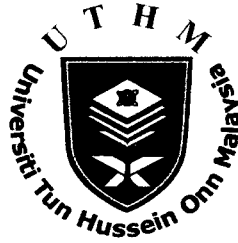


**SULIT**



**UNIVERSITI TUN HUSSEIN ONN  
MALAYSIA**

**PEPERIKSAAN AKHIR  
SEMESTER I  
SESI 2011/2012**

**NAMA KURSUS : PENGURUSAN PROJEK PEMBINAAN**

**KOD KURSUS : BPD 23603**

**PROGRAM : 2 BPC**

**TARIKH PEPERIKSAAN : JANUARI 2012**

**JANGKA MASA : 3 JAM**

**ARAHAN : BAHAGIAN A  
JAWAB SEMUA SOALAN**

**BAHAGIAN B  
JAWAB TIGA (3) SOALAN  
DARIPADA EMPAT (4) SOALAN**

**KERTAS SOALAN INI MENGANDUNGI 11 MUKA SURAT**

**SULIT**

**BAHAGIAN A (40 markah)*****PART A (40 marks)***

- S1 Perancangan projek ialah proses mengenal pasti semua aktiviti yang diperlukan agar projek dapat disiapkan dengan jayanya. Proses ini juga dikenali sebagai huraian projek kepada kerja-kerja (aktiviti-aktiviti), mendefinisi dan memperinci aktiviti-aktiviti yang akan dilakukan.
- (a) Nyatakan objektif perancangan pembinaan. (2 markah)
- (b) Lakarkan kitar hayat perancangan pembinaan. (2 markah)
- (c) Sediakan contoh format borang alat-alat perancangan pembinaan berikut:
- (i) *Work Breakdown Structure (WBS)* (3 markah)
- (ii) *Responsibility Assignment Matrix (RAM)* (3 markah)
- Q1 *Project planning is the process of identifying all activities necessary to complete the project successfully. This process is also known as breakdown of project into work items (activities), define and describe activities to be performed.*
- (a) *State objective construction planning.* (2 marks)
- (b) *Sketch life cycle construction plan.* (2 marks)
- (c) *Prepare the form of format of construction planning tools as follows:*
- (i) *Work Breakdown Structure (WBS)* (3 marks)
- (ii) *Responsibility Assignment Matrix (RAM)* (3 marks)

S2 Jadual S2 menunjukkan Keutamaan Rajah (*Precedence Diagram*) bagi aktiviti-aktiviti bagi projek perumahan.

**Jadual S2:** Keutamaan Rajah (*Precedence Diagram*) bagi Projek Perumahan

<b>Aktiviti</b>	<b>Tempoh (hari)</b>	<b>Keutamaan</b>
<i>Mobilize</i>	3	-
<i>Procure Forms</i>	5	<i>Mobilize</i>
<i>Layout Exc. 1</i>	4	<i>Mobilize</i>
<i>Forms Concrete 1</i>	3	<i>Procure Forms, Layout Exc. 1</i>
<i>Layout Exc. 2</i>	4	<i>Layout Exc. 1</i>
<i>Layout Exc. 3</i>	4	<i>Layout Exc. 2</i>
<i>Forms Concrete 2</i>	3	<i>Forms Concrete 1, Layout Exc. 2</i>
<i>Set Base Plates 1</i>	1	<i>Forms Concrete 1</i>
<i>Set Base Plates 2</i>	1	<i>Forms Concrete 2, Set Base Plates 1</i>
<i>Forms Concrete 3</i>	3	<i>Forms Concrete 2, Layout Exc. 3</i>
<i>Set Base Plates 3</i>	1	<i>Forms Concrete 3, Set Base Plates 2</i>

- (a) Kira jumlah masa yang diambil untuk menyiapkan projek perumahan ini. (11 markah)
- (b) Definiskan laluan kritikal. (2 markah)
- (c) Nyatakan laluan kritikal berdasarkan soalan S2(a). (2 markah)

Q2 Table Q2 shows Precedence Diagram for housing project activities.

**Table Q2: Precedence Diagram for Housing Project Activities.**

<b>Activity</b>	<b>Duration (day)</b>	<b>Predecessors</b>
<i>Mobilize</i>	3	-
<i>Procure Forms</i>	5	<i>Mobilize</i>
<i>Layout Exc. 1</i>	4	<i>Mobilize</i>
<i>Forms Concrete 1</i>	3	<i>Procure Forms, Layout Exc. 1</i>
<i>Layout Exc. 2</i>	4	<i>Layout Exc. 1</i>
<i>Layout Exc. 3</i>	4	<i>Layout Exc. 2</i>
<i>Forms Concrete 2</i>	3	<i>Forms Concrete 1, Layout Exc. 2</i>
<i>Set Base Plates 1</i>	1	<i>Forms Concrete 1</i>
<i>Set Base Plates 2</i>	1	<i>Forms Concrete 2, Set Base Plates 1</i>
<i>Forms Concrete 3</i>	3	<i>Forms Concrete 2, Layout Exc. 3</i>
<i>Set Base Plates 3</i>	1	<i>Forms Concrete 3, Set Base Plates 2</i>

- (a) Calculate total of duration to complete this housing project. (11 marks)
- (b) Define of critical path. (2 marks)
- (c) State critical path based on question S2(a). (2 marks)

S3 Andaikan firma anda telah mendapat kontrak untuk membina projek kompleks membeli-belah.

Terangkan perincian garis kasar pelan pengurusan bahan bagi memastikan peralatan dan bahan yang diperlukan sampai di tapak di samping menyokong aktiviti-aktiviti pembinaan.

(15 markah)

Q3 Assume that your firm has just been awarded the contract to construct shopping complex projects.

Explain an outline of materials management plan to ensure that the necessary equipment and materials arrive at the field site to support the construction activities.

(15 marks)

**BAHAGIAN B (60 markah)****PART B (60 marks)**

S4 Pembebanan sumber melibatkan penentuan jenis dan kuantiti sumber yang digunakan untuk menyiapkan setiap aktiviti dalam projek.

- (a) Bincangkan secara ringkas **LIMA (5)** prosedur bagi pemeringkatan sumber.  
(10 markah)
- (b) Jadual S4 menunjukkan Jadual Kekangan-Sumber untuk Projek ASAM.

**Jadual S4: Jadual Kekangan-Sumber Projek ASAM**

AKTIVITI	KEUTAMAAN	SUMBER	TEMPOH (HARI)	ES	LF	Slack
1	-	2R	2	0	2	0
2	1	2R	6	2	10	2
3	1	2R	4	2	6	0
4	1	1R	2	2	10	6
5	3	1R	2	6	10	2
6	3	1R	4	6	10	0
7	2,4,5,6	1R	2	10	12	0

Bina profil sumber dengan ilustrasi *Resource Loading Chart* berdasarkan maklumat yang diberi,

(10 markah)

**Q4** *Resource loading involves specifying the types and quantities of resources required to complete each activity in a project.*

(a) *Discuss briefly FIVE (5) procedures for resource levelling.*

*(10 marks)*

(b) *Table Q4 shows Resources-Constrained Schedule for ASAM Project.*

**Table Q4: Resources-Constrained Schedule for ASAM Project**

<i>Activity</i>	<i>Predecessors</i>	<i>Resource</i>	<i>Duration (Day)</i>	<i>ES</i>	<i>LF</i>	<i>Slack</i>
<i>1</i>	<i>-</i>	<i>2R</i>	<i>2</i>	<i>0</i>	<i>2</i>	<i>0</i>
<i>2</i>	<i>1</i>	<i>2R</i>	<i>6</i>	<i>2</i>	<i>10</i>	<i>2</i>
<i>3</i>	<i>1</i>	<i>2R</i>	<i>4</i>	<i>2</i>	<i>6</i>	<i>0</i>
<i>4</i>	<i>1</i>	<i>1R</i>	<i>2</i>	<i>2</i>	<i>10</i>	<i>6</i>
<i>5</i>	<i>3</i>	<i>1R</i>	<i>2</i>	<i>6</i>	<i>10</i>	<i>2</i>
<i>6</i>	<i>3</i>	<i>1R</i>	<i>4</i>	<i>6</i>	<i>10</i>	<i>0</i>
<i>7</i>	<i>2,4,5,6</i>	<i>1R</i>	<i>2</i>	<i>10</i>	<i>12</i>	<i>0</i>

*Develop a resource profile with Resource Loading Chart illustration based on information given.*

*(10 marks)*

- S5 Pengurusan kos projek merupakan proses yang memastikan projek siap dengan peruntukan belanjawan yang ditetapkan. Oleh itu, adalah penting bagi Pengurus Projek Pembinaan mengetahui proses dalam pengurusan kos projek iaitu perancangan sumber, anggaran kos, belanjawan kos dan pengawalan kos.
- (a) Terangkan maksud kaedah anggaran kos *top-down* dan *bottom-up*. (4 markah)
  - (b) Jelaskan **DUA (2)** kelebihan dan kelemahan bagi setiap kaedah anggaran tersebut. (8 markah)
  - (c) Takrifkan kos-kos berikut;
    - (i) Kos Keseluruhan Belanjawan (TBC) (2 markah)
    - (ii) Kos Belanjawan Terkumpul (CBC) (2 markah)
    - (iii) Jumlah Kos Sebenar Projek (TAC) (2 markah)
  - (d) Keluk S digunakan sebagai alat mengawal kos sesuatu projek pembinaan. Beri alasan keperluan perbandingan keluk anggaran kos dan keluk kos sebenar. (2 markah)

*Q5 Project cost management is a process required to ensure that the project is completed within an approved budget. Therefore, it is vital for Construction Managers to know the project cost management processes which are resource planning, cost estimating and budgeting and cost control.*

- (a) Explain top-down and bottom-up estimating methods. (4 marks)*
- (b) Explain TWO (2) advantages and disadvantages for each method. (8 marks)*
- (c) Define the following costs;*
  - (i) Total Budget Cost (TBC) (2 marks)*
  - (ii) Cumulative Budget Cost (CBC) (2 marks)*
  - (iii) Total Actual Cost of a project (TAC) (2 marks)*
- (d) S Curve is used to control the cost of the construction project. Give reason to the necessity of cost budgeted curve and actual cost curve. (2 marks)*



S6



**Rajah S6:** Projek Usahasama Telekomunikasi Projek Pembinaan

Rajah S6 menunjukkan projek usahasama telekomunikasi untuk projek pembinaan pada peringkat pengendalian dan pengawalan. Proses ini bermula dengan perancangan projek yang baik.

Berdasarkan projek di atas;

- (a) Senaraikan **LIMA (5)** halangan semasa pelaksanaan projek. (5 markah)
- (b) Terangkan **DUA (2)** kawasan yang kritikal. (5 markah)
- (c) Bina pusingan rancang-kendali-kawal bagi mengatasi halangan dan kawasan kritikal tersebut. (10 markah)

Q6



**Figure Q6: Telecommunication Collaboration Project for Construction Project**

Figure S6 shows telecommunication collaboration project for construction project at monitoring and controlling stage. The process begins with good project planning.

Based on the project;

- (a) List **FIVE (5)** barriers during the implementation of the project. (5 marks)
- (b) Explain **TWO (2)** critical areas. (5 marks)
- (c) Develop plan-monitor-control cycle to solve the barriers and critical areas. (10 marks)

S7 Andaikan anda sebagai pengurus projek telah berhadapan dengan kemalangan maut di tapak projek pembinaan.

Bincangkan cara anda menangani situasi ini dengan mempertimbangkan perkara-perkara yang berkaitan dengan Akta Keselamatan dan Kesihatan Pekerjaan (OSHA), pihak pengurusan anda, media tempatan dan syarikat insurans. Buat andaian sendiri sekiranya perlu.

(20 markah)

Q7 *Assume that you as project manager have had a fatal accident on your construction site project.*

*Discuss the way to tackle the situation by considering with Occupational Safety and Health Act (OSHA), your management, the local media and the insurance company items. Make your own assumption if needed.*

(20 marks)

**KERTAS SOALAN TAMAT  
END OF QUESTION PAPER**