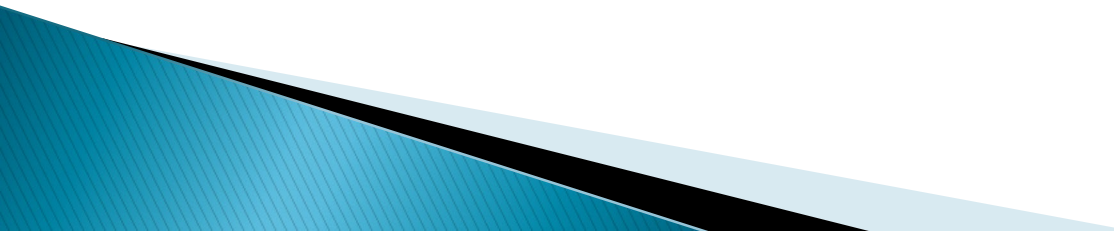


Promissory Note & Bank Discount

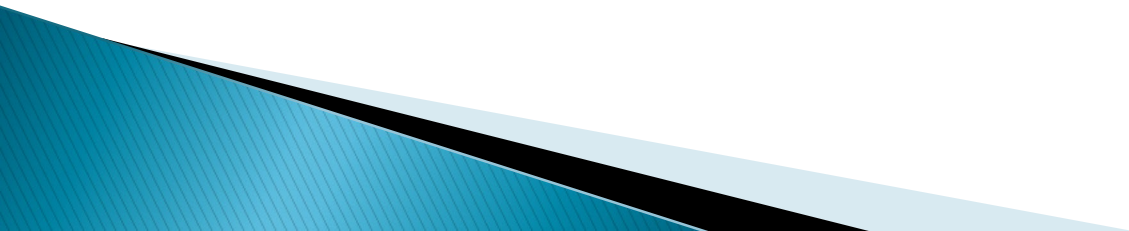
LEARNING OUTCOMES

By the end of this chapter, student should be able to

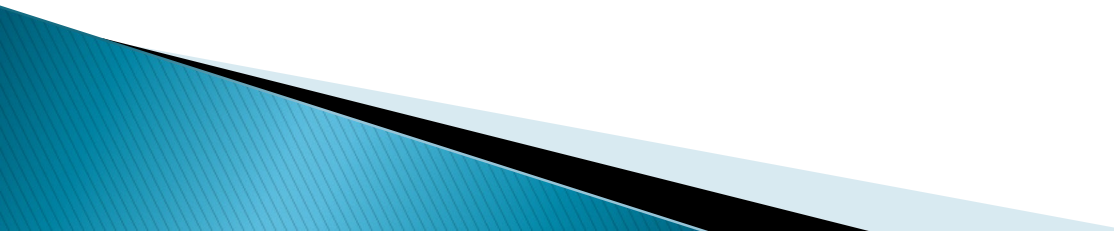
- ▶ explain the meaning of a promissory note,
 - ▶ list the main features of a promissory note,
 - ▶ compute the face and maturity values of a promissory note, and
 - ▶ compute simple interest rate that is equivalent to discount rate.
- 

Promissory Note

A signed document containing a written
Promise to pay a sum of money at specified
date with or without interest.



Features on Promissory Note

- ▶ Maker : The name of person that sign the note (debtor)
 - ▶ Payee : The name of person that receive the note (creditor)
 - ▶ Face Value : The amount stated on the note or the amount borrowed
 - ▶ Date Issue : The date of the note is signed
 - ▶ Time (Term) : The length of period
 - ▶ Maturity Date : The date the debt must be paid
 - ▶ Maturity Value : The amount has to be paid including interest
- 

How to get maturity value?

$$S = P(1 + rt)$$

*only BANKER'S RULE will be used in chapter 3



Example 1

Find the maturity value and the maturity date for a 75 days promissory note with face value RM 3300 at 5% simple interest issued on the 12 Jun 2014.

$$\begin{aligned}
 S &= P(1 + rt) \\
 &= 3300 \left(1 + 0.05 \left(\frac{75}{360} \right) \right) \\
 &= \text{RM}3334.38
 \end{aligned}$$

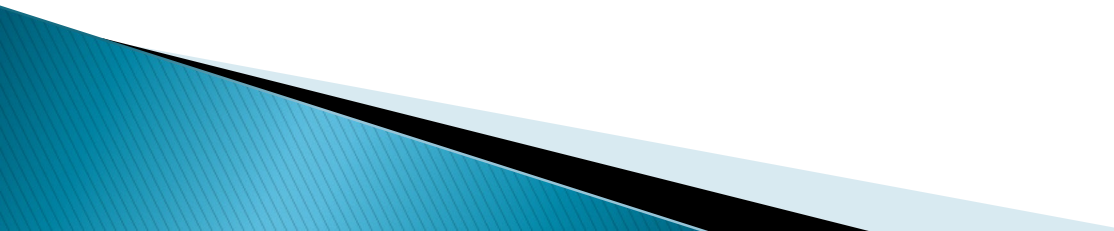
	75
12 Jun 2014 (30 - 12)	18
	57
Jul	31
	26

Maturity Date = 26 Aug 2014

Example 2

A 180-day promissory note dated 8 June 2012 had a face value of RM2000. The simple Interest rate charged was 6.6% per annum.

Determine

- i) the maturity date of the note
 - ii) the maturity value
- 

Solution

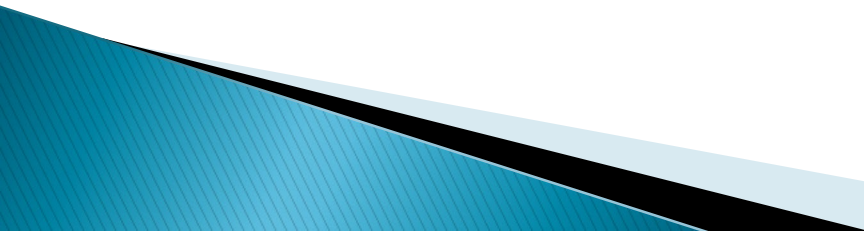
i)		180
	8 Jun 2012 (30 - 8)	22
		158
	Jul	31
		127
	Aug	31
		96
	Sep	30
		66
	Oct	31
		35
	Nov	30
		5

Maturity Date = 5 Dec 2012

ii)

$$\begin{aligned} S &= P(1 + rt) \\ &= 2000 \left(1 + 0.066 \left(\frac{180}{360} \right) \right) \\ &= \text{RM}2066 \end{aligned}$$

Bank Discount

- ▶ It is a common practice by the bank to deduct *charges from a loan in advance*. This charges is called bank discount.
 - ▶ The money left receives by the borrower is called proceeds.
 - ▶ The maturity value is the value of the *money actually borrowed*.
 - ▶ Maturity value = Proceeds + Bank Discount.
 - ▶ *It is different from the case of simple interest where the amount of maturity value is more than the amount borrowed.*
- 

$$D = Sdt$$

Where D = Bank discount

d = discount rate

t = term of discount in years.

Proceeds, H = Maturity value – Bank discount

$$H = S - D$$

$$H = S - Sdt$$

$$H = S(1 - dt)$$

Interest Rate Equivalent To Discount Rate.

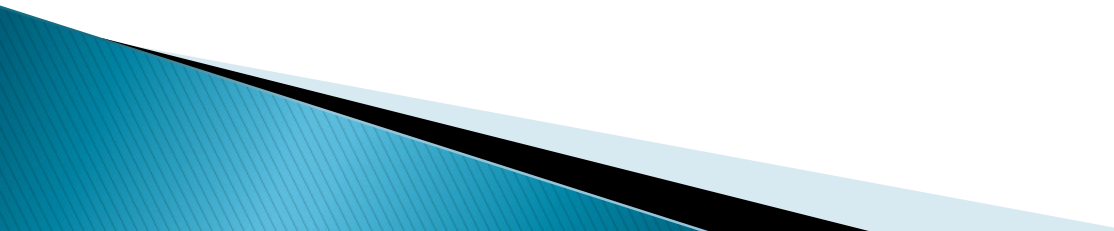
Some times, bank charged for their service with simple interest rate in mind. So, they will find the equivalent discount (service charge) rate to the intended simple interest rate that they want to obtain

$$r = \frac{d}{1 - dt}$$

$$d = \frac{r}{1 + rt}$$

Example 3

RM2000 was borrowed for 72 days at a discount rate of 8.75%. Determine

- i) the amount received and the discount charged
 - ii) the simple interest rate that is equivalent to the given discount rate
- 

Solution

$$S = 2000$$

$$d = 0.0875$$

$$t = \frac{72}{360}$$

$$H = S(1 - dt)$$

$$= 2000 \left(1 - 0.0875 \left(\frac{72}{360} \right) \right)$$

$$H = RM1965$$

$$D = S - H$$

$$= 2000 - 1965$$

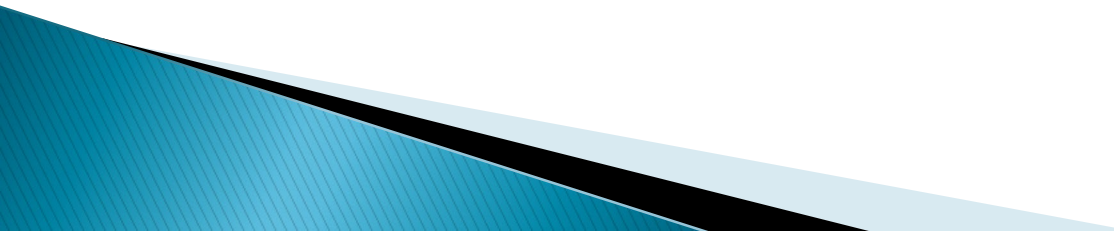
$$= RM35$$

$$\begin{aligned} r &= \frac{d}{1 - dt} \\ &= \frac{0.0875}{1 - 0.0875 \left(\frac{72}{360} \right)} \\ &= 0.0891 @ 8.91\% \end{aligned}$$

Example 4

A loan of RM7,000 was made on 15 October 2012 at xYz Bank that charged a simple discount rate of $d\%$. The discount charged was RM205 and the loan matured on 11 November 2012.

Find

- i) the proceeds received,
 - ii) the discount period and the discount rate.
- 

- ▶ $H = \text{RM}6795$
- ▶ Term = 27 days
- ▶ $d = 39.05\%$