SECTION A : 50 MARKS
BAHAGIAN A : 50 MARKAH

INSTRUCTION:
This section consists of **TWO (2)** structured questions. Answer all questions in this section.

ARAHAN :
*Bahagian ini mengandungi **DUA (2)** soalan berstruktur. Jawab semua soalan pada bahagian ini.*

QUESTION 1
SOALAN 1

CLO1
C1

a) State **FIVE (5)** contents in a Tender Document based on Drawing and Specification.

*Nyatakan **LIMA (5)** kandungan di dalam Dokumen Tender berasaskan Lukisan dan Spesifikasi.*

[5 marks]
[*5 markah*]

CLO1
C2

b) Describe **ONE (1)** the advantages and disadvantages of the following tenders:

i. Open Tender
ii. Limited Tender
iii. Selective Tender
iv. Pre-Qualification Tender
v. Negotiable Tender

*Huraikan **SATU (1)** kebaikan dan keburukan tender-tender berikut:*

i. Tender Terbuka
ii. Tender Terhad
iii. Tender Terpilih
iv. Tender Pra-Kelayakan
v. Tender Perundingan

[10 marks]
[*10 markah*]

CLO1
C2

c) Describe briefly the following procedure of Tenders:

i. Table Tender Document

ii. Tender Notice

iii. Tender Opening Committee

iv. Tender Award

v. Tender Rejection

Huraikan dengan ringkas prosedur tender yang berikut:

i. Dokumen Meja Tender

ii. Notis Tender

iii. Jawatankuasa Pembuka Tender

iv. Penganugerahan Tender

v. Penolakan Tender

[10 marks]
[*10 markah*]

QUESTION 2
SOALAN 2

CLO2
C3

Referring to the Figure A2 given, calculate the quantity for earthwork for cut and fill by using Square Method.

Given:

(i) Interval = 5 m

(ii) Formation level = 100 m

Merujuk kepada Rajah A2 yang diberi, kirakan kuantiti kerja tanah untuk pemotongan dan penambakan menggunakan Kaedah Segiempat.

Di beri:

(i) Jarak Sela = 5 m

(ii) Aras pembentukan = 100 m

	A	B	C	D	E	F	G
1	101.00	101.06	101.07	101.07	101.08	101.08	101.06
2	101.02	101.05	101.06	101.06	101.06	101.05	101.05
3	101.03	101.04	101.05	101.05	101.05	101.03	101.04
4	101.02	101.03	101.04	101.04	101.04	101.03	101.04
5	101.02	101.04	101.04	101.03	101.03	101.02	101.03

Figure A2 / *Rajah A2*

[25 marks]
[*25 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 berstuktur. Jawab **DUA (2)** soalan sahaja.*

SOALAN 1

CLO1
C1

a. State the financial limit for all grade of contractors registered with Construction Development Board (CIDB) below:

Nyatakan had kewangan untuk semua gred kontraktor yang berdaftar dengan Lembaga Pembangunan Industri Binaan (CIDB) di bawah.

Contractor grade / *Gred kontraktor*	Financial limit / *Had kewangan*
G7	
G6	
G5	
G4	
G3	

[5 marks]
[*5 markah*]

CLO1
C1

b. List down **TWO (2)** characteristic of nominated sub-contractor.

*Senaraikan **DUA (2)** ciri-ciri sub-kontraktor dinamakan.*

[5 marks]
[*5 markah*]

CLO1
C2

c. Turnkey Contract has become more popular nowadays.

i. Explain the definition of Turnkey Contract.

ii. Identify **FIVE (5)** disadvantages of this contract.

Kontrak Turnkey menjadi pilihan yang semakin popular hari ini.

i. Terangkan definasi Kontrak Turnkey

*ii. Kenal pasti **LIMA (5)** kekurangan kontrak jenis ini.*

[15 marks]
[*15 markah*]

QUESTION 2
SOALAN 2

CLO2
C1

(a) Identify the usage of a Unit Valuation Method and list down **THREE (3)** advantages of a Unit Valuation Method.

*Kenal pasti kegunaan Kaedah Penilaian Unit dan senaraikan **TIGA (3)** kebaikan Kaedah Penilaian Unit.*

[5 marks]
[*5 markah*]

CLO2
C2

(b) Based on Table B2 below, estimate the cost of construction for Hospital B which can accommodate 5000 patients. Taking into consideration that there will be an additional 20% cost for materials.

Berdasarkan Jadual B2 di bawah, anggarkan kos pembinaan untuk Hospital B yang mana boleh memuatkan 5000 orang pesakit. Terdapat penambahan kos sebanyak 20% kepada kos bahan.

Types / *Jenis*	Construction Cost / *Kos Pembinaan*	Total Patient / *Jumlah Pesakit*
Hospital A	2,500,500.00	3000

Table B2 / *Jadual B2*

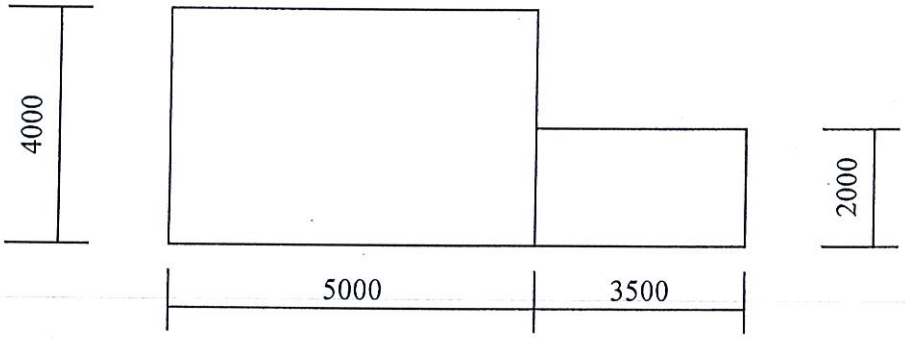
[5 marks]
[*5 markah*]

CLO2
C3

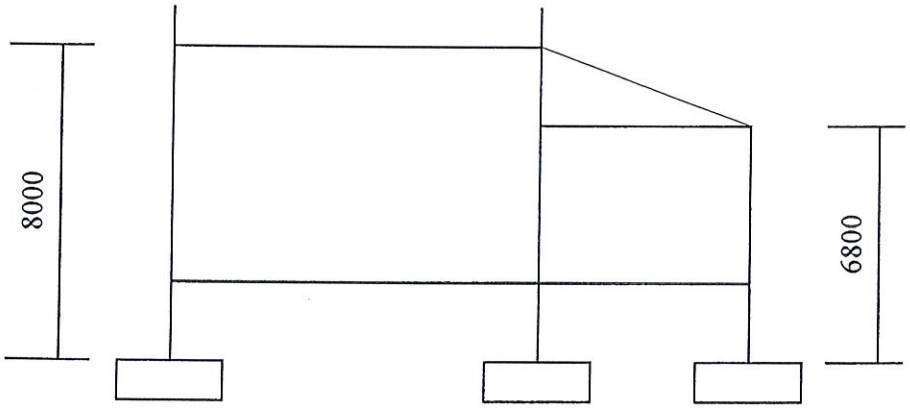
(c) According to Figure B2 below, calculate the cost of the building using the Cubic Content Method assuming the price rate is RM450.00/m³ and there should be an additional cost about 30%.

Berdasarkan kepada Rajah B2 di bawah, kirakan kos bangunan tersebut dengan menggunakan Kaedah Isipadu Bangunan dengan mengandaikan kadar harga adalah RM450.00/m³ dan terdapat penambahan kos sebanyak 30%.

[15 marks]
[*15 markah*]



Floor Plan / *Pelan Lantai*



Side View / *Pandangan Sisi*

* All unit is in mm / *Semua ukuran adalah dalam unit mm*

Figure B2 / *Rajah B2*

QUESTION 3
SOALAN 3

CLO2
C3

Based on the information given, calculate the price rate of pad foundation F1 and F2 for:

i. Manual excavation
ii. Manually mixed concrete

Berdasarkan maklumat yang diberi, kirakan kadar harga bagi asas pad F1 dan F2 untuk:.

i. Penggalian dengan secara manual
ii. Konkrit yang dibancuh secara manual

[25 marks]
[*25 markah*]

Pad Footing / *Asas Pad*	Size / *Saiz* (m)	Depth / *Kedalaman* (m)	Unit / *Bilangan*
F1	1.20 X 1.20 X 0.23	1.4	5
F2	1.05 X 1.05 X 0.15	1.2	3

Table B3 / *Jadual B3*

Given:
Materials
Cement : RM 12.50 / bag
Sand : RM 20.00 / m^3
Aggregate : RM 45.00 / m^3

Concrete Mixer
Machinery rent cost : RM 80.00/ hour
Machine output : 6m^3 / hour
Diesel usage : 15.00 litre / day ; RM 1.60/ litre
Lubricant usage : 4.50 litre/ day ; RM 8.00/ litre
Operator : 1 person
Assistant : 2 person

Labour Constant
Excavation soil : 1.5 hour/m^3
Get out the excavation soil : 0.9 hour/m^3
Backfill & compact soil : 1.1 hour/m^3
Remove and replace concrete : 0.75 hour/m^3
Compact concrete : 0.50 hour/m^3

Others
Operator wage : RM 8.00/ hour
Assistant wage : RM 6.00/ hour
Profit & overhead : 15%
Concrete ratio : 1 : 2 : 4 – 19mm aggregate
Type of soil is ordinary soil
1m³ concrete : 28.7 bags cement

Bahan
Simen : RM 12.50 / kampit
Pasir : RM 20.00 / m³
Aggregate : RM 45.00 / m³

Pembancuh konkrit
Kos sewa mesin : RM 80.00/ jam
Pengeluaran mesin : 6m³ / jam
Penggunaan diesel : 15.00 liter /hari ; RM 1.60/ liter
Penggunaan pelincir : 4.50 liter/ hari ; RM 8.00/ liter
Operator :1 orang
Pembantu : 2 orang

Upah buruh
Penggalian tanah : 1.5 jam/m³
Pengeluaran isi tanah : 0.9 jam/m³
Isi semula dan pemadatan tanah : 1.1 jam/m³
Pengeluaran dan penggantian konkrit : 0.75 jam/m³
Pemadatan konkrit : 0.50 jam/ m³

Lain-lain
Kos upah operator : RM 8.00/jam
Kos upah pembantu : RM 6.00/jam
Keuntungan dan overhed :15%
Nisbah konkrit : 1 : 2 : 4 – 19mm batu baur
Jenis tanah adalah tanah biasa
1m³ konkrit : 28.7 kampit simen

QUESTION 4
SOALAN 4

CLO2
C3

(a) By referring to Figure B4 (i) and Figure B4 (ii), carry out taking off for pad footing and column stump by including:

i. Excavation
ii. Lean concrete
iii. Reinforced concrete (RC)

Assume:

- Concrete cover for footing is 50 mm
- Concrete cover for stump is 40 mm
- RC to be Grade 20 (1:2:4)
- All dimension is in mm

Dengan merujuk Rajah B4 (i) dan Rajah B4 (ii), sediakan ukur kuantiti bagi asas pad dan tunggul tiang yang meliputi:

i. Pengalian
ii. Pemaras konkrit
iii. Konkrit bertetulang

Andaian:

- *Penutup konkrit bagi asas ialah 50 mm*
- *Penutup konkrit bagi tunggul tiang ialah 40 mm*
- *Konkrit bertetulang Grade 20 (1:2:4)*
- *Semua ukuran adalah dalam unit mm*

[25 marks]
[*25 markah*]

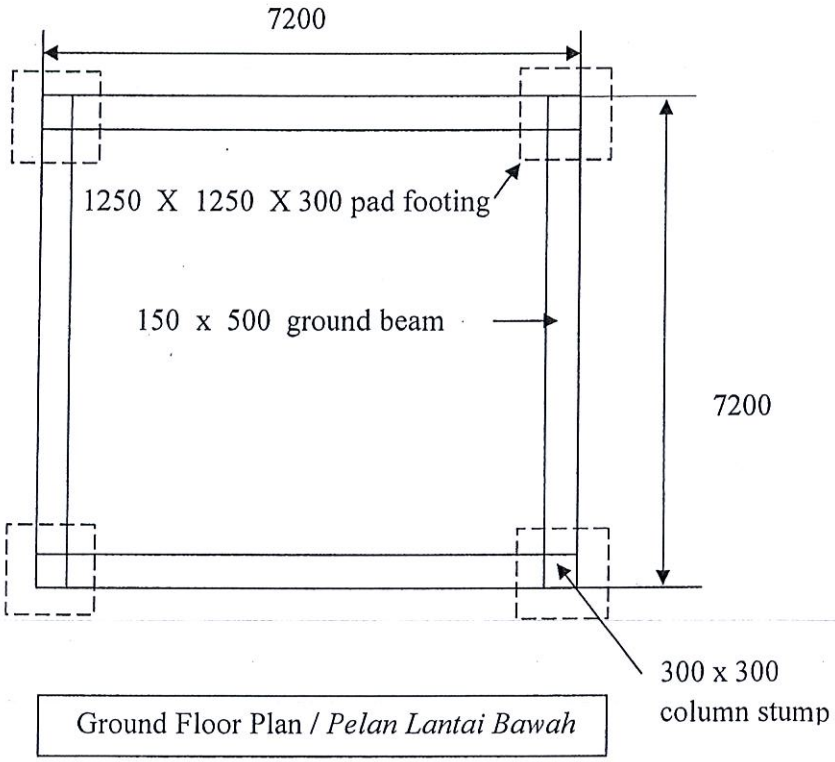
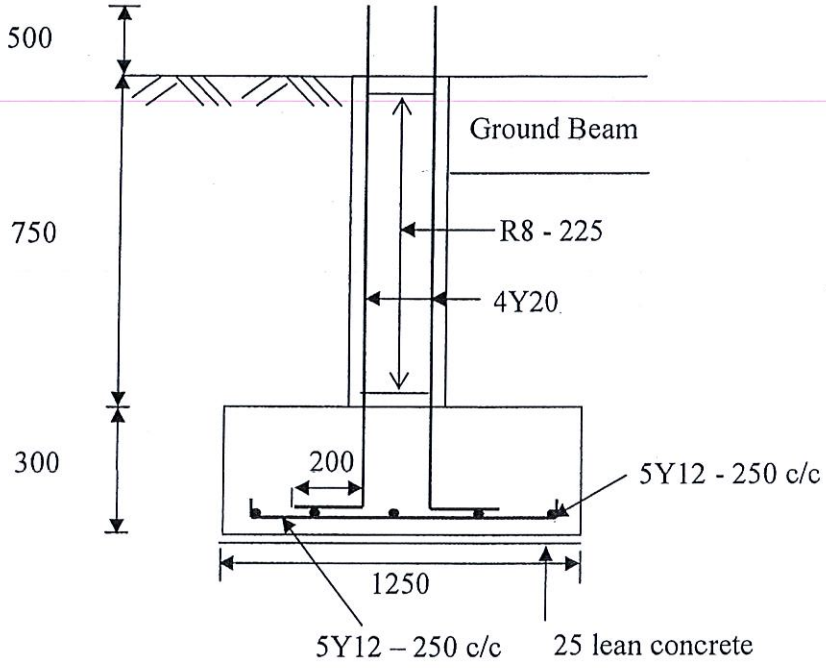
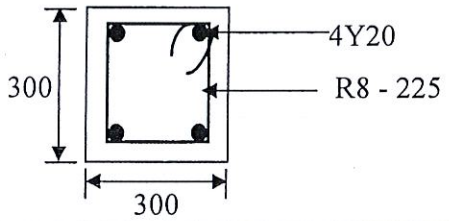


Figure B4(i) / *Rajah B4(i)*



Section of Pad Footing / *Keratan Asas Pad*



Cross Section Of Column Stump /
Keratan Rentas Tunggul Tiang

Figure B4(ii) / *Rajah B4(ii)*

SOALAN TAMAT

FOR FINAL EXAMINATION USE ONLY

Drawing No:	Bill No.:	Element:	Slip No.:
Heading:			Unit:
Description:			Quantity:

NO. SIRI:

Drawing No:	Bill No.:	Element:	Slip No.:
Heading:			Unit:
Description:			Quantity: