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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019**

COURSE NAME : LAND SURVEY FOR CONSTRUCTION
COURSE CODE : BPD 20203
PROGRAMME CODE : BPC
EXAMINATION DATE : JUNE / JULY 2019
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

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Q1 Levelling work can be described with a series of point taken using the levelling instrument and staff as shown in **Figure Q1**.

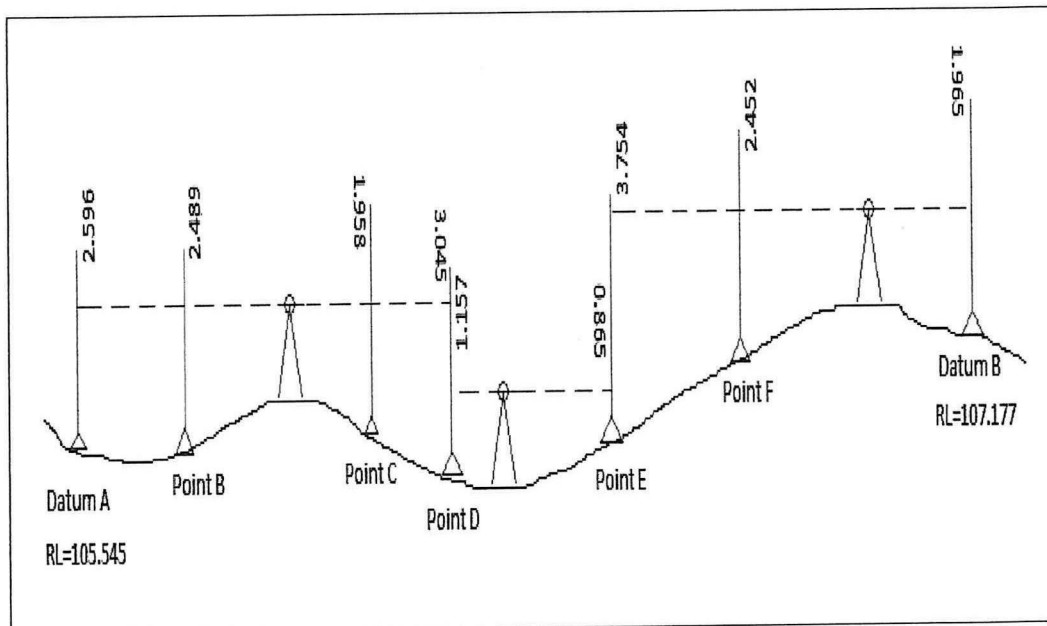


Figure Q1: Levelling work

Describe the work procedure for levelling work as shown in **Figure Q1**.
(10 marks)

Q2 As a project manager, you are required by top management to conduct a work procedure to do a simple horizontal curve for an intersection of 2 roads at your construction site, which have deflection angle = $12^{\circ} 51'$, radius = 400m and PI at 0 + 241.782.

(a) Compute the related data suitable for the work. (10 marks)

(b) Explain with diagram the work procedure on site. (15 marks)

Q3 Table Q3 shows the data from levelling work.

Table Q3: Data from Levelling Work

Back Sight (BS)	Intermediate Sight (IS)	Fore Sight (FS)	Reduced Level (RL)
2.804			
	1.260		
	1.266		
		1.340	3.834

Analyse the result from **Table Q3** using Height of Collimation (HC) method.
(15 marks)

Q4 Data for spot height at ground point A = 11.00m, B = 10.45m, C = 10.50m, D = 9.5m, E = 9.75m, F = 10.00m, G = 9.50m, H = 9.50m and I = 9.85m.

(a) Compute height of instrument and number of square from spot height if the formation is 9.15m.
(10 marks)

(b) Elaborate the work procedure involved for this survey work.
(15 marks)

Q5 A surveying work with bearing from point 1 to 2 is $63^{\circ} 30' 00''$ with 63.264m in distance, bearing from point 2 to 3 is $77^{\circ} 25' 00''$ with 75.119m in distance, bearing from point 3 to 4 is $173^{\circ} 43' 30''$ with 82.147m in distance, bearing from point 4 to 5 is $231^{\circ} 55' 00''$ with 87.273m in distance and bearing from point 5 to 1 is $322^{\circ} 19' 00''$ with 114.829m in distance.

(a) Compute Latit.
(5 marks)

(b) Compute Dipat.
(5 marks)

(c) Explain with diagram the survey work involved on site.
(15 marks)

- END OF QUESTIONS -