plane