

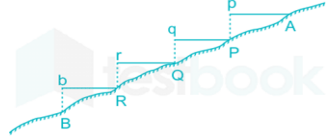
Maharashtra Engineering Training Academy, Nashik


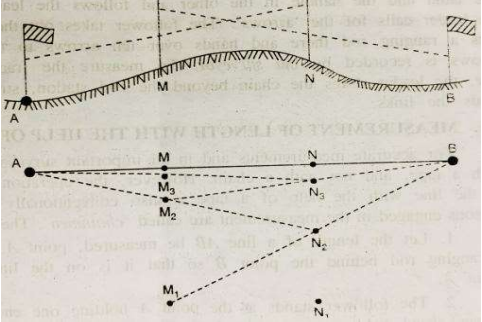
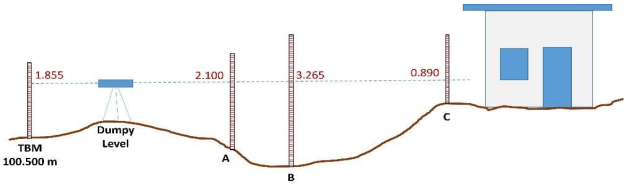
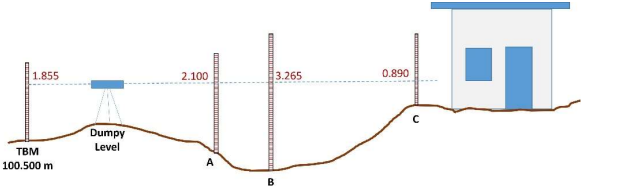
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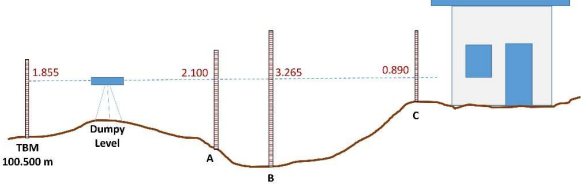
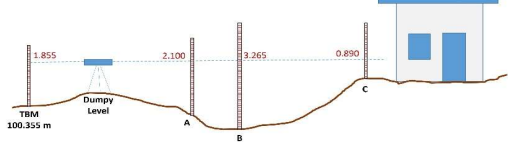
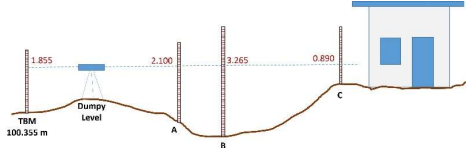
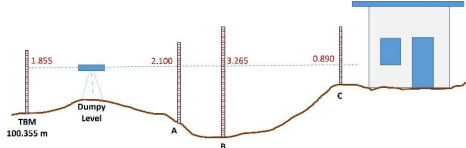
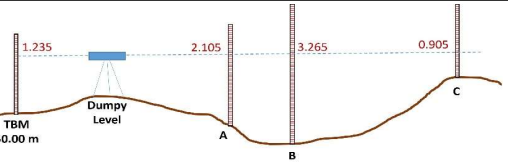
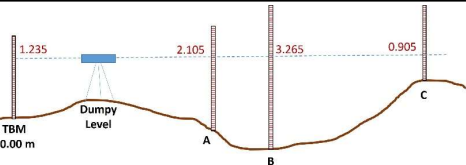
Practice Question for AE2/JE Exam - Set 17 - (22/08/2024)

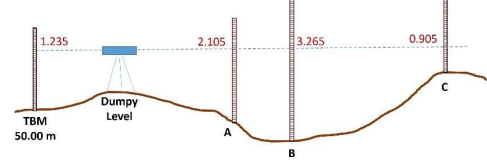

Surveying - Civil

सदर सराव प्रश्न हे परीक्षार्थीच्या सोईसाठी व सरावासाठी देण्यात येत आहेत. परीक्षार्थीच्या वारंवार मागणीनुसार सदर प्रश्नांची उत्तरे उपलब्ध करून देण्यात येत आहेत. तरी या सराव प्रश्न व उत्तरे यांची खात्री परीक्षार्थींनी आपल्या स्तरावर तपासून पाहणे. या विषयीच्या कुठल्याही तक्रारीची दखल या कार्यालयामार्फत घेण्यात येणार नाही याची नोंद घ्यावी.

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
1	In Triangulation, the best shape of triangle is Triangle with base angle equal to	3	Obtus Triangle, 120 degree	Isosceles, 50 degree 14 minute	Isosceles, 56 degree 14 minute	Equilateral, 56 degree 14 minute
2	If the scale is taken as 1 cm = 50 m, then what is the reduction factor?	1	0.0002	0.2	0.02	0.22
3	The surveying in which shape of earth is taken into account is called as	2	Plane Table Surveying	Geodetic Surveying	Topographical Surveying	Plane Surveying
4	The length and number of links in a Surveyor's chain is equal to :	4	50 ft, 50 links	100 ft, 100 links	33 ft, 16 links	66 ft, 100 links
5	Least count of Metric Chain is...	1	20 cm	30 cm	15 cm	All of These
6	What is the length of Engineer's chain?	2	66 feet	100 feet	50 feet	150 feet
7	Choose the correct length of Metric chain from the following.	3	10 m	100 m	20 m	16.66 m
8	Choose the correct length of Metric chain from the following.	4	10 m	100 m	16.66 m	30 m
9	What is the count for links in 20 m Metric Chain?	2	50	100	33	66
10	What is the count for links in 30 m Metric Chain?	3	50	100	150	66
11	What is the length of Guntur's chain?	1	66 ft	100 feet	50 feet	150 feet
12	What is the count for links of Guntur's chain?	2	50	100	33	66
13	What is the chainage of Point B, if a chainage of point A is 2093.335 m and the horizontal distance between A and B is 237 m.	4	2320.335	320.355	237	2330.335
14	What is the chainage of Point B, if a chainage of point A is 2500 m and the horizontal distance between A and B is 349.565 m.	1	2849.565	349.565	2151.435	2800.355
15	You measure 20.355 m distance with metric chain.	1	FALSE	TRUE	-	--
16	You measure 15.40 m distance with metric chain.	2	FALSE	TRUE	-	--
17	You measure 25.50 m distance with metric chain.	1	FALSE	TRUE	-	--
18	 <p>This method of chain surveying is called as...</p>	3	Falling Method	Rise and Fall Method	Stepping Method	None of These
19	In Metric Chain, 1 m distance is demoted by...	2	Single Pointed Tally mark	Brass Ring	Two Pointed Tally mark	All of These
20	In Metric Chain, 5 m distance is demoted by...	1	Single Pointed Tally mark	Brass Ring	Two Pointed Tally mark	All of These
21	In Metric Chain, 10 m distance is demoted by...	3	Single Pointed Tally mark	Brass Ring	Two Pointed Tally mark	All of These
22	How many tally marks are there in 20 m chain	4	1	2	4	3
23	How many Two pointed tally marks are there in 20 m chain	1	1	2	4	3

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
24	 <p>Identify the survey instrument</p>	3	Ranging Rod	Peg	Chain	None of These
25	 <p>Identify the Ranging Process....</p>	1	Indirect Ranging	Direct Ranging	Hill Ranging	Inclined Ranging
26	 <p>Find the RL of Point A</p>	2	99.255	100.255	98.255	101.255
27	 <p>Find the RL of Point B</p>	1	99.09	99.99	100.99	99.000

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
28	 <p>Find the RL of Point C</p>	3	101.34	101.33	101.465	100.465
29	 <p>Find the RL of point A</p>	1	100.11	101.11	101.101	100.001
30	 <p>Find the RL of point B</p>	4	98.555	98.64	98.54	98.945
31	 <p>Find the RL of point C</p>	2	101.3	101.32	102.32	102.125
32	 <p>Find the RL of point A</p>	3	49.155	40.13	49.13	50.43
33	 <p>Find the RL of point B</p>	3	45.455	46.49	47.97	47.795

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
34	 <p>Find the RL of point C</p>	3	50.675	51.445	50.33	50.325
35	An imaginary line joining points of same reduce level is called as...	1	Contour	Vertual Line	Cliff	Vally
36	Closed lines with contour values increasing inside represents....	2	Contour	Hill	Cliff	Vally
37	Closed lines with contour values decreasing inside represents....	4	Contour	Hill	Cliff	Vally
38	The length of survey line measured with 30 m chain was found to be 650 m. Calculate the true length of line if the chain was 15 cm longer.	3	650	650.75	653.25	648.9
39	Which type of chain is 100 ft long?	2	Gunter's chain	Engineer's chain	Metric chain	All of These
40	 <p>Identify the instrument</p>	1	Open Cross Staff	Square	Open Square	None of These
41	If the length measured with 20m chain is found as 435m, and later the chain found 10cm short. What will be the correct length?	2	437.125	432.825	435	438.5
42	If the length measured with 20m chain is found as 1445.5 m, and later the chain found 12 cm short. What will be the correct length?	3	143.055	19.88	1436.827	None of These
43	The length of survey line measured with 30 m chain was found to be 267 m. Calculate the true length of line if the chain was 7.5 cm longer.	4	266.33	265.67	267.33	267.67
44	The length of a line measured by means of a 20 m chain was found to be 610.2 m known to be 612.0 m. What was the actual length of chain?	3	20	21.8	20.066	18.8
45	The longest line dividing total area in two parts, is known as ...	1	Base line	Main Survey Line	Check line	All of These
46	Which instrument is used in chain surveying?	4	Chain	Ranging Rods	Pegs	All of These
47	The line joining the main survey stations is known as ...	2	Base line	Main Survey Line	Check line	All of These
48	1 nautical mile is equal to M	4	1954	1000	60	1852
49	The lines which are run in the field to check the accuracy of the work is called as..	3	Base Line	Tie Line	Proof Lines	None of These
50	Error due to change in temperature in chaining is	3	Cummulative +ve	Cummulative -ve	Cummulative +ve or -ve	None of These
51	"Georeferencing" in surveying involves:	1	Assigning geographic coordinates to a map or survey data	Measuring distances between known points	Calculating the elevation of a site	Adjusting survey data for errors
52	A "contour map" is used to:	1	Show the elevation changes across a landscape	Represent building layouts	Display road networks	Illustrate land ownership boundaries
53	A "survey benchmark" is:	1	A point of known elevation used as a reference for leveling	A measurement taken with a leveling instrument	A survey tool used to measure distances	A type of survey map

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
54	A "topographic survey" is performed to:	1	Map the surface features and contours of the land	Measure the interior dimensions of a building	Determine the strength of materials	Calculate the distances between buildings
55	In a "chain survey," the chain used is typically:	1	20 meters long	30 meters long	50 meters long	100 meters long
56	In a "traverse survey," "closure" refers to:	1	The process of ensuring that the survey returns to the starting point	The distance measured between two points	The angle measured between survey lines	The adjustment of survey data for accuracy
57	In a "survey report," the "data sheets" contain:	1	The recorded measurements and observations from the field	The final survey map	The calculation of distances and elevations	The list of survey equipment used
58	In a survey drawing, the "legend" is used to:	1	Explain the symbols and abbreviations used	Show the drawing's scale	Indicate the orientation of the drawing	Provide the names of the survey team
59	In a topographic survey, contour lines represent:	2	The outline of buildings	The elevation of the terrain	The layout of roads	Property boundaries
60	In civil engineering drawings, a "detail view" is used to:	1	Show a specific part of the structure at a larger scale	Represent the entire structure	Display the building's elevation	Illustrate the site layout
61	In surveying, "error of closure" is:	1	The discrepancy between the measured and actual values	The time taken to complete a survey	The distance between two measurement points	The number of observations made
62	In surveying, "differential leveling" involves:	1	Measuring the difference in elevation between two points	Measuring horizontal distances	Calculating the area of a plot	Recording angles between two points
63	In surveying, "triangulation" is used to:	1	Determine positions based on known angles from a base line	Measure vertical elevations	Record distances between points	Plot the layout of buildings
64	In surveying, a "traverse" involves:	1	A series of connected lines forming a closed loop to determine positional accuracy	Measuring angles between two known points	Recording the height differences between points	Plotting the contour lines of a site
65	In surveying, the term "azimuth" refers to:	1	A horizontal angle measured clockwise from a reference direction	A vertical angle measured from the horizon	The distance between two points	The elevation of a point
66	In surveying, the term "bearing" refers to:	1	The direction of a line relative to a reference direction	The length of a line	The vertical distance between two points	The angle between two lines

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
67	In surveying, the term "error" refers to:	4	Any deviation from the true measurement	The difference between theoretical and actual measurements	Mistakes made during data recording	All of the above
68	In surveying, the term "levelling staff" refers to:	1	The graduated rod used to measure the height of points	The instrument used to measure angles	The tool used to record distances	The device used to align the survey instrument
69	In surveying, what does "triangulation" refer to?	2	Measuring distances directly	Determining positions using angles from known points	Measuring vertical elevations	Calculating the area of a plot
70	In surveying, what does "reducing" the survey data mean?	1	Adjusting measurements to account for errors	Scaling down the size of the drawing	Simplifying complex data into readable formats	Removing redundant data points
71	In surveying, what is a "control point"?	1	A fixed point used as a reference for measurements	A temporary mark used during surveying	A point where survey data is recorded	A location where the instrument is set up
72	The "angular measurement" in surveying typically involves:	1	Using a theodolite to measure horizontal and vertical angles	Using a tape measure to determine distances	Using a level to measure height differences	Using a GPS to locate positions
73	The "base line" in triangulation should be:	2	As short as possible	As long as possible	Equal to the height of the triangle	Exactly half of the total distance
74	The "bearing" of a line is measured relative to:	1	A reference direction such as north	The distance of the line	The elevation of the points	The angle between two lines
75	The "benchmark elevation" is used as a:	1	Reference point to determine the height of other points	Measurement of horizontal distance	Calculation of area	Record of angles in a survey
76	The "contour interval" in a contour map is:	1	The vertical distance between adjacent contour lines	The horizontal distance between two points	The thickness of the contour lines	The distance between the highest and lowest points
77	The "datum" in surveying refers to:	1	The reference point for elevations	The instrument used for measurements	The area being surveyed	The software used for analysis
78	The "distance measurement" in surveying can be achieved using:	4	Electronic Distance Measuring (EDM)	A tape measure or chain	GPS devices	All of the above
79	The "field book" in surveying is used to:	1	Record observations and measurements taken during a survey	Sketch the layout of a site	Plot the survey results on a map	Calculate the area of a plot

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
80	The "fieldwork" in surveying includes:	1	Taking measurements and observations at the survey site	Analyzing survey data	Creating survey maps	Drafting survey reports
81	The "geodetic" method of surveying is concerned with:	1	Measuring the shape and size of the Earth	Mapping building interiors	Measuring distances within a building	Determining the angles between structures
82	The "height of instrument" in leveling refers to:	1	The height at which the leveling instrument is set	The height of the object being measured	The vertical distance between two points	The distance from the instrument to the staff
83	The "hydrographic survey" is conducted to:	1	Measure and map bodies of water, including depths and features	Survey land surfaces for construction	Determine the internal layout of a building	Analyze soil conditions
84	The "instrumental error" in surveying refers to:	1	Errors caused by the surveying instrument itself	Errors caused by environmental conditions	Errors in data recording	Errors made by the surveyor
85	The "method of coordinates" in surveying involves:	1	Using a coordinate system to define positions on a map	Measuring distances using a tape measure	Calculating the angle between two points	Recording elevation changes
86	The "odolite" is used to:	1	Measure angles in both horizontal and vertical planes	Measure distances directly	Level the survey area	Record weather conditions
87	The "optical leveling" method uses:	2	Light beams to measure distances	A leveling instrument to measure height differences	Electronic devices to record angles	Cameras to capture topographical features
88	The "parallax error" occurs when:	1	The viewing angle of the instrument affects the measurement	The instrument is not properly calibrated	The measurement is taken under different lighting conditions	The instrument is set up on an uneven surface
89	The "plane table" in surveying is used to:	1	Plot survey data directly onto a drawing sheet	Measure distances between points	Calculate angles between survey lines	Record elevation changes
90	The "reciprocal leveling" method is most useful for:	1	Measuring height differences over long distances	Measuring angles in triangulation	Determining the slope of a land surface	Plotting the interior of a building
91	The "reduced level" in leveling is:	1	The height of a point relative to a reference plane	The distance between two levels	The difference between the instrument's height and the staff reading	The level of accuracy achieved in measurements
92	The "resection" method in surveying involves:	1	Determining the location of an unknown point by observing angles from known points	Calculating distances between known points	Measuring the height of a point above a reference level	Plotting the layout of a site
93	The "slope" in surveying refers to:	1	The angle of incline or decline of the land	The horizontal distance between two points	The vertical distance between two points	The curvature of the earth's surface

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
94	The "survey adjustment" process is used to:	1	Correct errors and discrepancies in survey measurements	Scale down the size of survey maps	Measure angles between lines	Record elevation changes
95	The "tape measure" in surveying is used to:	1	Measure linear distances directly	Measure angles between lines	Determine vertical heights	Record survey data electronically
96	The "topographic survey" is used to:	1	Map and analyze the physical features of the land	Measure distances between buildings	Record the interior dimensions of a structure	Determine the elevation of the land
97	The "total station" combines which two types of surveying instruments?	1	Theodolite and EDM (Electronic Distance Measuring)	Level and Tape Measure	Plane Table and Alidade	GPS and Barometer
98	The "traverse closure" is used to:	1	Check the accuracy of a closed traverse survey	Determine the height of a point	Measure the horizontal distance between points	Plot topographical features
99	The "traverse error" is the difference between:	1	The calculated and actual distances in a closed traverse loop	Two measured angles	The height of two points	The distance and area measurements
100	The "traverse survey" ensures:	1	Accurate positional data by connecting multiple points	The measurement of height differences	The calculation of area	The mapping of topographical features
101	The "angle of inclination" in surveying is:	1	The angle between the horizontal plane and a surveyed line	The angle between two survey lines	The vertical distance between points	The horizontal distance between points
102	The "azimuth angle" is measured from:	1	The north direction	The east direction	The south direction	The west direction
103	The "azimuth" is:	1	A compass direction measured clockwise from north	The vertical angle between two points	The distance between two points on the earth	The height of a point above sea level
104	The "chain survey" method is suitable for:	1	Small and relatively flat areas	Large and mountainous regions	Detailed building layouts	Hydrographic surveys
105	The "contour interval" is important for:	1	Understanding the vertical spacing between contour lines	Measuring horizontal distances	Determining the scale of the map	Recording survey measurements
106	The "control network" in surveying refers to:	1	A system of known reference points used to ensure accurate measurements	The layout of the survey area	The measurement of distances between points	The plotting of survey data on a map

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
107	The "datum plane" in surveying is used to:	1	Establish a reference level for measurements	Measure horizontal angles	Record survey data	Plot topographical features
108	The "field survey" is conducted to:	1	Collect data directly from the survey site	Analyze survey data in the office	Plot the final survey maps	Record survey measurements electronically
109	The "fieldwork" in surveying involves:	1	Collecting measurements and data on-site	Analyzing survey results	Drafting survey reports	Creating survey maps
110	The "GPS" in surveying is used to:	1	Determine precise locations and coordinates	Measure distances with a tape	Record elevation changes	Calculate angles between points
111	The "leveling instrument" is used to measure:	1	Height differences between points	Horizontal angles	Distances between points	The direction of survey lines
112	The "leveling instrument" is used to measure:	1	Height differences between points	Horizontal angles	Distances between points	The direction of survey lines
113	The "map scale" indicates:	1	The ratio between distances on the map and actual distances on the ground	The size of the map paper	The level of detail shown on the map	The color scheme used in the map
114	The "mean sea level" is commonly used as:	1	A reference point for measuring elevations	The baseline for measuring horizontal distances	The standard for measuring angles	The reference for surveying distances
115	The "plumb bob" is used in surveying to:	1	Determine vertical alignment	Measure horizontal angles	Calculate distances	Record weather conditions
116	The "precision" in surveying refers to:	1	The degree of accuracy in measurements	The size of the survey area	The type of survey equipment used	The number of survey points
117	The "precision" of a survey instrument is:	1	The level of detail it can measure accurately	The weight of the instrument	The color of the instrument	The size of the instrument
118	The "site plan" in a survey represents:	1	The layout and features of the survey area	The elevation changes of the site	The internal arrangement of a building	The contour lines of the land
119	The "survey data" collected includes:	1	Measurements, angles, and observations from the field	The final survey map	The area of the plot	The type of survey equipment used
120	The "survey grade" of a GPS device indicates:	1	The accuracy and precision of the device	The length of the device	The color of the device	The weight of the device
121	The "survey line" is:	1	A line used to measure and record distances	A reference line for angles	A boundary line on a survey map	A line representing a level elevation

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
122	The "survey line" method involves:	1	Measuring distances along a line to determine positions	Recording angles between lines	Plotting the topography of the land	Calculating elevation changes
123	The "survey plan" shows:	1	The layout and details of the survey area	The internal structure of a building	The vertical section of a plot	The distances between two buildings
124	The "surveying map" shows:	1	The layout and features of the surveyed area	The internal structure of a building	The distance between buildings	The elevation of individual points
125	The "surveyor's compass" measures:	1	The direction and angle of survey lines	The distance between points	The elevation of a point	The vertical angle between two points
126	The "total station" is particularly useful for:	1	Combining the functions of measuring distances and angles	Measuring only horizontal distances	Calculating vertical angles	Plotting topographical features
127	The instrument used to measure angles and distances simultaneously is:	2	Theodolite	Total Station	Level	Chain
128	The method of leveling that involves taking readings on a staff at two different points to determine the diff	1	Differential leveling	Barometric leveling	Trigonometric leveling	Reciprocal leveling
129	The process of dividing a survey area into manageable sections using grid lines is known as:	1	Grid surveying	Contour mapping	Traversing	Sectionalizing
130	The purpose of "traverse surveying" is to:	1	Establish control points over a survey area	Measure vertical angles	Plot topographical features	Determine the elevation of a site
131	The purpose of a "site plan" in surveying is to:	1	Show the layout of the site including buildings and features	Provide details of the building's structural components	Display the internal arrangement of rooms	Illustrate the building's facade
132	The purpose of a benchmark (BM) in surveying is to:	1	Provide a fixed reference point with a known elevation	Measure horizontal angles	Calculate distances	Identify property boundaries
133	The term "backsight" in leveling refers to:	1	The measurement taken from the instrument to a known point	The measurement taken from the instrument to an unknown point	The sighting of the instrument towards a new point	The reading taken at the end of a survey
134	The term "base map" refers to:	1	A map that provides the foundational data for additional mapping	A map used to record survey measurements	A map that shows only topographical features	A map that includes detailed building layouts
135	The term "geodetic survey" refers to:	1	Surveys conducted on a global scale to measure the shape and size of the Earth	Surveys of small land parcels	Surveys to measure building interiors	Surveys to determine property boundaries

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
136	The term "leveling" refers to:	1	Determining the height difference between two points	Measuring horizontal distances	Calculating vertical angles	Plotting topographical features
137	The term "datum line" is used to:	1	Establish a reference line for measurements	Measure the vertical distance between points	Record the angles in a survey	Plot the layout of a building
138	The term "slope correction" is used to:	1	Adjust measurements taken on a slope to account for the incline	Measure the angle of the slope	Determine the horizontal distance between two points	Record the vertical elevation changes
139	What does "sighting" refer to in the use of a surveying instrument?	4	Aligning the instrument with a reference point	Measuring the distance to a point	Recording the angle between two lines	Setting up the instrument on a tripod
140	What does "total station" measure?	1	Distance, angles, and coordinates	Only distances	Only angles	Only elevations
141	What is "baseline measurement" in surveying?	1	The initial measurement taken to establish a reference for further measurements	The measurement of the longest distance in a triangle	The distance between two control points	The measurement of the base of a structure
142	What is a "traverse" in surveying?	1	A series of connected survey lines used to determine positions	A method of measuring vertical distances	A type of leveling instrument	A process of mapping topographical features
143	What is the main purpose of a leveling instrument in surveying?	2	Measure horizontal angles	Determine elevation differences	Calculate distances	Record weather conditions
144	What is the purpose of "reciprocal leveling"?	1	To measure height differences over long distances	To determine angles between distant points	To calibrate leveling instruments	To establish a base line for triangulation
145	Which instrument is primarily used to measure horizontal and vertical angles in surveying?	1	Theodolite	Total Station	Level	Tape Measure
146	Which of the following is used to measure horizontal angles in surveying?	1	Theodolite	Level	Tape Measure	Total Station
147	Which survey technique involves plotting a site by taking measurements from a plane table directly?	1	Plane Table Surveying	Chain Surveying	Total Station Surveying	Theodolite Surveying
148	Which surveying technique uses electromagnetic waves to determine distances?	2	Triangulation	Total Station	Chain Surveying	Plane Table Surveying
149	Which tool is used to measure distances with a chain or tape?	1	Chainage	Barometer	Vernier Caliper	Micrometer
150	Which type of survey is conducted to measure the surface of bodies of water?	1	Hydrographic Surveying	Geodetic Surveying	Land Surveying	Engineering Surveying
151	A compass survey measures a line with a bearing of 85°. If the declination is 8° East, what is the true bearing?	2	77°	93°	85°	97°
152	A compass survey shows a bearing of 10° for a line. What is the bearing if the declination is 12° West?	4	22°	10°	12°	-2°
153	A compass survey with a line bearing of 75° has an error of 2°. What is the corrected bearing?	1	77°	73°	75°	72°
154	How do you calculate the included angle between two lines with bearings of 120° and 210°?	4	90°	180°	30°	60°
155	How is the height of the instrument (HI) typically calculated in leveling?	1	HI = RL + BS	HI = RL - FS	HI = RL + FS	HI = RL - BS

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
156	If a backsight reading is 1.8 meters and a foresight reading is 3.2 meters, and the height of the instrument is 98 meters, what is the reduced level (RL) of the point where the foresight was taken?	2	97.8 meters	95.0 meters	97.2 meters	96.8 meters
157	If a compass survey shows a back bearing of 90° for a line, what should the fore bearing be?	1	270°	90°	180°	360°
158	If a level is set up and the backsight (BS) is 1.5 meters and the foresight (FS) is 2.0 meters, what is the height of the instrument if the benchmark is at 100 meters?	1	101.5 meters	98.5 meters	99.5 meters	102.0 meters
159	If a level reads a backsight of 2.0 meters and a foresight of 3.5 meters, what is the elevation of the point if the instrument height is 101 meters?	1	97.5 meters	98.5 meters	99.5 meters	100.5 meters
160	If the backsight (BS) is 2.2 meters and the foresight (FS) is 1.4 meters, and the instrument is set at a height of 95 meters, what is the reduced level (RL) of the point where the foresight was taken?	2	97.8 meters	93.8 meters	94.6 meters	96.8 meters
161	If the backsight (BS) reading is 2.5 meters and the foresight (FS) reading is 1.2 meters, what is the change in elevation?	2	+1.3 meters	-1.3 meters	+1.7 meters	-1.7 meters
162	If the foresight (FS) reading is 1.5 meters and the reduced level (RL) is 2.0 meters, what is the height of the instrument?	1	3.5 meters	0.5 meters	1.5 meters	3.0 meters
163	If the height of the instrument is 104 meters and the foresight reading is 1.8 meters, what is the reduced level (RL) of the point?	1	102.2 meters	102.8 meters	103.2 meters	103.8 meters
164	If the magnetic bearing of a line is 45° and the magnetic declination is 10° West, what is the true bearing?	2	55°	35°	45°	65°
165	If the magnetic bearing of a line is 60° and the back bearing is 240°, what is the error in the survey?	1	0°	10°	20°	30°
166	If the magnetic declination is 7° East and the magnetic bearing of a line is 160°, what is the true bearing?	2	153°	167°	160°	153°
167	If the reduced level (RL) of a benchmark is 150 meters and the backsight (BS) reading is 2.5 meters, what is the height of the instrument?	1	152.5 meters	150.0 meters	147.5 meters	155.0 meters
168	If the true bearing of a line is 280° and the magnetic declination is 4° East, what is the magnetic bearing?	1	276°	284°	280°	284°
169	In a leveling survey, if the foresight (FS) reading is 3.1 meters and the reduced level (RL) is 100 meters, what is the height of the instrument?	2	96.9 meters	103.1 meters	103.9 meters	96.1 meters
170	In compass surveying, how do you convert a bearing to an azimuth?	1	Subtract the bearing from 360°	Add the bearing to 180°	Add the bearing to 90°	Subtract the bearing from 90°
171	In compass surveying, how would you determine the true bearing from a given magnetic bearing and declination?	1	Add declination if East, subtract if West	Subtract declination if East, add if West	Always add declination	Always subtract declination
172	In compass surveying, what does the term 'azimuth' refer to?	2	The angle between two lines	The direction of a line measured from the North	The distance between two points	The height of an observation point
173	In compass surveying, what is the 'bearing' of a line?	1	The horizontal angle measured clockwise from a reference direction	The vertical angle measured from the horizontal	The distance between two points	The height of an object
174	In compass surveying, what is the 'fore bearing'?	1	Bearing from the initial point to the observation point	Bearing from the observation point to the initial point	Bearing measured at the end of a survey	Bearing measured at the midpoint of a survey
175	In leveling surveying, what does 'back sight' (BS) measure?	3	The height of the instrument	The distance to the benchmark	The elevation of the benchmark above the instrument	The height of the target above the instrument

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
176	In leveling surveying, what is the purpose of 'reciprocal leveling'?	2	To measure elevation differences over long distances	To correct errors by taking readings from two different points	To check the accuracy of the leveling instrument	To establish a reference level
177	In leveling, what does the term 'bench mark' refer to?	2	A temporary marker for measurement	A fixed reference point with known elevation	The height of the instrument	The distance between two points
178	In leveling, what does the term 'instrument height' (HI) represent?	3	The distance from the instrument to the ground	The distance from the instrument to the benchmark	The elevation of the instrument above the benchmark	The total height of the leveling staff
179	The angle between two lines is found to be 75° on the compass. If the magnetic declination is 5° East, what is the true angle?	3	70°	80°	75°	85°
180	The compass survey line has a magnetic bearing of 120° and the declination is 3° West. What is the true bearing?	1	117°	123°	120°	126°
181	The magnetic declination at a certain location is 5° East. What is the true bearing of a line with a magnetic bearing of 70°?	2	65°	75°	70°	80°
182	What does a compass survey use to measure horizontal angles between lines?	4	Vernier scale	Optical level	Protractor	Compass
183	What does 'line of sight' refer to in leveling surveying?	2	The distance between the leveling instrument and the target	The straight line along which the leveling instrument is aimed	The line connecting two benchmarks	The height of the leveling instrument
184	What is the azimuth of a line with a bearing of 45°?	2	135°	45°	225°	315°
185	What is the correct formula for calculating the reduced level (RL) of a point?	1	$RL = HI - FS$	$RL = HI + FS$	$RL = HI - BS$	$RL = BS - HI$
186	What is the formula for calculating the height of the instrument in leveling?	1	$HI = BS + FS$	$HI = BS - FS$	$HI = FS - BS$	$HI = BS + R$
187	What is the instrument commonly used in leveling surveying?	3	Theodolite	Total Station	Level	Compass
188	What is the key purpose of 'profile leveling'?	1	To determine the relative heights of features along a line	To measure the depth of a well	To check for errors in leveling	To determine the position of a benchmark
189	What is the maximum allowable error in a compass survey if the observed error is 15°?	3	5°	10°	15°	20°
190	What is the primary cause of error in compass surveying?	2	Instrument calibration	Magnetic declination	Surveyor's skill	Distance measurement
191	What is the primary instrument used in compass surveying?	3	Theodolite	Level	Compass	Tape measure
192	What is the primary purpose of a compass in surveying?	2	Measure distances	Determine horizontal angles	Measure vertical angles	Calculate elevations
193	What is the primary purpose of leveling in surveying?	3	Measure angles	Determine distances	Establish elevations	Calculate areas
194	What is the purpose of a 'leveling staff' in leveling surveying?	3	To measure distances	To measure angles	To provide a reference for readings	To correct instrument errors
195	What is the reduced level (RL) of a point if the height of the instrument is 95 meters and the foresight reading is 2.3 meters?	1	92.7 meters	97.3 meters	93.7 meters	97.7 meters
196	What is the term for the difference between the fore bearing and back bearing of a line?	3	Angle of deviation	Angle of intersection	Included angle	Angle of closure
197	What type of leveling is used to measure differences in elevation over long distances?	3	Differential leveling	Reciprocal leveling	Profile leveling	Engineering leveling

Sr. No.	Question	Correct Option	Option 1	Option 2	Option 3	Option 4
198	When performing a leveling survey, what is the purpose of 'differential leveling'?	1	To determine the difference in elevation between two points	To measure the distance between two points	To establish the elevation of a new benchmark	To calculate the average elevation of a site
199	Which correction is applied if the survey line's back bearing is not exactly 180° from the fore bearing?	3	Declination correction	Standard error correction	Angle of deviation correction	None
200	Find the slope of land between point A and B if the RL of point A is 201.135m & RL of Point B is 207.135m and Distance between A & B is 500 m	2	1 : 166.66	1 : 83.33	1 : 41.66	1 : 500