01. Refraction correction

a. Completely eliminates curvature correction
b. Partially eliminates curvature correction
c. Adds to the curvature correction
d. Has no effect on curvature correction

02. The R.L of the point A which is one the floor is 100 m and backsight reading on A is 2.455 m. if the foresight reading on the point B which is on the ceiling is 2.745 m the R.L of point B will be

a. 94.80 m
b. 99.71 m
c. 100.29 m
d. 105.20 m

03. As applied to staff reading, the corrections for curvature the refection are respectively

a. + and –
b. - and +
c. + and +
d. - and -

04. Which of the following arithmetic checks can be applied in rise and fall method ?

a. ΣB.S.- ΣF.S. = ΣRise - ΣFall only
b. ΣB.S. - ΣF.S. = last R.L. –First R.L. only
c. ΣRise - ΣFall =Last R.L. – First R.L only
d. ΣB.S - ΣF.S. = ΣRise - ΣFall =Last R.L – First R.L

05. What is the arithmetic error in the following table ?

Section	.S.	I.S	F.S	H.I	R.L	Remarks
A	2.00			102.00	101.00	B.M
B		1.00			102.00	
C			0.50		102.50	

a. The R.L of B.M should be 100.00.
b. The height of instrument (H.I) should be 103.00.
c. The backsight should be 1.00.
d. There is no error in the table.

06. The following consecutive reading were taken with a damply level : 0.695. 1.525, 2.395, 0.635, 0.605, 0.805, 0.125 the instrument was shifted after the third and fifth reading the reading 2.395 and 0.635 respectively represent

a. F.S and B.S
b. F.S and I.S
c. B.S and F.S
d. I.S and B.S

07. In question no. 89, the number of station is

a. 2
b. 5
c. 6
d. 7

08. In question no. 89, the R.L of last point

a. Is greater than R.L of first point
b. Is same as R.L of first point
c. Is smaller than R.L of first point
d. Cannot be determined from the given data

09.

Station	B.S	I.S	F.S	H.I	R.L	Remarks
A	2.30			02.30	100.00	.M.
B		1.30			101.00	
C			2.30		X	

The above table show a part of a level field book. The value of X should be

a. 98.70
b. 100.00
c. 102.30
d. 103.30

10. The correction for refraction as applied to staff reading is

a. $+\frac{1}{7}\left(\frac{d^2}{2R}\right)$
b. $-\frac{1}{7}\left(\frac{d^2}{2R}\right)$
c. $+\frac{1}{7}\left(\frac{d^2}{R}\right)$
d. $-\frac{1}{7}\left(\frac{d^2}{R}\right)$

11. The following consecutive reading were taken with a dumpy level and a 3 m staff on a continuously sloping ground. 0.425, 1.035, 1.950, 3.360, 2.950, 0.750, 1.565, 2.450, 0.320, 1.025, 2.165, 2.955 which of the following readings are backsights

a. 0.425, 2.950, 0.750, 0.320
b. 0.425, 0.750, 0.320, 2.955
c. 0.425, 0.750, 0.320
d. 0.425, 2.360, 0.750, 0.320

12. A level was set up at a point A and distance to the staff station B was 100 m. the net combined correction due to curvature and refraction as applied to the staff reading is

a. 0.00673 m
b. 0.000673 m
c. - 0.000673 m
d. - 0.00673 m

13. In leveling between two points A and B on opposite banks of a river, the following readings were taken

Level position	Staff readings	
	A	B
A	1.500	1.000
B	1.350	0.850

If R.L of A is 100.00 m, the R.L of B
a. Is less than 100.00 m
b. Is more than 100.00 m
c. Is 100.00 m
d. Cannot be determined from given data

14. While doing leveling in undulating terrain, it is preferable to set the level on

a. The top of summit
b. The bottom of a valley
c. One side of the slope
d. anywhere

15. If the horizontal distance between the staff point and the point of observation is d, then the error due to curvature of earth is proportional to

a. d
b. 1/d
c. d^2
d. $1\backslash d^2$

16. Sensitiveness of a level tube is designated by

a. Radius of level tube
b. Length of level tube
c. Length of bubble of level tube
d. None of the above

17. Select the correct statements:

a. Error due to refraction may not be completely eliminated by reciprocal leveling.
b. Tilting levels are commonly used for precision work.
c. The last reading of leveling is always a foresight.
d. All of the above statements are incorrect.

18. **Select the correct statements.**

a. In leveling a station is the point where the leveling staff is held and not where level is set up.
b. The inner surface of a bubble tube is an are of a circle.
c. Sensitiveness of a level tube can be increased by the increase in length of bubble.
d. All of the above statements are correct.

19. **The distance to the visible horizon from a height of 36 m above mean sea level is given by**

a. $\sqrt{\frac{36}{0.6735}}km$
b. $36\sqrt{\frac{1}{0.06735}}km$
c. $\sqrt{\frac{36}{0.06735}}km$
d. $36\sqrt{0.06735}\ km$

20. **Dumpy level is most suitable when**

a. The instrument is to be shifted frequently
b. Fly leveling is begin done over long distance
c. Many readings are to be taken from a single setting of the instrument
d. All of the above