

SULIT



**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENGAJIAN TINGGI**

JABATAN KEJURUTERAAN AWAM

PEPERIKSAAN AKHIR

SESI I : 2022/2023

DCQ10043 : BUILDING WORKS MEASUREMENT 1

TARIKH : 21 DISEMBER 2022

MASA : 2.30 PM – 4.30 PM (2 JAM)

Kertas ini mengandungi **SEPULUH (10)** halaman bercetak.

Bahagian A: Struktur (2 soalan)

Bahagian B: Esei (4 soalan)

Dokumen sokongan yang disertakan : Lukisan Pelan

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

Notes:**Nota:**

1. Taking off shall refer to the rules in Standard Method of Measurement of Building Works Second Edition (SMM2).

Pengukuran kuantiti hendaklah merujuk kepada peraturan Kaedah Pengukuran Piawai Kuantiti untuk Kerja-Kerja Bangunan, Edisi ke-2 (SMM2).

2. Candidate is allowed to make assumptions if the information given in the drawing is inadequate.

Calon dibenarkan membuat andaian sekiranya maklumat yang diberi tidak mencukupi.

SECTION A : 50 MARKS**BAHAGIAN A : 50 MARKAH****INSTRUCTION:**

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

ARAHAN :

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

QUESTION 1**SOALAN 1**

Figure A1(a) / Rajah A1(a)

CLO1
C2

- (a) In 17th century, estimating cost was done by architects or craftsmen. After the 'Great Fire of London' incident, Quantity Surveyor services are demanded. Figure A1(a) shows a picture of the 'Great Fire of London' incident some time ago. Explain the incident by stating **TWO (2)** causes and **TWO (2)** effects of the fire.

Pada abad ke 17, anggaran harga dibuat oleh arkitek dan tukang. Selepas peristiwa 'Great Fire of London', perkhidmatan Jurukur Bahan diperlukan. Rajah A1(a) menunjukkan gambaran peristiwa 'Great Fire of London' suatu ketika dahulu. Terangkan peristiwa tersebut dengan menyatakan DUA (2) punca dan DUA (2) kesan daripada kebakaran tersebut.

[10 marks]

[10 markah]

DIPLOMA IN QUANTITY SURVEYING				
Drawing No:		Element:		Slip No:
Heading:				
Description:				Unit:
1				Quantity:
2	3	4	5	Taker-off:
				Squaring:

Figure A1(b) / Rajah A1(b)

CLO1
C3

- (b) By referring to Figure A1(b), identify the function of each labelled space.

Merujuk kepada Rajah A1(b), kenalpasti fungsi bagi setiap ruang yang berlabel.

[15 marks]

[15 markah]

QUESTION 2**SOALAN 2**CLO1
C2

- (a) Provisional Sum and Prime Cost Sum are part of the contents of the tender document. Explain Provisional Sum and Prime Cost Sum by giving appropriate examples.

Wang Peruntukan Sementara dan Wang Kos Prima merupakan sebahagian daripada kandungan dokumen tender. Terangkan Wang Peruntukan Sementara dan Wang Kos Prima dengan memberikan contoh yang sesuai.

[10 marks]

[10 markah]

Table A2(b) / *Jadual A2(b)*

Type/ <i>Jenis</i>	P1	P2
Size of pad footing <i>Saiz asas pad</i>	1000mm x 750mm x 450mm	1200mm x 750mm x 550mm
Nos of pad footing <i>Bilangan asas pad</i>	38	43
Reinforcement <i>Tetulang</i>	Main Bars – Y20 Loop – R8	Main Bars – Y20 Loop – R8

CLO1
C3

- (b) By Referring to Table A2(b), show an appropriate example of the taking off list and query list.

Merujuk kepada Jadual A2(b), tunjukkan contoh yang sesuai bagi senarai pengiraan dan senarai pertanyaan.

[15 marks]

[15 markah]

SECTION B : 50 MARKS**BAHAGIAN B : 50 MARKAH****INSTRUCTION:**

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

ARAHAN :

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

QUESTION 1**SOALAN 1**

CLO1
C2

- (a) By referring to SMM2, explain **TWO (2)** subsections which refer to the excavation work for topsoil.

Dengan merujuk kepada SMM2, terangkan DUA (2) sub-seksyen merujuk kepada kerja-kerja pengorekan bagi tanah atas.

[5 marks]

[5 markah]

CLO1
C3

- (b) Based on **DRAWING NO. DCQ10043/WBLFF/001**, prepare the quantity measurement for Work Below Lowest Floor Finish for the item excavation and formwork for all pad foundation.

Berdasarkan kepada LUKISAN NO. DCQ10043/WBLFF/001, sediakan pengukuran kuantiti bagi kerja-kerja di Bawah Aras Lantai Terbawah bagi kerja pengorekan dan kerja acuan bagi semua asas pad.

[14 marks]

[14 markah]

CLO1
C3

- (c) Prepare all the measured quantities in **Question 1 (b)** as the bill of quantities.

Sediakan semua kuantiti terukur dalam Soalan 1 (b) sebagai senarai kuantiti.

[6 marks]

[6 markah]

QUESTION 2

SOALAN 2

CLO1
C2

- (a) By referring to SMM2, explain the subsections which refer to the excavation work for classification of depth.

Dengan merujuk kepada SMM2, terangkan item sub-seksyen merujuk kepada kerja-kerja pengorekan bagi pengkelasan kedalaman.

[5 marks]

[5 markah]

CLO1
C3

- (b) Based on **DRAWING NO. DCQ10043/WBLFF/001**, prepare the quantity measurement for Work Below Lowest Floor Finish for the main bar items in all pad foundation and stirrup in all column stump.

Berdasarkan kepada LUKISAN NO. DCQ10043/WBLFF/001, sediakan pengukuran kuantiti bagi kerja-kerja di Bawah Aras Lantai Terbawah bagi kerja besi tetulang utama dan besi pengikat bagi semua tiang asas.

[14 marks]

[14 markah]

CLO1
C3

- (c) Prepare all the measured quantities in **Question 2 (b)** as the bill of quantities.

Sediakan semua kuantiti terukur dalam Soalan 2 (b) sebagai senarai kuantiti.

[6 marks]

[6 markah]

QUESTION 3

SOALAN 3

CLO1
C2

- (a) By referring to SMM2, explain particulars for in-situ concrete based on subsections F.1.1.

Dengan merujuk kepada SMM2, terangkan butiran bagi konkrit in-situ berdasarkan sub-seksyen F.1.1

[5 marks]

[5 markah]

CLO1
C3

- (b) Based on **DRAWING NO. DCQ10043/WBLFF/002**, prepare the quantity measurement for Work Below Lowest Floor Finish for the item concrete in ground floor slab and concrete in ground beam for 1/B-D only.

Berdasarkan kepada LUKISAN NO. DCQ10043/WBLFF/002, sediakan pengukuran kuantiti bagi kerja-kerja Di Bawah Aras Lantai Terbawah bagi kerja konkrit bagi lantai aras tanah dan kerja konkrit bagi rasuk tanah untuk 1/B-D sahaja.

[14 marks]

[14 markah]

CLO1
C3

- (c) Prepare all the measured quantities in **Question 3 (b)** as the bill of quantities.

Sediakan semua kuantiti terukur dalam Soalan 3 (b) sebagai senarai kuantiti.

[6 marks]

[6 markah]

QUESTION 4

SOALAN 4

CLO1
C2

- (a) By referring to SMM2, explain the subsections which refer to the concrete work for classification of size.

Dengan merujuk kepada SMM2, terangkan sub-seksyen merujuk kepada kerja-kerja konkrit bagi pengkelasan saiz.

[5 marks]

[5 markah]

CLO1
C3

- (b) Based on **DRAWING NO. DCQ10043/WBLFF/002**, prepare the quantity measurement for Work Below Lowest Floor Finish for the item excavation to reduce level to receive ground floor slab and damp proof membrane.

Berdasarkan kepada LUKISAN NO. DCQ10043/WBLFF/002, sediakan pengukuran kuantiti bagi kerja-kerja di Bawah Aras Lantai Terbawah bagi kerja penggalian penurunan aras untuk menerima lantai aras tanah dan lapisan kalis lembap.

[14 marks]

[14 markah]

CLO1
C3

- (c) Prepare all the measured quantities in **Question 4 (b)** as the bill of quantities.

Sediakan semua kuantiti terukur dalam Soalan 4 (b) sebagai senarai kuantiti.

[6 marks]

[6 markah]

SOALAN TAMAT

Notes:**Nota:**

1. Taking off shall refer to the rules in Standard Method of Measurement of Building Works Second Edition (SMM2).

Pengukuran kuantiti hendaklah merujuk kepada peraturan Kaedah Pengukuran Piawai Kuantiti untuk Kerja-Kerja Bangunan, Edisi ke-2 (SMM2).

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Calon dibenarkan membuat andaian sekiranya maklumat yang diberi tidak mencukupi.

DIPLOMA IN QUANTITY SURVEYING				
Drawing No:		Element:		Slip No:
Heading:				
Description:				Unit:
1				Quantity:
2	3	4	5	Take-off:
				Quantity:

Figure A1(b) / Rajah A1(b)

- CLO1
C3 (b) By referring to Figure A1(b), identify the function of each labelled space.

Merujuk kepada Rajah A1(b), kenalpasti fungsi bagi setiap ruang yang berlabel.

[15 marks]

[15 markah]

QUESTION 2

SOALAN 2

- CLO1
C2 (a) Provisional Sum and Prime Cost Sum are part of the contents of the tender document. Explain Provisional Sum and Prime Cost Sum by giving appropriate examples.

Wang Peruntukan Sementara dan Wang Kos Prima merupakan sebahagian daripada kandungan dokumen tender. Terangkan Wang Peruntukan Sementara dan Wang Kos Prima dengan memberikan contoh yang sesuai.

[10 marks]

[10 markah]

SECTION B : 50 MARKS**BAHAGIAN B : 50 MARKAH****INSTRUCTION:**

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

ARAHAN :

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

QUESTION 1**SOALAN 1**

CLO1
C2

- (a) By referring to SMM2, explain **TWO (2)** subsections which refer to the excavation work for topsoil.

Dengan merujuk kepada SMM2, terangkan DUA (2) sub-seksyen merujuk kepada kerja-kerja pengorekan bagi tanah atas.

[5 marks]

[5 markah]

CLO1
C3

- (b) Based on **DRAWING NO. DCQ10043/WBLFF/001**, prepare the quantity measurement for Work Below Lowest Floor Finish for the item excavation and formwork for all pad foundation.

Berdasarkan kepada LUKISAN NO. DCQ10043/WBLFF/001, sediakan pengukuran kuantiti bagi kerja-kerja di Bawah Aras Lantai Terbawah bagi kerja pengorekan dan kerja acuan bagi semua asas pad.

[14 marks]

[14 markah]

CLO1
C3

- (c) Prepare all the measured quantities in **Question 2 (b)** as the bill of quantities.

Sediakan semua kuantiti terukur dalam Soalan 2 (b) sebagai senarai kuantiti.

[6 marks]

[6 markah]

QUESTION 3

SOALAN 3

CLO1
C2

- (a) By referring to SMM2, explain particulars for in-situ concrete based on subsections F.1.1.

Dengan merujuk kepada SMM2, terangkan butiran bagi konkrit in-situ berdasarkan sub-seksyen F.1.1

[5 marks]

[5 markah]

CLO1
C3

- (b) Based on **DRAWING NO. DCQ10043/WBLFF/002**, prepare the quantity measurement for Work Below Lowest Floor Finish for the item concrete in ground floor slab and concrete in ground beam for 1/B-D only.

Berdasarkan kepada LUKISAN NO. DCQ10043/WBLFF/002, sediakan pengukuran kuantiti bagi kerja-kerja Di Bawah Aras Lantai Terbawah bagi kerja konkrit bagi lantai aras tanah dan kerja konkrit bagi rasuk tanah untuk 1/B-D sahaja.

[14 marks]

[14 markah]

CLO1
C3

- (c) Prepare all the measured quantities in **Question 4 (b)** as the bill of quantities.

*Sediakan semua kuantiti terukur dalam **Soalan 4 (b)** sebagai senarai kuantiti.*

[6 marks]

[6 markah]

SOALAN TAMAT

Notes :

1. All excavation works must be starting from ground level unless otherwise stated.
2. Substructure concrete shall be Grade 25 unless otherwise stated.
3. Ground floor slab shall be 125mm thick.
4. Hardcore must be broken stones and average 200mm thick.
5. Damp proof membrane shall be 5mm thick polythene or other equal approved.
6. Concrete cover shall be 40mm thick.



PROJECT :

PROJEK PEMBINAAN BENGKEL JAHITAN
PAKAIAN DI KAMPUNG SELUAR
TERBAKAR 06150 AYER HITAM, KEDAH.

DRAWING TITLE :

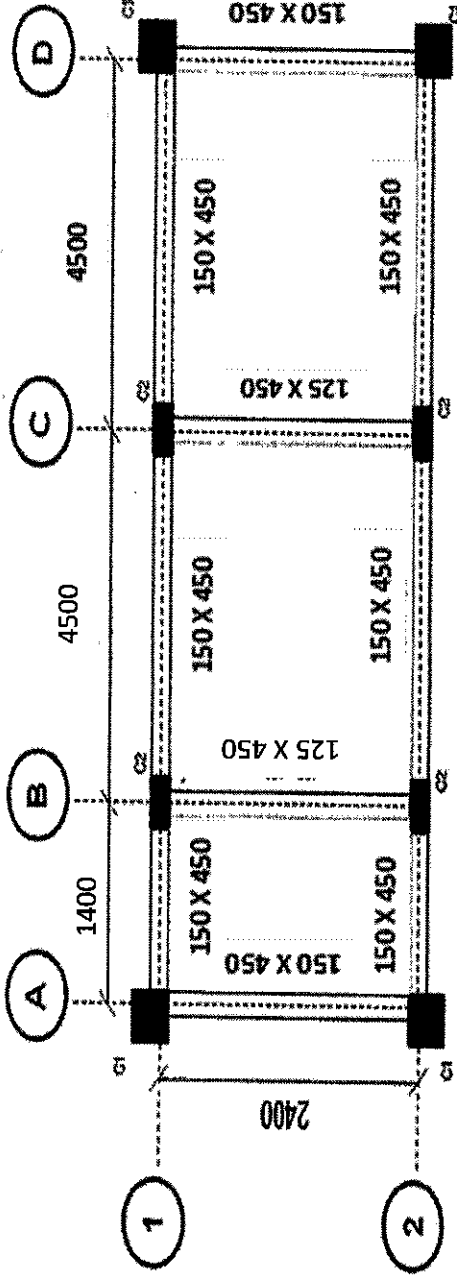
GROUND BEAM LAYOUT AND DETAIL,
COLUMN REINFORCEMENT SCHEDULE,
GROUND FLOOR DETAIL

DRAWING NO :

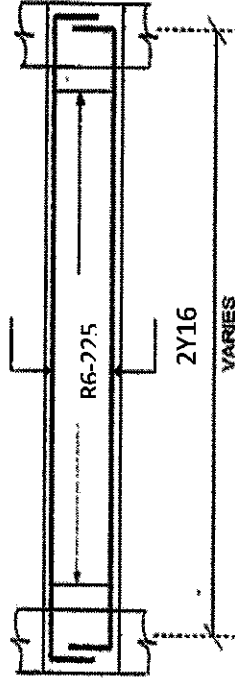
DCQ10043/WBLFF/002

SCALE :

NOT TO SCALE



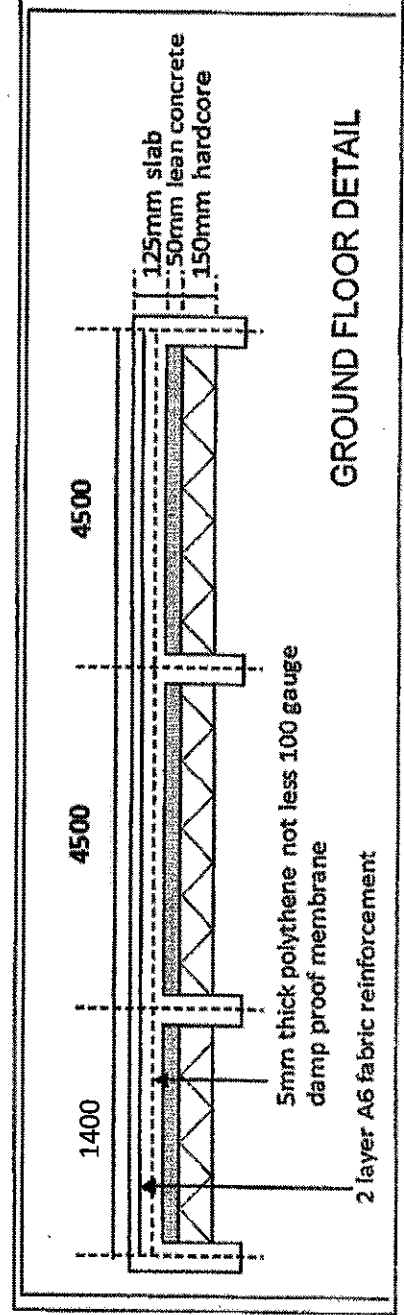
GROUND BEAM LAYOUT



GROUND BEAM DETAIL (ALL TYPE)

COLUMN	C1	C2
COL SIZE	300 X 300	300 X 150
MAIN BAR	4Y16	4Y12
TIES	R8-125	R8-125
NOS	4	4

COLUMN REINFORCEMENT SCHEDULE



GROUND FLOOR DETAIL

Notes:

1. Excavate topsoil 150m deep to be deposited 10.00 from site.
2. Substructure concrete shall be Grade 35 unless otherwise stated.
3. Lean concrete shall be Grade 15.
4. Concrete cover shall be 45mm thick.



PROJECT :

CADANGAN MEMBINA DAN
MENYIAPKAN MAKMAL KOMPUTER DI
S.K. HAKIM TEH, TUNJANG, Jitra,
KEDAH.

DRAWING TITLE :

PAD FOOTING LAYOUT PLAN

DRAWING NO :

DCQ10043/WBLFF/001

SCALE:

NOT TO SCALE

