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.

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

$$= 3300\left(1+0.05\left(\frac{75}{360}\right)\right)$$

$$= \text{RM}3334.38$$

	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)

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

$$= 2000\left(1+0.066\left(\frac{180}{360}\right)\right)$$

$$= \text{RM}2066$$

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

$$r = \frac{d}{1 - dt} \qquad d = \frac{r}{1 + rt}$$

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

$$S = 2000$$
$$d = 0.0875$$
$$t = \frac{72}{360}$$

$$H = S(1 - dt)$$
$$= 2000\left(1 - 0.0875\left(\frac{72}{360}\right)\right)$$
$$H = RM1965$$

$$D = S - H$$
$$= 2000 - 1965$$
$$= \text{RM}35$$

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

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=RM6795
- Term=27 days
- d= 39.05%