

SULIT



BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN MALAYSIA

JABATAN KEJURUTERAAN AWAM

PEPERIKSAAN AKHIR

SESI JUN 2018

DCG6223: GEODESY 2

TARIKH : 31 OKTOBER 2018

MASA : 2.30 PETANG - 4.30 PETANG (2 JAM)

Kertas ini mengandungi **ENAM (6)** halaman bercetak.

Bahagian A: Struktur (2 soalan)

Bahagian B: Struktur (4 soalan)

Dokumen sokongan yang disertakan : Appendix 1

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A : 50 MARKS
BAHAGIAN A : 50 MARKAH

INSTRUCTION:

This section consists of **TWO (2)** structured questions. Answer **ALL (2)** questions.

ARAHAN:

Bahagian ini mengandungi DUA (2) soalan berstruktur. Jawab SEMUA soalan.

QUESTION 1
SOALAN 1

CLO1
C1

- (a) List **FIVE (5)** differences between precise levelling instrument and automatic levelling instrument.

Senaraikan LIMA (5) perbezaan antara alat ukur aras jitu dan alat ukur aras biasa .

[5 marks]

[5 markah]

CLO1
C2

- (b) Explain briefly the Peninsular Malaysia Geodetic Vertical Datum (PMGVD).

Terangkan secara ringkas Datum Kawalan Pugak Geodetik Semenanjung Malaysia.

[5 marks]

[5 markah]

CLO1
C3

- (c) **Tables A1 (c)** shows an observation of precise leveling where staff is at BM M0942. Calculate the value of level to next point if reading of bench marks BM M0942 is 13.500 meter (Appendix 1).

Jadual A1(c) menunjukkan pembukuan cerapan ukur aras jitu dimana staf terletak di atas BM M0942. Hitungkan aras di titik hadapan jika nilai batu aras BM M0942 ialah 13.500 meter (Appendix 1).

Table A1(c)/Jadual A1(c)

Staff Reading/cm			
Back sight		Fore sight	
Stadia	Middle	Middle	Stadia
168.745	153.860	143.760	158.968
138.645	455.260	445.320	128.568

[15 marks]

[15markah]

QUESTION 2
SOALAN 2

- CLO1
C1 (a) Define the meaning of triangulation.
Definisikan maksud ukur triangulasi.
- [5 marks]
[5 markah]
- CLO1
C2 (b) Identify **FIVE(5)** requirements to consider in selecting baselines in triangulation survey.
*Kenalpasti **LIMA(5)** keperluan yang perlu diambil kira untuk pemilihan garis-garis dasar dalam kerja ukur triangulasi.*
- [5 marks]
[5 markah]
- CLO1
C3 (c) Explain clearly specifications for the first order of triangulation.
Terangkan spesifikasi kerja ukur triangulasi kelas pertama.
- [15 marks]
[15 markah]

SECTION B : 50 MARKS
BAHAGIAN B : 50 MARKAH

INSTRUCTION:

This section consists of **FOUR(4)** structured questions. Answer **TWO(2)** questions only.

ARAHAN:

Bahagian ini mengandungi EMPAT (4) soalan berstruktur. Jawab DUA(2) soalan sahaja.

QUESTION 1

SOALAN 1

- | | | |
|------------|--|---------------------------|
| CLO1
C1 | (a) Define the term of gravity force.
<i>Berikan maksud daya tarikan graviti.</i> | [5 marks]
[5 markah] |
| CLO1
C2 | (b) Explain briefly the Newton Second Laws.
<i>Terangkan secara ringkas Hukum Newton yang kedua.</i> | [5 marks]
[5 markah] |
| CLO1
C3 | (c) Explain THREE (3) methods of reduction in gravity measurement using suitable diagrams.
<i>Terangkan TIGA (3) kaedah pembetulan data graviti dengan bantuan gambarajah yang sesuai.</i> | [15 marks]
[15 markah] |

QUESTION 2

SOALAN 2

- | | | |
|------------|---|-------------------------|
| CLO1
C1 | (a) Define the meaning of dynamic height.
<i>Berikan maksud ketinggian dinamik.</i> | [5 marks]
[5 markah] |
| CLO1
C2 | (b) Describe the differences between orthometric height and normal height.
<i>Terangkan perbezaan antara ketinggian orthometric dan ketinggian normal.</i> | [5 marks]
[5 markah] |

CLO1
C3

- (c) Illustrate the relationship between ellipsoidal height and orthometric height using a suitable diagram.

Terangkan hubungkait antara ketinggian ellipsoid dan ketinggian orthometric dengan bantuan gambarajah yang sesuai

[15 marks]

[15 markah]

QUESTION 3**SOALAN 3**CLO1
C1

- (a) List **FIVE (5)** objectives of triangulation survey.
Senaraikan LIMA (5) objektif kerja ukur triangulasi.

[5marks]

[5 markah]

CLO1
C2

- (b) Explain briefly the basic concept of MyRTK Network.
Terangkan secara ringkas konsep asas jaringan MyRTK.

[5 marks]

[5 markah]

CLO1
C3

- (c) Interpret the following Global Navigation Satellite System (GNSS) measurement in geodetic survey:
Interpretasikan kaedah pengukuran Sistem Penentuan Lokasi Navigasi Sejagat (GNSS) berikut untuk ukur Geodetik

- i. Static
Statik

[7 marks]

[7 markah]

- ii. Real time Kinematic (RTK)
Masa hakiki kinematik.

[8 marks]

[8 markah]

QUESTION 4
SOALAN 4CLO1
C1

- (a) List **FIVE (5)** Global Navigation Satellite System (GNSS).
Senaraikan LIMA (5) Sistem Penentududukan Navigasi Sejagat (GNSS).

[5 marks]

[5 markah]

CLO1
C2

- (b) Discuss briefly **FIVE (5)** advantages of using Global Navigation Satellite System (GNSS) in geodetic survey.
Berikan LIMA (5) kebaikan penggunaan Sistem Penentu kedudukan Navigasi Sejagat (GNSS) dalam kerja ukur geomatik.

[5 marks]

[5 markah]

CLO1
C3

- (c) Explain clearly **THREE (3)** segments in Global Navigation Satellite System (GNSS).
Jelaskan TIGA (3) segmen dalam Sistem Penentududukan Navigasi Sejagat (GNSS).

[15 marks]

[15 markah]

SOALAN TAMAT

No. Skrip Jawapan: _____

Answer A1(C):

Occupied Point No :		Staff on Back sight Point :				Staff on Foresight Point :		Date : Time :	
Remarks	Staff Reading			Distance (m)		Height Difference		Computation	
	Back sight		Foresight	Back sight	Fore sight	Rise	Fall		
	Stadia	Middle	Middle						Stadia
								Height Difference (Left)	
								Height Difference (Right)	
								Mean of Height Difference	
								Carry Forward	
Error								Sum	
Surveyed By : Computed By : Examined By :									