

SULIT



**KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI**

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

JABATAN KEJURUTERAAN AWAM

PEPERIKSAAN AKHIR

SESI I : 2024/2025

DCQ40192: CIVIL ENGINEERING WORKS MEASUREMENT 1

TARIKH : 05 DISEMBER 2024

MASA : 2.30 PETANG – 4.30 PETANG (2 JAM)

Kertas soalan ini mengandungi **SEMBILAN (9)** halaman bercetak.
Bahagian A: Subjektif (2 soalan)
Bahagian B: Subjektif (4 soalan)
Dokumen sokongan yang disertakan : Buku MyCESMM2, Kertas Dimensa,
Kertas *Billing*, Kertas *Cut & Fill*, dan Lukisan

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

Notes:**Note:**

1. Taking off refers to the rules in the Malaysian Civil Engineering Standard Method of Measurement 2 (MyCESMM2).

Ukur kuantiti merujuk kepada syarat-syarat dalam Malaysian Civil Engineering Standard Method of Measurement 2 (MyCESMM2).

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

Calon dibenarkan membuat andaian sekiranya maklumat dalam lukisan tidak lengkap.

3. Marks will be given for the knowledge of the subject and systematic setting of dimensions, adequacy and accuracy of descriptions and dimensions.

Markah akan diberikan berdasarkan pengetahuan tentang subjek dan dimensi yang sistematik, kecukupan dan ketepatan penerangan dan dimensi.

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

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

ARAHAN:

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

QUESTION 1**SOALAN 1**

CLO1

- (a) Explain the purpose of measurement based on *Malaysian Civil Engineering Standard Method of Measurement 2 (MyCESMM2)*.

Terangkan tujuan pengukuran berdasarkan Malaysian Civil Engineering Standard Method of Measurement 2 (MyCESMM2).

[5 marks]

[5 markah]

CLO1

- (b) Interpret **FOUR (4)** reasons of using MyCESMM2 in preparing the bill of quantities in civil engineering works.

Tafsirkan EMPAT (4) tujuan penggunaan MyCESMM2 dalam penyediaan senarai kuantiti dalam kerja-kerja kejuruteraan awam.

[8 marks]

[8 markah]

CLO1

- (c) The MyCESMM2 consists of structures and frameworks which are divided into 23 main classes. Each class consists of measurement rules, definition rules, coverage rules and additional description rules. Explain each rule with appropriate example.

MyCESMM2 terdiri daripada struktur dan rangkakerja di mana ia mengandungi 23 kelas utama. Setiap kelas mengandungi peraturan pengukuran, peraturan

definisi, peraturan had dan peraturan penerangan tambahan. Terangkan setiap peraturan dengan contoh yang bersesuaian.

[12 marks]

[12 markah]

QUESTION 2

SOALAN 2

CLO 1

- (a) Explain the method to measure the girth and height of trees based on Class F in MyCESMM2.

Terangkan kaedah untuk mengukur ukur lilit dan tinggi pokok berdasarkan Kelas F dalam MyCESMM2.

[5 marks]

[5 markah]

CLO 1

- (b) Based on Drawing No. **DCQ40192/LANDSCAPING/Q2A**, prepare the quantity measurement for turfing.

*Berdasarkan Lukisan No. **DCQ40192/LANDSCAPING/Q2A**, sediakan pengukuran kuantiti bagi kerja penanaman rumput.*

[8 marks]

[8 markah]

CLO1

- (c) Based on Drawing No **DCQ40192/ LANDSCAPING/Q2A**, produce a bill of quantities complete with quantity measurement for trees and hedges.

*Berdasarkan Lukisan No **DCQ40192/ LANDSCAPING/Q2A**, kemukakan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi pokok dan pokok pagar.*

[12 marks]

[12 markah]

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

This section consists of **FOUR (4)** subjective questions. Answer **TWO (2)** questions **ONLY**.

ARAHAN:

*Bahagian ini mengandungi **EMPAT (4)** soalan subjektif. Jawab **DUA (2)** soalan **SAHAJA**.*

QUESTION 1**SOALAN 1**

CLO1

- (a) Based on Table B1, produce related items with their code numbers and units as applied in Class A: General Item.

Berdasarkan Jadual B1, kemukakan item-item berkaitan beserta nombor kod dan unit sebagaimana yang diaplikasikan dalam Kelas A: Butiran Am.

[8 marks]

[8 markah]

CLO1

- (b) Based on Table B1, prepare a bill of quantities for General Item for Proposed Construction of West Coast Expressway.

Berdasarkan Jadual B1, sediakan satu senarai kuantiti bagi Butiran Am bagi projek Cadangan Pembinaan Lebuhraya Persisiran Pantai Barat.

[17 marks]

[17 markah]

Project information is as follow:

Project Title : Proposed Construction of West Coast Expressway

Project Duration : 36 months

Table B1/ Jadual B1

Item	Project's Requirements/ <i>Keperluan projek</i>
1	Establish, maintain, and remove site office to be used by Superintending Officer's representative, cabin type office with a floor area of 212 square feet. <i>Menyedia, menyelenggara dan mengalih pejabat tapak untuk digunakan oleh wakil Pegawai Penguasa, pejabat jenis kabin dengan keluasan lantai 212 kaki persegi.</i>
2	5 security guards. <i>5 orang pengawal keselamatan.</i>
3	Provide public liability insurance. <i>Menyediakan insurans liabiliti awam.</i>
4	Provide and update the work program by using Autodesk software. <i>Menyediakan dan kemaskini program kerja dengan menggunakan perisian Autodesk.</i>
5	Topographic survey and setting out by licensed surveyor. <i>Tinjauan topografi dan penetapan oleh Juruukur Berlesen.</i>
6	Prepare health and safety reports in 5 sets. <i>Sediakan laporan kesihatan dan keselamatan dalam 5 set.</i>

QUESTION 2**SOALAN 2**

Based on Drawing No. **DCQ40192/DEMOLITION & SITE CLEARANCE/Q2B**, answer all the questions below:

*Berdasarkan Lukisan No. **DCQ40192/DEMOLITION & SITE CLEARANCE/Q2B**, jawab semua soalan di bawah:*

CLO1

- (a) Prepare the quantity measurement for site clearance.

Sediakan pengukuran kuantiti bagi pembersihan tapak.

[8 marks]

[8 markah]

CLO 1

- (b) Produce a bill of quantities complete with quantity measurement for all items of demolition works (excluding site clearance).

Kemukakan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi kerja-kerja perobohan (tidak termasuk pembersihan tapak).

[17 marks]

[17 markah]

QUESTION 3**SOALAN 3**

Based on Drawing No. **DCQ40192/EARTHWORK/Q3B**, answer all the questions below:

*Berdasarkan Lukisan No. **DCQ40192/ EARTHWORK /Q3B**, jawab semua soalan di bawah:*

- CLO1 (a) Calculate the quantity for cutting and filling by using Schedule of Cutting and Filling for earthworks.

Kirakan kuantiti bagi pemotongan dan penambakan menggunakan Jadual Pemotongan dan Penambakan bagi kerja-kerja tanah.

[8 marks]

[8 markah]

- CLO1 (b) Produce a bill of quantities complete with quantity measurement involved in Class F: Earthworks.

Kemukakan satu senarai kuantiti lengkap dengan pengukuran kuantiti dalam Kelas F: Kerja-kerja Tanah.

[17 marks]

[17 markah]

QUESTION 4**SOALAN 4**

Based on Drawing No. **DCQ40192/ROAD&PAVING/Q4B**, answer all the questions below:

*Berdasarkan Lukisan No. **DCQ40192/ROAD&PAVING/Q4B**, jawab semua soalan di bawah:*

- CLO 1 (a) Prepare the quantity measurement for road signage.

Sediakan pengukuran kuantiti bagi papan tanda jalan.

[8 marks]

[8 markah]

- CLO 1 (b) Produce a bill of quantities complete with quantity measurement area "A" for all items related to road and paving.

Kemukakan satu senarai kuantiti lengkap dengan pengukuran kuantiti kawasan "A" bagi kerja jalan dan turapan.

[17 marks]

[17 markah]

SOALAN TAMAT