Lwre.1203   Surveying and Leveling (1+2)

Marks: 50

Time:2 hours

I   A   **Fill in the blanks**   (10x1=10)

1   Survey dealing with determination of mean sea level is ----------

2   Line of sight through the levelling instrument is called ------------

B   **Choose the correct Answer**

3   The length of Surveyor's chain is

   a.   33'   b.   66'   c.   100'   d.   10'

4   The least count of surveyor compass is

   a. $1°$ b. $\left(\frac{1}{2}\right)^{\circ}$ c. $1'$ d. $\left(\frac{1}{2}\right)'$

5   The dip of a magnetic needle at poles is

   a. $0°$ b. $45°$ c. $30°$ d. $90°$

6   In an optical square the angle between horizon and index glass is

   a. $45°$ b. $90°$ c. $180°$ d. $60°$

7   Select the odd one

   a.   Speedometer   b.   Odometer   c.   Pedometer   d.   Passometer

8   Curvature correction for distance D and radius of earth R is

   a. $\dfrac{D^2}{R}$ b. $\dfrac{D^2}{2R}$ c. $\dfrac{D^2}{7R}$ d. $\dfrac{D^2}{14R}$

9   Area of triangle, A with sides a, b, c and half the perimeter, S is given by formula

   a. $A = \sqrt{S(S-a)(S-b)(S-c)}$ b. $A = [S(S-a)(S-b)(S-c)]^2$

   c. $A = \sqrt{S(S+a)(S+b)(S+c)}$ d. $A = [S(S+a)(S+b)(S+c)]^2$

10   If fore bearing of line AB is 30° then back bearing of line BA is

   a. $0°$ b. $30°$ c. $150°$ d. $210°$

P.T.O

II   **Write Short notes on any FIVE of the following**   (5x2=10)

1   Local attraction

2   Theodolite Traversing

3   Ranging

4   Types of surveying

5   Profile levelling

6   Types of chains used in surveying

7   Trigonometric levelling

III   **Answer any FIVE of the following.**   (5x4=20)

1   Obstacles in chaining.

2   Chaining on sloping ground.

3   Disadvantages and errors in plane tabling

4   Bench marks and their various types.

5   The areas within the contour lines at the site of a proposed reservoir and dam are as follows:

Contour (m)	20 (bottom)	22	24	26	28	30	32 (water surface)
Area (m^2)	100	220	600	1800	4500	10000	25000

Find the volume of water in reservoir by trapezoidal formula

6   Object of surveying and classify surveying based on instruments

7   Determine the missing data

Station	B.S	I.S	F.S	Rise	Fall	HI	RL
1	?					23.18	20.00
2		1.59		?			?
3	0.28		?		1.08	?	?
4	?		4.00		?	18.33	?
5		?			2.19		?
6		?		?			15.72

IV   **Write an essay on any ONE of the following.**   (1x10=10)

1   Compass Surveying

2   Contours - their characteristics and uses

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