UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2013/2014

COURSE NAME	:	LAND SURVEY FOR CONSTRUCTION
COURSE CODE	:	BPD 20203
PROGRAMME	:	2 BPC
EXAMINATION DATE	:	JUNE 2014
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF **SEVEN (7)** PAGES

Q1 (a) Land surveying is a method, profession and science of accurately determining the terrestrial or three-dimensional position of points, distances and angles between them.

Identify **FOUR (4)** objectives of land surveying for construction projects.
(8 marks)

(b) Based on Figure **Q1**, calculate the following values:

(i) Coordinate for A1 and A3.
(8 marks)

(ii) Angle of deflection for highway construction for the circular curve at 20m interval stations.
(9 marks)

Q2 (a) Bubble adjustment is important each time to start work when using Total Station.

Describe **THREE (3)** steps for bubble adjustment of Total Station.
(6 marks)

(b) Based on the data from the Fieldwork Form 1 at Table **Q2**, calculate:

(i) Reduced Level
(9 marks)

(ii) Collimation line height
(10 marks)

Q3 (a) Positional misclosure is a way of determining the type of survey undertaken for surveying works.

Explain the meaning of positional misclosure for land survey in the construction site.
(5 marks)

(b) Based on the observed data from the Fieldwork Form 2 at Table **Q3**, calculate the value of '*A*' and other related data using the Rise-Fall method.
(20 marks)

Q4   Based on the data from the Fieldwork Form 3 at Table **Q4**, calculate:

(i)   Latit and Dipat

(5 marks)

(ii)   Corrected Latit and Dipat

(8 marks)

(iii)   Calculation of Area

(12 marks)

- END OF QUESTION -

$\triangle$ = 12° 51'
R = 400m
PI =0 + 241.782
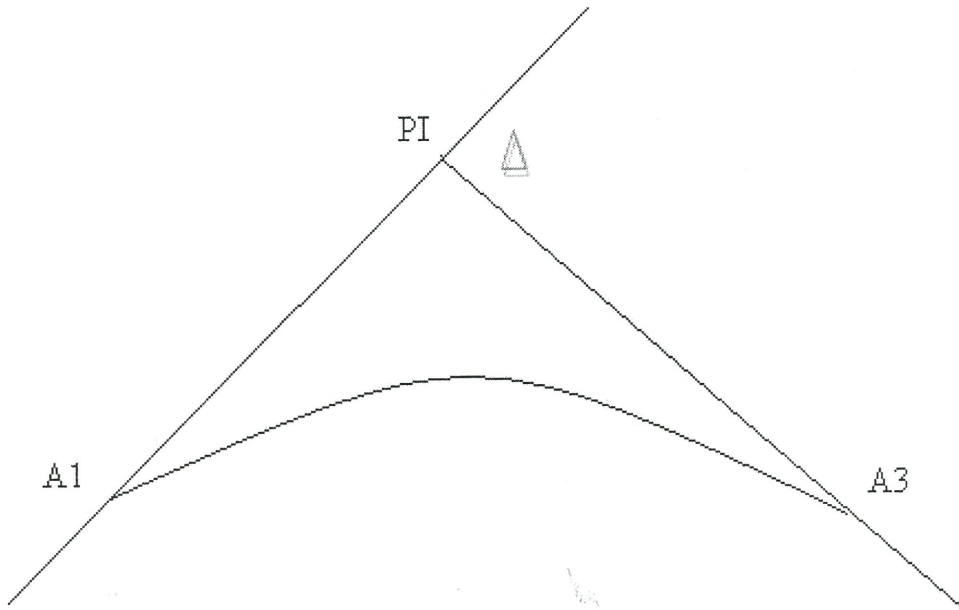

Figure Q1 : Road Curve

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TABLE Q2: Fieldwork Form 1

Back Sight	Intermediate Sight	Front Sight	Collimation Height	Reduced Level
1.690				(TBM1) 10.800
	1.760			
	1.200			
	0.930			
	0.570			
	0.460			
1.440		1.980		
2.000		1.240		
1.200		0.900		
		1.580		(TBM2) 11.630

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TABLE Q3: Fieldwork Form 2

Back Sight	Intermediate Sight	Front Sight	Rise	Fall	Reduced Level
1.280					(TBM1)11.510
	1.260				
1.130		1.340			
	1.170				
1.350		1.210			
	1.310				
	1.280				
	1.390				
0.850		1.590			
	1.050				
	‘A’				
	1.280				
		1.270			(TBM2)10.710

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TABLE Q4: Fieldwork Form 3

Line	Final Bearing	Distance	Latit		Dipat					
			N	S	E	W				
2-3	302 11 37	175.029m								
3-1	70 39 00	188.758m								
1-2	190 50 00	158.709m								