December 2019

QUESTION 1

Sammy invested RM8,000 into Amanah Saham Malaysia that offered a simple interest rate of r % per annum on 13 March 2019. The amount of interest received on 10 August 2019 was RM200. Find the interest rate, r % by using the Banker's Rule.

(5 marks)

given,

$P = 8,000$ Initial date: 13 March 2019
$I = 200$ Maturity date: 10 August 2019

13 Mar $(31-13) = 18$
April   30
May   31
June   30
July   31
10 Aug   10
    150 days

$I = prt$
$200 = 8000(r)\left(\frac{150}{360}\right)$

$r = \dfrac{200(360)}{8000(150)}$

$= 0.06 @ 6\%$ ✱ANS

June 2019

QUESTION 1

On 20 February 2016, Encik Basri took a personal loan of RM6,000 from a bank that charged a simple interest rate of 8%. Find the amount paid on 15 June 2016 using Banker's Rule.

(5 marks)

given,

$P = 6,000$ Initial Date: 20 Feb. 2016
$r = 8\%$ Maturity Date: 15 June 2016

20 Feb $(29-20) = 9$
Mar   31
April   30
May   31
15 June   15
    116 days

$S = P(1+rt)$
$= 6,000\left(1 + 0.08\left(\frac{116}{360}\right)\right)$

$= RM\ 6,154.67$ ✱ANS

December 2018

QUESTION 1

On 27 June 2018, Arianna deposited RM3,000 in a savings account that offered a simple interest rate of 3.5% per annum. Find the amount in her account on 10 October 2018 using Banker's Rule.

(5 marks)

given,

$P = 3,000$ Initial Date: 27 June 2018
$r = 3.5\%$ Maturity Date: 10 Oct. 2018

27 June $(30-27) = 3$
July   31
Aug   31
Sept   30
10 Oct.   10
    105 days

$S = P(1+rt)$
$= 3000\left(1 + 0.035\left(\frac{105}{360}\right)\right)$

$= RM\ 3,030.63$ ✱ANS

June 2018

QUESTION 1

On 11 January 2016, Iqbal deposited RM5,000 in an account that offered r% simple interest per annum. If the interest earned on 16 April 2016 was RM45.38, find the value of r by using exact time and exact simple interest.

(5 marks)

given,

$P = 5,000$ Initial Date: 11 Jan 2016
$I = 45.38$ Maturity Date: 16 Apr 2016

11 Jan $(31-11) = 20$
Feb   29
Mar   31
16 Apr   16
    96

$I = Prt$
$45.38 = 5000 \times r \times \frac{96}{366}$

$r = \dfrac{45.38(366)}{5000(96)}$

$= 0.0346 @ 3.46\%$ ✱ANS

Jan 2018

QUESTION 1

A loan of RM300 will become RM333.75 after a certain period of time. If the loan is charged a simple interest rate of 7.5% per annum, find the number of days using Banker's Rule.

(5 marks)

given,

$P = 300$
$S = 333.75$
$r = 7.5\%$

Sol 1

$S = P(1+rt)$
$333.75 = 300(1 + 0.075t)$
$t = 1.5$ years
Banker's Rule
$\times 360$ day $\rightarrow t = 1.5 \times 360$
$= 540$ days ✱ans

Sol 2

$I = S - P$
$= 33.75$

$I = Prt$
$33.75 = 300(0.075)(t)$
$t = \dfrac{33.75}{300(0.075)}$

$t = 1.5$ years $\times 360$ days
$= 540$ days ✱ANS

July 2017

QUESTION 2

Harraz had saved an amount of money in an account that offered 2.5% simple interest per annum. If the interest earned after three years was RM553.80, what is the accumulated amount if he leaves the money in the account for another 7 years?

(7 marks)

given,

$I = 553.80$ (after 3 years)
$r = 2.5\%$

Sol

$I = Prt$
$553.80 = P(0.025)(3)$
$P = 7384$

∴ S after 10 years $(3+7)$
$S = P(1+rt)$
$= 7384(1 + 0.025(10))$

$RM\ 9,230$ ✱ ANS

March 2017

QUESTION 1

Kevin invested RM4,000 in an investment scheme on 18th October 2016. The investment offered a simple interest rate of 5% per annum. By using approximate time and exact simple interest, find the total interest received on 20th December 2016.

(5 marks)

given,

$P = 4000$ initial date: 18 Oct. 2016

$r = 5\%$ maturity date: 20 Dec 2016

using approximate time

18 Oct	(30−18) = 12
Nov	30
20 Dec	20
	62 days

$$I = Prt$$
$$= 4000(0.05)\left(\frac{62}{365}\right)$$
$$= RM\,33.88 \quad \text{\# Ans}$$

December 2016

QUESTION 2

RM8,000 was deposited on 27 November 2014 into an account at a simple interest rate of 2% per annum. Find the amount in the account on 15 January 2015 by using the exact time and exact simple interest.

(7 marks)

given,

$P = 8,000$ 27 Nov 2014

$r = 2\%$ 15 Jan 2015 (maturity date)

using exact time,

27 Nov 2014	(30−27) =	3
Dec		31
15 Jan		15
		49 days

$$S = P(1+rt)$$
$$= 8000\left(1 + 0.02\left(\frac{49}{365}\right)\right)$$
$$= RM\,8,021.48 \quad \text{\# Ans.}$$

October 2016

QUESTION 2

Shiela had saved RM3,000 in an account that offered r% simple interest per annum on 20 March 2015. If the interest on 6 June 2015 was RM50, find the value of r using Banker's Rule.

(5 marks)

given,

$P = 3,000$ 20 March 2015

$I = 50$ on   6 June 2015

using Banker's Rule

20 Mar	(31−20) =	11
Apr		30
May		31
6 June		6
		78 days

$$I = Prt$$
$$50 = 3000(r)\left(\frac{78}{360}\right)$$
$$r = \frac{50(360)}{3000(78)}$$
$$= 0.0769 \ @ \ 7.69\% \quad \text{\# Ans}$$

December 2015

QUESTION 2

On 10th February 2015, Shakirah saved RM12,000 in an account that pays simple interest k% per annum. The balance in the account on 11th May 2015 was RM12,240. Find the value of k using the Banker's Rule.

(7 marks)

given,

$P = 12,000$ on   10 Feb. 2015

$S = 12,240$ on   11 May 2015

using Banker's Rule:

10 Feb	(28−10) =	18
Mac		31
Apr		30
11 May		11
		90 days

Sol 1

$$S = P(1+rt)$$
$$12240 = 12000\left(1 + k\left(\frac{90}{360}\right)\right)$$
$$k = 0.08 \ @ \ 8\% \quad \text{\# Ans}$$

Sol 2

$$I = Prt$$
$$240 = 12000(k)\left(\frac{90}{360}\right)$$
$$k = 0.08 \ @ \ 8\% \quad \text{\# Ans}$$