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# UNIVERSITI SAINS MALAYSIA

Second Semester Examination  
2012/2013 Academic Session

June 2013

## **EBS 339/3 – Mineral Economics** ***[Ekonomi Mineral]***

Duration : 3 hours  
*[Masa : 3 jam]*

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Please ensure that this examination paper contains NINE printed pages before you begin the examination.

*[Sila pastikan bahawa kertas peperiksaan ini mengandungi SEMBILAN muka surat yang bercetak sebelum anda memulakan peperiksaan ini.]*

This paper consists of SEVEN questions.

*[Kertas soalan ini mengandungi TUJUH soalan.]*

**Instruction:** Answer **FIVE** questions. If a candidate answers more than five questions only the first five questions answered in the answer script would be examined.

***[Arahan:*** Jawab **LIMA** soalan. Jika calon menjawab lebih daripada lima soalan hanya lima soalan pertama mengikut susunan dalam skrip jawapan akan diberi markah.]

The answers to all questions must start on a new page.

*[Mulakan jawapan anda untuk semua soalan pada muka surat yang baru.]*

You may answer a question either in Bahasa Malaysia or in English.

*[Anda dibenarkan menjawab soalan sama ada dalam Bahasa Malaysia atau Bahasa Inggeris.]*

In the event of any discrepancies, the English version shall be used.

*[Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah digunapakai.]*

1. Cash flow for a mining project are as given in the following table:

*Aliran tunai untuk satu projek perlombongan adalah seperti berikut:*

<b>Year</b> <i>Tahun</i>	<b>Capital Expenditure</b> <i>Perbelanjaan Modal</i> <b>(RM 000)</b>	<b>Gross Income</b> <i>Pendapatan Kasar</i> <b>(RM 000)</b>	<b>Operating Cost</b> <i>Kos Operasi</i> <b>(RM 000)</b>
-3	1000		
-2	1000		
-1	4000		
0	7000		
1		9000	4000
2		9000	4100
3		13000	4200
4		13000	4300
5		12000	4400

70% of the Capital Cost was used for mine development while remaining 30% was used to buy mining land.

If:-

- (i) Depreciation was done equally for 4 years beginning year 1
- (ii) Depletion was done equally for 5 years beginning year 1
- (iii) Income tax paid at 40% rate
- (iv) Capital cost is 10%

*Andainya:-*

- (i) *Susut nilai dilaksanakan sama rata selama 4 tahun bermula tahun 1*
- (ii) *Pemupusan dilaksanakan sama rata selama 4 tahun bermula tahun 1*
- (iii) *Cukai pendapatan dibayar pada kadar 40%*
- (iv) *Kos modal adalah 10%*

Calculate: / *Kirakan:*

- (a) The total net income cash flow for the project.

*Jumlah aliran tunai bersih untuk projek.*

(20 marks/markah)

- (b) The net cash flow present value at capital cost.

*Nilai kini aliran tunai bersih pada kos modal.*

(30 marks/markah)

- (c) The discounted cash flow internal rate of return for the project.

*Kadar pulangan dalaman aliran tunai terdiskaun untuk projek.*

(35 marks/markah)

- (d) The payback period.

*Tempoh bayar balik aliran tunai tersebut.*

(15 marks/markah)

2. A mining company plan to open a gold mine. Two potential mining method was investigated and its cash flow was prepared as follow:

*Sebuah Syarikat perlombongan merancang untuk membuka sebuah lombong emas. Dua kaedah perlombongan telah dikaji dan aliran tunai disediakan, seperti berikut:*

	<b>Capital Cost</b> <i>Kos Modal</i> <b>(RM)</b>	<b>Annual Cash flow</b> <i>Aliran Tunai</i> <i>Tahunan</i> <b>(RM)</b>	<b>Mine Life</b> <i>Hayat lombong</i> <b>(Year/Tahun)</b>
Mining Method A <i>Kaedah Perlombongan A</i>	3,500,000	900,000	12
Mining Method B <i>Kaedah Perlombongan B</i>	5,000,000	1,200,000	12

You are requested to conduct analysis study on the cash flow and to endorse which method should be chosen and explain why.

*Anda diminta untuk menjalankan kajian analisis aliran-aliran tunai berkenaan dan memberi perakuan kaedah mana yang patut dipilih beserta dengan alasan-alasan pemilihannya sekali.*

(100 marks/markah)

3. [a] In a marketing or advertising campaign, your customer has asked you to provide a quotation or offer for ground calcium carbonate at 200 Mt/month to be delivered from your factory in Ipoh to their plant in Shah Alam.

Write up a short 1-2 pages general contract offer to the customer that encompasses all aspects of pricing, packaging, delivery mode & period, quantity, lead time, and any other terms or conditions required by you.

*Di dalam kempen pemasaran atau pengiklanan, pelanggan anda telah meminta anda menyediakan satu sebutharga atau tawaran untuk 220 Mt sebulan kalsium karbonat halus (GCC) untuk dihantar dari kilang anda di Ipoh ke kilang mereka di Shah Alam.*

*Tulis satu tawaran kontrak (satu hingga dua helai) kepada pelanggan anda merangkumi aspek-aspek harga, pembungkusan, mod hantaran, tempoh hantaran, kuantiti, masa "lead" dan sebarang terma atau syarat yang diperlukan oleh anda.*

(50 marks/markah)

- [b] Your company has asked you to come out with a market report on all aspects of applications of sand in Malaysia. This should be by industry segments, volumes, values, trends, prices and other competitors/producers in the market.

*Syarikat anda telah meminta anda menyediakan laporan pasaran mengenai kesemua aspek permohonan pasir di Malaysia. Laporan ini mesti mengambil kira segmen industri, isipadu, nilai, trend, harga dan pesaing atau pengeluar yang lain di dalam pasaran.*

(50 marks/markah)

4. [a] Discuss and explain with diagrams the Boston Matrix and the products in the categories considered as "Star", "Cash Cow", "Dog" or "Question Mark".

*Dengan menggunakan Gambarajah Boston Matrix, bincang dan huraikan produk dan kategori "Bintang", "Cash Cow", "Anjing" atau "Tanda Soal".*

(50 marks/markah)

- [b] Provide a report on the kaolin market in Malaysia by end- industry with examples to customers and by producers, by prices, trend, volumes.

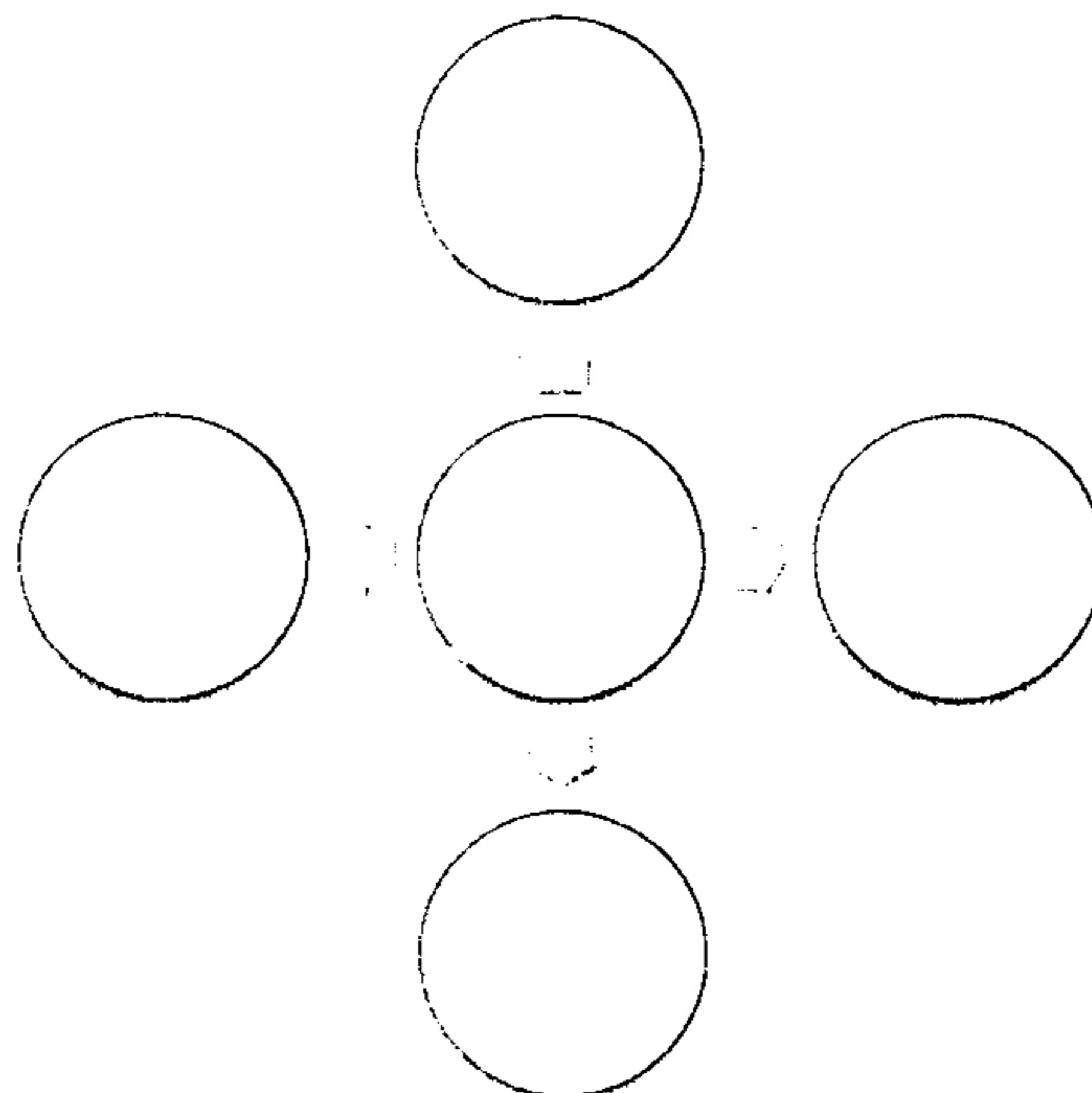
*Sediakan sebuah laporan mengenai pasaran kaolin di Malaysia mengikut industri hiliran. Sertakan contoh pengguna dan pengeluar, harga, trend dan isipadu.*

(50 marks/markah)

5. Name the FIVE major players in the dynamics of mineral industry (use diagram below). Discuss their roles and importance with respect to one another.

*Namakan LIMA pemain utama dalam sistem dinamik industri mineral (gunakan gambarajah yang diberikan). Bincangkan peranan dan kepentingan tiap satu dengan yang lain.*

(100 marks/markah)



6. [a] Define resource, reserve, geological and economic certainty as commonly used in the McKelvey Box. Explain their respective usage in reporting reserves.

*Beri erti rizab, sumber, ketentuan geologi dan ketentuan ekonomi sebagaimana yang lazim digunakan di dalam Kotak McKelvey. Huraikan penggunaannya di dalam membuat laporan tentang rizab.*

(50 marks/markah)

- [b] Discuss the importance of reserve in mineral economics analysis.

*Bincangkan kepentingan rizab di dalam analisis ekonomi mineral.*

(50 marks/markah)

7. [a] Define or write short notes on the following items.

- (i) Asset
- (ii) Capital gains
- (iii) Cash flow
- (iv) Fixed deposit
- (v) Dividends
- (vi) Doodads
- (vii) Bankruptcy
- (viii) Inflation
- (ix) Liability
- (x) Passive income

*Beri takrif atau tulis nota ringkas mengenai perkara berikut:*

- (i) *Aset*
- (ii) *Keuntungan modal*
- (iii) *Aliran tunai*
- (iv) *Simpanan tetap*
- (v) *Dividen*
- (vi) *Doodad*
- (vii) *Kebankrapan*
- (viii) *Inflasi*
- (ix) *Liabiliti*
- (x) *Pendapatan pasif*

(40 marks/markah)

[b] Using cash flow and income statements show how people can become poor, poorer, rich, richer and richest.

*Dengan menggunakan penyata pendapatan dan aliran tunai, tunjukkan bagaimana seseorang boleh menjadi miskin, sangat miskin, kaya, lebih kaya dan sangat kaya.*

(30 marks/markah)



- [c] In playing Monopoly (or Saidina) game, describe how you would like to achieve your dreams to be millionaire or multimillionaire. Indicate with time line.

*Ketika bermain permainan Monopoly atau Saidina, perihalkan bagaimana anda akan mencapai impian anda untuk menjadi seorang jutawan atau multijutawan. Gunakan skala masa yang munasabah.*

(30 marks/markah)

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