

Model Answer- Quiz # 1 (CE 371) – 2018-19-3

Majmaah University

College of Engineering

Civil & Environmental Eng. Dept.

Surveying II (CE 371)

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Name:	Academic Number:
Level (7): Civil Engineering:	Time allowed: 30 min.

Quiz#1

Question:

(5 marks)

- 1) A theodolite is used to measure a horizontal angle, the table below shows the recorded observations. Use these data to determine the horizontal angle.

(ULO#2/CLO#2 / e-kpi#19 =2 marks)

Occ. Station	Target point	Left hand face	Right hand face	Average	Angle
A		o ' "	o ' "	o ' "	o ' "
	1	00 00 00	179 59 20	00 00 -20	121 00 30
	2	120 59 40	301 00 40	121 00 10	

- 2.1) Wild DI instrument is used to measure a distance equals 3000 m If the accuracy of the instrument is $\mp (1 \text{ mm} + 3 \text{ ppm})$. Compute the total error, then what is the distance measured corresponding to 6 mm total error?

(ULO#1/CLO#1 / k-kpi#43 =3 marks)

$$\text{Total error} = [1 \text{ mm} + \left(\frac{3}{1000000} \times (3000 \times 1000)\right)] = \mp 10 \text{ mm}$$

$$6 \text{ mm} = [1 \text{ mm} + \left(\frac{3}{1000000} \times (D \times 1000)\right)]$$

$$3D/1000 = 5 \qquad \qquad \qquad \mathbf{D = 1666.7m}$$

Good Luck