QUESTION 1

A high-rise building provides shop-lots to be rented. Rent is cheaper on the upper floors of shop space. The ground, first, and second floors rent for RM4,925 , RM4,625 , and RM4,325 per month, respectively. How much is the rent on the eleventh floor?

(5 marks)

Solution:

$$4925, 4625, 4325, \ldots \qquad a = 4925 \quad d = -300$$

$$T_{11} = a + (11-1)d$$
$$= 4925 + 10(-300) = RM\,1,925 \text{ *Ans.}$$

QUESTION 2

Mary invested in an investment fund that offered a simple interest rate of 6% per annum. After 5 months, the investment was worth RM8,200. Find the principal amount of the investment.

(5 marks)

Solution:

$$r = 6\% \,, \quad S = 8,200 \,, \quad t = 5\text{ months} @ \tfrac{5}{12}\text{ year.}$$

$$P = S(1+rt)^{-1}$$
$$= 8,200\left(1 + 0.06\left(\tfrac{5}{12}\right)\right)^{-1}$$
$$= RM\,8,000 \text{ *Ans}$$

QUESTION 3

a) Sara needs RM45,500 now. Find the amount that she should borrow from a bank if a bank discount of 2.5% is charged for 2 months' repayment.

(5 marks)

b) A promissory note of RM15,800 was issued on 15 January 2021 with a simple interest rate of 6% per annum. The note matured on 20 March 2021. Find the maturity value of the note.

(6 marks)

Solution:

a) $Proceed = 45,000$
$d = 2.5\%$
$t = \tfrac{2}{12}$

$$H = S(1 - dt)$$
$$45,000 = S\left(1 - 0.025\left(\tfrac{1}{6}\right)\right)$$
$$S = RM\,45,188.28 \text{ *Ans}$$

b) $P = 15,800 \,; \quad r = 6\%$

15 Jan $(31-15) = 16$
Feb — 28
20 Mar — 20
— 64

$$S = P(1 + rt)$$
$$= 15800\left(1 - 0.06\left(\tfrac{64}{360}\right)\right)$$
$$= RM\,15,968.53 \text{ *Ans}$$

QUESTION 4

An amount of RM5,000 was deposited 4 years ago in a savings account that paid interest at 5% compounded every 2 months. Today, another RM2,500 is deposited into the account. Find the accumulated amount at the end of 7 years from the initial deposit.

(8 marks)

Solution:

```
0          4              7
|----------|--------------|
5000      +2,500
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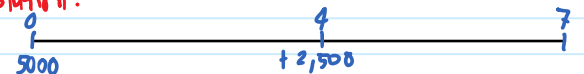
$k = 5\% \quad m = 6$

$$S = 5000\left(1 + \tfrac{0.05}{6}\right)^{24}$$
$$= RM\,6,101.95$$

$$S = S_n(1+i)^{n_2}$$
$$= 6101.95\left(1 + \tfrac{0.05}{2}\right)^{18}$$
$$= RM\,7,085.05 \text{ *Ans}$$

QUESTION 5

A bank received equal monthly payments for giving a loan of RM80,000 to its customer. The term of the loan is 10 years and the interest rate charged is 7.65% compounded monthly. Every month, the bank immediately deposits the same amount of monthly payments received from the loan into an account that pays 7% compounded monthly. Find the total interest earned at the end of 10 years of deposits.

(10 marks)

Note: For this question, there are two interest amount
Interest = Rn - A or S - Rn.
∴ Total Interest = (Rn - A) + (S - Rn)
= S - A

Solution:

$A = 80,000 \quad t = 10\text{ years} \quad k = 7.65\% \quad m = 12$

First we find the monthly payment, R.

$$A = R\left[\frac{1 - (1+i)^{-n}}{i}\right]$$

$$80,000 = R\left[\frac{1 - \left(1 + \tfrac{0.0765}{12}\right)^{-120}}{\tfrac{0.0765}{12}}\right]$$

$$R = RM\,955.89.$$

$$S = R\left[\frac{(1+i)^n - 1}{i}\right]$$

$$= 955.89\left[\frac{\left(1 + \tfrac{0.07}{12}\right)^{120} - 1}{\tfrac{0.07}{12}}\right] = 165,450.03$$

$$\therefore \text{Total Interest} = S - A$$
$$= 165,450.03 - 80,000$$
$$= RM\,85,450.03 \text{ *Ans.}$$

QUESTION 6

a)   Shahmi bought a washing machine with a cash price of RM4,500. He paid a 5% down payment and the balance was settled by making 24 monthly installments. If the interest rate charged was 3% per annum based on the original balance, find the monthly payment and the installment price.

(8 marks)

b)   Malik purchased a used car with a cost of RM25,000 under an installment plan. The purchase was settled in 4 years with equal monthly installments and the interest charged is 3.5% per annum based on the reducing balance. Find the outstanding balance if Malik decides to settle the loan immediately after the 18th payment by using the Rule of 78.

(8 marks)

Solution:

a) $CP = 4,500$
$DP = \quad 225$
_____
$B = 4,275$
$n = 24$
$r = 3\%$ (original balance)

$I = Brt$
$= 4275 \times 0.03 \times 2$
$= 256.50$

$R = \dfrac{B+I}{n} = \dfrac{4275 + 256.50}{24} = RM\,188.81$ ✱ ANS

$IP = CP + I = 4500 + 256.50 = RM\,4,756.50$ ✱ ANS

b) $B = 25,000$ $t = 4$ years   interest $= 3.5\%$ (reducing balance)

$I = \dfrac{Br(n+1)}{2m} = \dfrac{25,000\,(0.035)(48+1)}{2(12)} = 1,786.46$ $\therefore R = \dfrac{25000 + 1786.46}{48}$
$= 558.05$

Outstanding Balance, $k = 48 - 18 = 30$

$OPB = Rk - I\left(\dfrac{k(k+1)}{n(n+1)}\right) = 558.05(30) - 1786.46\left(\dfrac{30(30+1)}{48(48+1)}\right)$

$= RM\,16,740.76$ ✱ ANS

QUESTION 7

a)   The trade discounts of 15% and 8% and the cash discount terms of 3/15, 2/20, n/30 were given on an invoice dated 15 July 2021. If the total amount paid on 4 August 2021 is RM7,450, find the list price of the items.

15 July $(31-15) = 16$
4 Aug $\qquad\qquad\;\; \underline{4}$
$\qquad\qquad\quad \overline{20\ days.}$

(5 marks)

b)   A retailer bought wood stoves at a listed price of RM850 per unit with trade discounts of 25% and 5%. Calculate the amount of trade discounts received.

(5 marks)

Solution:

a) $d_1 = 15\%$ $d_2 = 8\%$ $c = 2\%$ $NP = 7,450$

$NP = LP(1-d_1)(1-d_2)(1-c) + \cancel{60.}^{20}$
$7450 = LP(1-0.15)(1-0.08)(1-0.02)$
$LP = \dfrac{7450}{(0.85)(0.92)(0.98)} = RM\,9,721.28$ ✱ ANS

b) $LP = 850$ $d_1 = 25\%$ $d_2 = 5\%$

$NP = LP(1-d_1)(1-d_2)$
$= 850(1-0.25)(1-0.05)$
$= 605.625$

$\therefore TD = LP - NP$
$= 850 - 605.625 = RM\,244.38$ ✱ ANS.

QUESTION 8

a) A retailer bought 60 units of books at RM50 each and sold all at a mark up of 30% based on cost. The operating expenses were 10% based on cost. Calculate the selling price for each book and the total net profit obtained.

(7 marks)

b) The cost of a pack of chocolates was RM90. SS Mart wanted to sell 30 packs for a gross profit of 40% based on the selling price. However, only 7 packs were sold. The remaining of chocolates were sold after 25% marked down. Find the total sales of selling 30 packs of chocolates.

(8 marks)

Solution:

a) Cost = RM50/each.
$m = 30\%$ on cost
$OE = 10\%$ on cost

$$SP = C + m$$
$$= C + 0.3C$$
$$= 1.3C$$
$$= 1.3(50)$$
$$= RM\,65\ each\ \#$$

Total NP
$$= 0.2C \times 60\ units$$
$$= 0.2(50) \times 60$$
$$= RM\,600\ \#$$

Solution:

b) Cost = RM90/pack
$GP = 40\%$ on SP
$MD = 25\%$

$$SP = C + GP$$
$$SP = 90 + 0.4\,SP$$
$$SP = \frac{90}{0.6} = 150$$

Sold 7 packs at RM150/pack
$$= 150 \times 7 = 1050$$
Sold 23 pack at 25% MD.
$$= 0.75(150) \times 23\ packs$$
$$= 2,587.50$$

∴ Total Sales
$$= 1050 + 2587.50$$
$$= RM\,3,637.50\ \#\,ANS.$$

QUESTION 9

a) The cost of a machine is RM65,000. If the book value of the machine at the end of the 2nd year is RM41,600, calculate the rate of depreciation using the reducing balance method.

(5 marks)

b) AMD Company bought an excavator for RM72,000. The useful life of the excavator is 8 years. If the book value of the excavator at the end of 4 years is RM42,000, find its scrap value using the straight line method.

(5 marks)

Solution:

a) $C = RM\,65,000$ $BV_2 = RM\,41,600$

$$r = 1 - \sqrt[n]{\frac{BV_n}{C}}$$

$$= 1 - \sqrt{\frac{41,600}{65,000}}$$

$$= 0.2\ @\ 20\%\ \#\,ANS$$

b) $C = RM\,72\,000$ $n = 8\ years$ $BV_4 = RM\,42,000$

using straight line method:

$$AD = \frac{C - BV_4}{4} = \frac{72,000 - 42,000}{4}$$
$$= 7,500$$

∴ Scrap Value $= C - n\,AD$
$$= 72,000 - 8(7,500)$$
$$= RM\,12,000\ \#\,ANS$$

QUESTION 10

Encik Imran and his wife with 3 children had a combined annual income of RM110,000 in 2020. The eldest child is studying at the local university and the other two are at secondary school. Their expenditures (in RM) for the year are as follows.

	Imran	Wife
EPF Contributions	6,500	3,700
Life Insurance Premium	2,200	1,800
Parents Medical Bill	3,500	1,200
Cash Donations	500	-
Books and Magazines	1,000	-
Sports equipment	200	-
Zakat	1,200	600

Assess their tax payable for the assessment year 2020 if they choose joint assessment.

(10 marks)

Aggregate Income			110,000	
Donation			500	-
		Total Income	109,500	
Relief				
Self	9,000			
Wife	4,000			
Children: 2 x 2,000	4,000			
1 x 8,000	8,000			
EPF & LIP	7,000			
Lifestyles	1,200			
Parents Medical Bill	3,500	Total Relief	36,700	-
		Taxable Income	72,800	
Using Tax Rate Table				
On the first 70,000	4,600			
On the next 2,800 x 21%	588	Total Tax	5,188	
Rebates				
Zakat	1,800	Total Rebates	1,800	-
		Payable Tax	3,388	

TAX RATE SCHEDULE FOR PERSONAL INCOME

	Taxable Income (RM)	Rate	Tax (RM)
On the first	5,000	0	0
On the first	5,000		0
On the next	15,000	1	150
On the first	20,000		150
On the next	15,000	3	450
On the first	35,000		600
On the next	15,000	8	1,200
On the first	50,000		1,800
On the next	20,000	14	2,800
On the first	70,000		4,600
On the next	30,000	21	6,300
On the first	100,000		10,900
On the next	150,000	24	36,000
On the first	250,000		46,900
On the next	150,000	24.5	36,750
On the first	400,000		83,650
On the next	200,000	25	50,000
On the first	600,000		133,650
On the next	400,000	26	104,000
On the first	1,000,000		237,650
On the next	1,000,000	28	280,000
On the first	2,000,000		517,650
On the next	Every RM after	30	---------