

SULIT



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

JABATAN KEJURUTERAAN AWAM

PEPERIKSAAN AKHIR

SESI I : 2022 / 2023

DCB30122: PROCUREMENT FOR BUILDING SERVICES

TARIKH : 29 DISEMBER 2022

MASA : 2.30 PM – 4.30 PM (2 JAM)

Kertas ini mengandungi **DUA BELAS (12)** halaman bercetak.

Bahagian A: Esei (2 soalan)

Bahagian B: Esei (4 soalan)

Dokumen sokongan yang disertakan : Tiada

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)** essay questions. Answer **ALL** questions.

ARAHAN:

*Bahagian ini mengandungi **DUA (2)** soalan esei. Jawab **SEMUA** soalan.*

QUESTION 1

SOALAN 1

CLO1
C2

- (a) Explain the implementation of work that occurs in the construction industry design.

Terangkan pelaksanaan kerja yang berlaku dalam rekabentuk industri pembinaan.

[5 marks]

[5 markah]

CLO1
C2

- (b) Describe **FOUR (4)** roles of Mechanical and Electrical Engineer in a construction.

*Jelaskan **EMPAT (4)** peranan Jurutera Mekanikal dan Elektrikal dalam sesebuah pembinaan.*

[8 marks]

[8 markah]

CLO1
C3

- (c) Tender is a process of making an offer made by a developer to select a suitable contractor to execute a construction. Explain:

Tender merupakan satu proses membuat tawaran oleh pemaju untuk memilih kontraktor yang sesuai untuk melaksanakan sesebuah pembinaan. Jelaskan tentang:

- i) The purpose of preparing tender
Tujuan penyediaan tender

[4 marks]

[4 markah]

- ii) **FOUR (4)** advantages and **FOUR(4)** disadvantages of the Open Tender
EMPAT (4) kebaikan dan **EMPAT (4)** keburukan Tender Terbuka

[8 marks]

[8 markah]

QUESTION 2**SOALAN 2**CLO1
C2

- (a) CIDB is a government body established under the Malaysian Ministry of Public Work. Identify the roles of CIDB in the construction industry.

CIDB merupakan satu badan kerajaan yang ditubuhkan di bawah Kementerian Kerja Raya Malaysia. Tentukan peranan CIDB di dalam industri pembinaan.

[5 marks]

[5 markah]

CLO1
C3

- (b) Tender evaluation is conducted in two stages. Interpret **FOUR (4)** evaluation criteria for **STAGE 2**.

*Penilaian tender dijalankan dalam dua peringkat. Interpretasikan **EMPAT(4)** kriteria penilaian bagi **PERINGKAT 2**.*

[8 marks]

[8markah]

CLO1
C3

- (c) The Standard Form of Contract (P.W.D. Form 203/203A) is one of the contract forms used in Malaysia. Based on this contract form, explain:

Borang Kontrak Setara (P.W.D. Form 203/203A) merupakan salah satu borang kontrak yang digunakan di Malaysia. Berdasarkan borang kontrak ini, jelaskan:

- i) the importance of a standard form of contract in construction
kepentingan borang kontrak setara di dalam pembinaan

[4 marks]

[4 markah]

- ii) Variations and Possession of Site
Perubahan dan Pemilikan Tapak

[8 marks]

[8 markah]

SECTION B : 50 MARKAH

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

- CLO3
C2 (a) Table 1 shows the construction cost of a mini stadium in 2020. A new mini stadium is proposed to be constructed in Kota Bharu in 2023 and can accommodate 500 people. Estimate the cost of the mini stadium construction by taking into account the 6% cost increase per year.

Jadual 1 menunjukkan kos pembinaan stadium mini pada tahun 2020. Sebuah stadium mini baru dicadangkan untuk dibina di Kota Bharu pada tahun 2023 dan boleh menempatkan 500 orang. Anggarkan kos pembinaan stadium mini tersebut dengan mengambil kira peningkatan kos sebanyak 6% setahun.

Sport Center <i>Pusat Sukan</i>	Construction Cost <i>Kos Pembinaan</i>	No. Of People <i>Bil. Orang</i>
A	RM300 000	200
B	RM390 000	250
C	RM450 000	400

Table B1(a) / *Jadual B1(a)*

[5 marks]

[5 markah]

CLO3
C3

- (b) Calculate the price rate for the hot and cold-water piping system based on the information below.

Kirakan kadar harga bagi pemasangan sistem perpaipan air panas dan sejuk berdasarkan maklumat dibawah:

No	Item	Quantity/ <i>Kuantiti</i>	Total price/ <i>Jumlah harga</i>
1	Gate valve <i>Injap pintu</i>	3 unit	RM165.00
2	Tee fitting <i>Penyambung tee</i>	6 unit	RM 30.00
3	Reducer <i>Pengurang</i>	2 unit	RM 16.00
4	Elbow fitting <i>Penyambung sesiku</i>	3 unit	RM 15.00
5	White tape <i>Pita putih</i>	5 unit	RM 10.00
6	Copper pipe 3/4" x 960 EN 1057 <i>Paip tembaga 3/4" x 960 EN 1057</i>	10 m	RM 550.00

Table B(3b) / *Jadual B(3b)*

Pipe installation <i>Pemasangan paip</i>	0.22 hour <i>0.22 jam</i>
Plumber rate <i>Upah tukang paip</i>	RM55.00/day <i>RM55.00/hari</i>
Wastage <i>Pembaziran</i>	5% <i>5%</i>
Overhead and profit <i>Pengurusan dan keuntungan</i>	12% <i>12%</i>

[8 marks]
[8 markah]

CLO3
C4

- (c) The taking off is the process of analyzing technical drawings and specifications to identify the elements. The list should include each building element from the smallest to the largest component. Based on Figure B1(c) below, illustrate a taking off for the electrical supply system.

Proses pengukuran kuantiti ialah proses menganalisis lukisan spesifikasi dan teknikal untuk mengenal pasti unsur-unsur. Senarai harus merangkumi setiap elemen bangunan dari yang paling kecil kepada komponen terbesar. Berdasarkan Rajah B1(c) di bawah, ilustrasikan kerja pengukuran kuantiti bagi sistem bekalan elektrik tersebut.

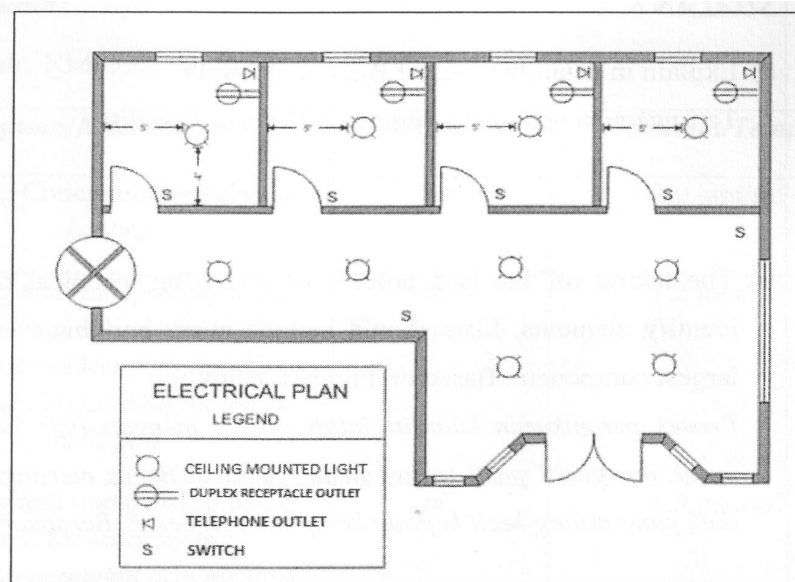


Figure B1(c) / Rajah B1(c)

[12 marks]
[12 markah]

QUESTION 2**SOALAN 2**CLO3
C2

- (a) Based on Figure B2(a), estimate the cost of the building construction below. Assuming the cost per m^3 is RM400.00.

Berdasarkan Rajah B2(a), anggarkan kos pembinaan bangunan di bawah. Anggapkan kos per m^3 adalah RM120.00.

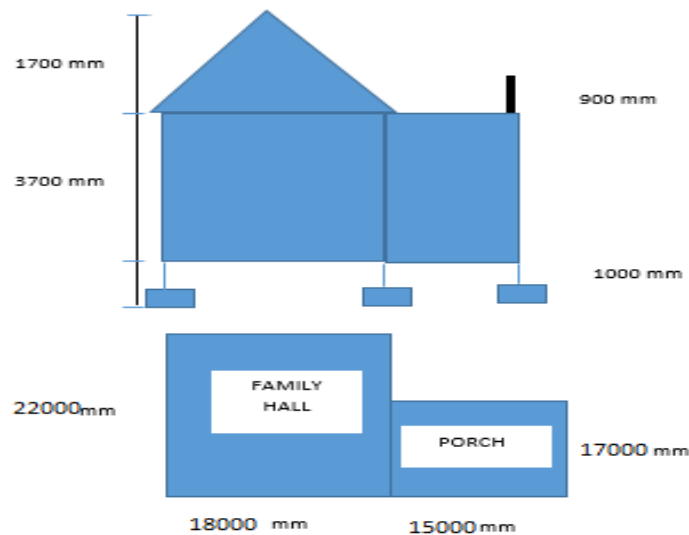


Figure B2(a) / Rajah B2(a)

[5 marks]

[5 markah]

CLO3
C3

- (b) Calculate the price rate for a wash basin installation screwed to a brick wall taking into account the cost of installation accessories. Given:

Kirakan kadar harga bagi besen basuh yang dipasang di dinding bata dengan mengambil kira kos aksesori pemasangan. Diberi:

Wash basin	RM150.00
<i>Besen basuh</i>	<i>RM150.00</i>
Plastic bottle trap	RM35.00
<i>Perangkap botol plastik</i>	<i>RM35.00</i>
Water tap	RM40.00
<i>Kepala paip</i>	<i>RM40.00</i>
Bracket	RM20.00
<i>Braket</i>	<i>RM20.00</i>

Plumber rate	RM80.00/day
<i>Upah tukang paip</i>	<i>RM80.00/day</i>
Labor rate/day	RM45.00
<i>Upah buruh/hari</i>	<i>RM45.00</i>
Installation to brick wall	2.25 hour
<i>Pemasangan di dinding bata</i>	<i>2.25 jam</i>
Wastage	5%
<i>Pembaziran</i>	<i>5%</i>
Overhead and profit	15%
<i>Pengurusan dan keuntungan</i>	<i>15%</i>

[8 marks]

[8 markah]

CLO3
C4

- (c) The taking off list is the process of analyzing technical drawings and specifications to identify the elements. The list should include each building element from the smallest to the largest component. Based on Figure B2(c) below, illustrate a taking off list for the piping system.

Proses pengukuran kuantiti ialah proses menganalisis lukisan spesifikasi dan teknikal untuk mengenal pasti elemen. Senarai harus merangkumi setiap elemen bangunan dari yang paling kecil kepada komponen terbesar. Berdasarkan Rajah B2(c) di bawah, ilustrasikan senarai pengukuran kuantiti bagi sistem perpaipan tersebut.

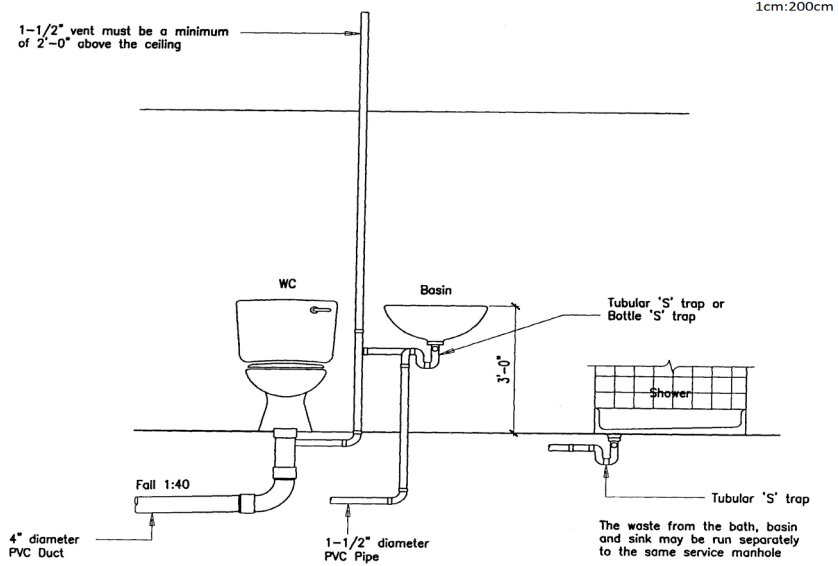


Figure B2(c) / Rajah B2(c)

[12 marks]

[12 markah]

QUESTION 3

SOALAN 3

CLO3
C2

- (a) Based on Figure B3(a), estimate the cost of the house construction below. Assuming the cost per m² is RM150.00.

Berdasarkan Rajah B3(a), anggarkan kos pembinaan rumah di bawah. Anggarkan kos per m² adalah RM150.00.

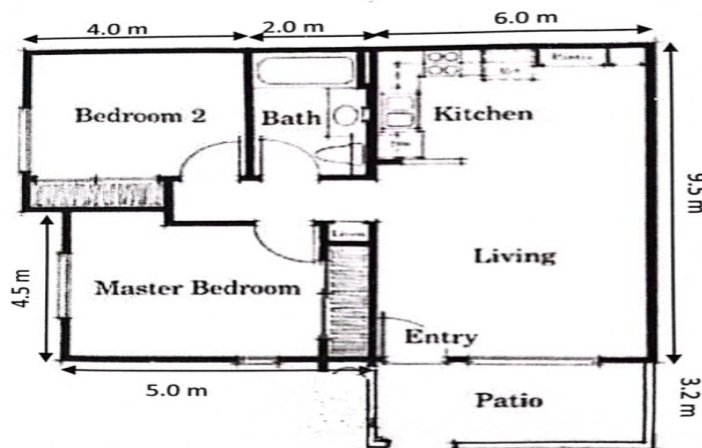


Figure B3(a) / Rajah B3(a)

[5 marks]

[5 markah]

CLO3
C3

- (b) Calculate the price rate for a lamp installation in the kitchen area. Given:

Kirakan kadar harga bagi pemasangan lampu di satu ruangan dapur. Diberi:

2.5mm ² kabel 3 teras	RM3.50/m
2.5mm 3 core cable	RM3.50/m
Distance from switch to fuse box	12.5m
Jarak suis ke kotak fius	12.5m
Lampu kalimantang LED	RM30.00/set
LED Flourescent lamp	RM30.00/set
Switch	RM6.00
Suis	RM6.00
Labour rate	RM120.00/day
Upah buruh	RM120.00/day
Installation	1.15 hour
Pemasangan	1.15 jam
Wastage	5%
Pembaziran	5%
Overhead and profit	15%
Pengurusan dan keuntungan	15%

[8 marks]

[8 markah]

CLO3
C4

- (c) The taking off list is the process of analyzing technical drawings and specifications to identify the elements. The list should include each building element from the smallest to the largest component. Based on Figure B3(c) below, illustrate a taking off for that electrical system.

Proses pengukuran kuantiti ialah proses menganalisis lukisan spesifikasi dan teknikal untuk mengenal pasti unsur-unsur. Senarai harus merangkumi setiap elemen bangunan dari yang paling kecil kepada komponen terbesar. Berdasarkan Rajah B3(c) di bawah, ilustrasikan kerja pengukuran kuantiti bagi sistem perpaipan tersebut.

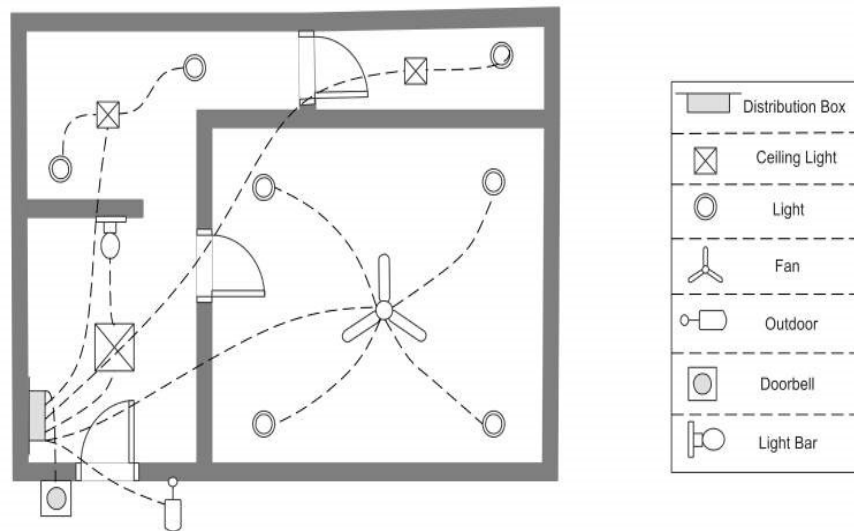


Figure B3(c) / Rajah B3(c)

[12 marks]

[12 markah]

QUESTION 4**SOALAN 4**CLO3
C2

- (a) A preliminary estimate is made at the very beginning of a project when there is limited information available. The preliminary estimate is also called a screening estimate and is usually based on the information from similar projects done in the past. Based on the statement, explain in brief **FIVE (5)** importance of preliminary estimating method.

*Anggaran awal dibuat pada permulaan projek apabila terdapat maklumat terhadap. Anggaran awal juga dipanggil anggaran saringan dan biasanya berdasarkan maklumat daripada projek serupa yang dilakukan pada masa lalu. Berdasarkan pernyataan tersebut, terangkan secara ringkas **LIMA (5)** kepentingan kaedah anggaran awal.*

[5 marks]

[5 markah]

CLO3
C3

- (b) In a built up rates, there are five cost need to be considered. Explain **FOUR (4)** of them.

*Dalam kadar binaan, terdapat lima kos yang perlu dipertimbangkan. Terangkan secara terperinci **EMPAT (4)** daripadanya.*

[8 marks]

[8 markah]

CLO3
C4

- (c) The taking off list is the process of analyzing technical drawings and specifications to identify the elements. The list should include each building element from the smallest to the largest component. Based on Figure B4(c) below, illustrate a taking off list for the piping system.

Proses pengukuran kuantiti ialah proses menganalisis lukisan spesifikasi dan teknikal untuk mengenal pasti unsur-unsur. Senarai harus merangkumi setiap elemen bangunan dari yang paling kecil kepada komponen terbesar. Berdasarkan Rajah B4(c) di bawah, ilustrasikan senarai pengukuran bagi sistem perpaipan tersebut.

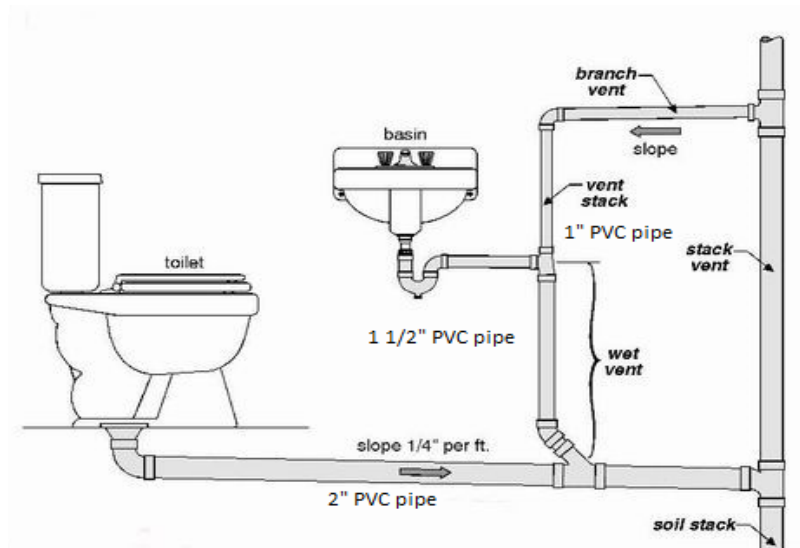


Figure B4(c) / Rajah B4(c)

[12 marks]

[12 markah]

Notes

Assessment items for this course have covered elements of the Dublin Problem: DP1, DP2, DP3, DP4 and DP7 as mentioned in FIEST.

SOALAN TAMAT