

SULIT



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

JABATAN PERDAGANGAN

**PEPERIKSAAN AKHIR
SESI JUN 2017**

DPR2013 : MATHEMATICS FOR RETAILING

**TARIKH : 23 OKTOBER 2017
MASA : 11.15 PAGI – 1.15 PETANG (2 JAM)**

Kertas ini mengandungi **LAPAN (8)** halaman bercetak.

Esei (4 soalan)

Dokumen sokongan yang disertakan : Formula

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

INSTRUCTION:

This section consists of **FOUR (4)** essay questions. Answer **ALL** questions.

ARAHAN:

Bahagian ini mengandungi EMPAT (4) soalan esei. Jawab SEMUA soalan.

QUESTION 1**SOALAN 1**

CLO 1
C 1

- a) Identify the value of u , v and w for the following equations:
Kenalpasti nilai bagi u , v dan w untuk persamaan berikut:

$$4u + 4v + w = 24$$

$$2u - 4v + w = 0$$

$$5u - 4v - 5w = 12$$

[10 marks]

[10 markah]

CLO 1
C 2

- b) Million Herbs sells cosmetic products. The company wishes to make more profit by producing a masker product. The selling price for 12 units of the masker product is RM270. The fixed cost is RM 102,000 and the variable cost per unit is 60% of the selling price.

Million Herbs menjual produk kosmetik. Syarikat ingin membuat lebih banyak keuntungan dengan menghasilkan produk masker. Harga jualan untuk 12 unit produk masker adalah RM270. Kos tetap adalah RM 102,000 dan kos berubah seunit ialah 60% dari harga jualan.

Identify:

Kenalpasti:

- i. the total cost function, $TC(x)$
fungsi jumlah kos, $TC(x)$

[3 marks]

[3 markah]

- ii. breakeven point (BEP) in units
titik pulang modal dalam unit

[3 marks]

[3 markah]

- iii. the profit if the company could sell 12,000 units of masker products when the selling price is reduced by 16%.

keuntungan sekiranya syarikat dapat menjual 12,000 unit produk masker apabila harga jualan dikurangkan sebanyak 16%.

[4 marks]

[4 markah]

CLO 1
C3

- c) Scented Drops sells perfumes. The selling price of a bottle perfume is RM55, the variable cost is RM32.50 per bottle and the fixed cost is RM9,800. Scented Drops target a profit of 35% of the total revenue. Calculate units to be sold to achieve the targeted profit.

'Scented Drops' menjual minyak wangi. Harga jualan minyak wangi adalah RM55 setiap botol, kos berubah setiap botol adalah RM32.50 dan kos tetap adalah RM9,800. 'Scented Drops' menyasarkan keuntungan sebanyak 35% daripada jumlah hasil. Kira unit yang perlu dijual untuk mencapai sasaran keuntungan.

[5 marks]

[5 markah]

QUESTION 2

SOALAN 2

CLO2
C1

- a) Kemisah Kirby received a 72 day promissory note which was discounted 12 days before maturity date at an interest rate of 16% per annum. The discount rate is 11% and the proceeds she received was RM8,877. Based on the information given, find

Kemisah Kirkby menerima nota janji 72 hari yang telah didiskaunkan 12 hari sebelum tarikh matang dengan kadar faedah yang dikenakan sebanyak 16%. Kadar diskaun adalah 11% dan hasil yang diterima adalah RM8,877. Berdasarkan maklumat diberi, cari:

- i. the discounted amount.
jumlah diskaun yang telah dikenakan.

[5 marks]

[5 markah]

- ii. the face value / nilai muka.

[5 marks]

[5 markah]

CLO2
C2

- b) Dikathlon bought 36 dozen of tennis ball with a list price of RM108 per dozen at a discount of 12%. The shop then sold the tennis balls at RM 160 per dozen. After selling 18 dozen of tennis balls, Dikathlon markdown the price to RM129.90 per dozen. Calculate:

Dikathlon membeli 36 dozen bola tenis dengan harga senarai RM108 setiap dozen dengan diskaun sebanyak 12%. Kedai ini kemudian menjual bola tenis pada harga RM160 setiap dozen. Selepas menjual 18 dozen bola tenis, Dikathlon menurunkan harga kepada RM129.90 per dozen. Kira:

- i. the total cost for the tennis balls.
jumlah kos bola tenis.

[4 marks]

[4 markah]

- ii. the percentage of markdown.
peratusan penurunan harga.

[6 marks]

[6 markah]

CLO2
C3

- c) Tuan Insan borrows RM11,200 from Cimbi Bank. After 2 years, he pays the bank RM16,800 as full payment of the loan. Determine the rate of interest charged for his loan.

Tuan Insan meminjam RM11,200 dari Cimbi Bank. Selepas 2 tahun, dia membayar RM16,800 kepada bank sebagai bayaran penuh pinjaman tersebut. Tentukan kadar faedah yang dikenakan bagi pinjaman beliau.

[5 marks]

[5 markah]

QUESTION 3**SOALAN 3**

CLO3
C1

- a) The list price of a digital camera is RM5,550. The trade discounts given are 20%, 15% and 5%. Find,

Harga senarai bagi kamera digital adalah RM5,550. Diskaun dagangan yang diberikan adalah 20% , 15% dan 3%. Cari,

- i. the single equivalent discount rate.
kadar diskaun tunggal.

[5 marks]

[5 markah]

- ii. net price.
harga bersih.

[5 marks]

[5 markah]

CLO3
C2

- b) An invoice of RM6,650 dated 11 July 2015 is paid on 31 July 2015. If the trade discount is offered at 2% and the cash discounts are 5/10, 4/30, n/60. Calculate:

Invois bernilai RM6,650 bertarikh 11 Julai 2015 dibayar pada 31 July 2015. Jika diskaun dagangan yang ditawarkan 2% dan diskaun tunai adalah 5/10, 4/30, n/60. Kira :

- i. the trade discount offered.
nilai diskaun dagangan.

[3 marks]

[3 markah]

- ii. the cash discount offered.
nilai diskaun tunai.

[3 marks]

[3 markah]

- iii. the amount paid.
jumlah bayaran.

[4 marks]

[4 markah]

CLO3
C3

- c) Kassim bought a cupboard listed at RM800 through an instalment plan. He paid RM100 as down payment. The balance was settled by making 10 monthly instalments. If the interest rate charged was 8.5% per annum on the original balance, calculate the instalment price.

Kassim membeli almari berharga RM800 melalui skim ansuran bulanan. Dia membayar RM100 sebagai bayaran wang pendahuluan. Baki bayaran diselesaikan dengan 10 kali bayaran secara bulanan. Jika kadar faedah yang dikenakan adalah 8.5% setahun berdasarkan baki asal, kira harga ansuran yang dikenakan.

[5 marks]

[5 markah]

QUESTION 4

SOALAN 4

Below are transportation problems which involve the following supply and demand costs:

Di bawah adalah masalah pengangkutan yang melibatkan kos penawaran dan permintaan:

	Ahmad	Bani	Cheong	Supply <i>Penawaran</i>
Warehouse 1 <i>Gudang 1</i>	7	8	10	50
Warehouse 2 <i>Gudang 2</i>	9	7	8	60
Demand <i>Permintaan</i>	70	30	40	

You are required to:

Anda dikehendaki:

CLO4
C3

- a) Calculate the initial solution using North West Corner Rule Method.
Kira penyelesaian awalan dengan menggunakan kaedah "North-West Corner Rule Method".

[10 marks]

[10 markah]

CLO4
C4

- b) Determine an optimal solution using Stepping Stone Method.
Kenalpasti solusi optimum dengan menggunakan kaedah "Stepping Stone".

[15 marks]

[15 markah]

SOALAN TAMAT

LIST OF FORMULA DPR2013

1. $\text{BEP (unit)} = \frac{\text{FC}}{\text{price} - \text{VC}}$
2. $\text{Contribution Margin (CM)} = \text{price} - \text{VC}$
3. $\text{Simple Interest (I)} = \text{Prt}$
4. $\text{Maturity value (S)} = \text{P} (1 + \text{rt})$
5. $\text{Present value (P)} = \text{S} (1 + \text{rt})^{-1}$
6. $\text{Bank Discount (D)} = \text{Sdt}$
7. $\text{Proceeds} = \text{S} (1 - \text{dt})$
8. $\text{Markup percentage based on retail price} = \frac{\text{M}}{\text{R}} \times 100\%$
9. $\text{Markup percentage based on cost price} = \frac{\text{M}}{\text{C}} \times 100\%$
10. $\text{Markdown (MD)} = \text{Original price (OP)} - \text{Net price (NP)}$
11. $r = \frac{2\text{MI}}{\text{B}(n+1)}$
12. $\text{Instalment price} = \text{Down payment} + \text{Total Monthly Payment}$
13. $\text{Monthly payment} = \frac{\text{Original Balance} + \text{Total Interest}}{\text{Number of payments}}$
14. $\text{Trade discount} = \text{List price (L)} - \text{Net price (NP)}$
15. $\text{Net price (NP)} = \text{L} (1 - r)$
16. $r = 1 - (1 - r_1) (1 - r_2) (1 - r_3)$
17. $\text{Amount outstanding} = \text{Invoice amount} - \text{credit given}$
18. $\text{Net price (NP)} = \text{L} (1 - r_1) (1 - r_2) (1 - r_3)$