SOLUTION FINANCIAL MANAGEMENT NOV 2010

SOLUTION 1

(a) Maximising means seeking the best position outcome and satisfying means seeking only an adequate outcome.

(b) Stakeholders
- (i) Community – social responsibility and less polution.
- (ii) Employees – high wages and employment security
- (iii) Management – attractivce remunerative packages and growth in the business
- (iv) Shareholders – high dividend and growth in share price
- (v) Others are trade suppliers, trade customers debt providers, government etc.

(c) 5/10 net 90 credit basis implies a 5% cash discount if settlement is made within 10 days, or discount lost if payment is made after 10^{th} day.

Rate (R) = $\frac{l}{P} \times \frac{l}{T}$, where l is the discount lost P is the principal and T is Time period in a year after the discount qualification period.

=> $l = 0.05 \times 250{,}000 = GHS12{,}500$

=> $R = \frac{GHS12{,}500}{(GHS250{,}000 - GHS2{,}500)} \times 1/90\text{-}10)/360$

$= \underline{23.68\%}$

(d) (i) Investment – exploration of new mining concessions and the acquisition of modern mining equipments to increase yield.

(ii) Financing – Extra financing needed might have to be suspended

(iii) Dividend Policy Decisions – Sacrificing shareholders wealth for the benefit of other stakeholder demand.

SOLUTION 2

i) a) 12.45% discount = 12.45% x 100 = GHS12.45

For 91-days, the discount = $12.45 \times \frac{91}{365} = \underline{GHS3.1125}$

b) As simple interest

Investor pays 100 – 3.1125 = GHS96.8875

:. Interest % per 91 days = $\frac{3.1125}{96.8875} = \underline{3.21\%}$

c) Interest per annum simple interest

$$3.21\% \times \frac{365}{91} = 12.84\% \text{ p.a.}$$

d) Compound annual interest

$$(1 + 3.21\%)^{365/91} - 1 = (1.0321)^{4} - 1 =$$

e) Treasury bills do not pay interest up front because the purchase amount (cost of treasury bills) is deducted from your account today.
If you do not have this amount you cannot buy the Treasury bill.

ii) a) . Governments sells at face vlaue means the yield is 16% per annum 9same as coupon rate).

. The demand for 2% points risk premium implies the yield on xx bonds = 16% + 2% = 18% p.a.

For GHS10 face value bond, the interest cannot semi annually is
8% x GHS10 = GHS0.8

The PV of six semi-annual interest amount

0	1	2	3	4	5	6
	0.8	0.8	-	-	0.8	0.8 + 10

PV = 9% annuity for 6 periods + PV of GHS10
= 0.8 x 4.486 + 10 x 0.596
= 3.5888 + 5.96
= GHS9.5488

b) Firm nets 9.5488 – 0.5 = GHS9.0488
Thus must sell $\frac{\text{GHS100}}{9.0488}$ million

= 11.051189 million bonds

SOLUTION 3

Looser Ltd

(a) $\bar{R}e = 8 + 1.5\,(10)$

$= \underline{23\%}$

(b) $ß_A = 1.5 \left[\frac{6}{10}\right]$

$= \underline{0.9}$

(c) $\bar{R}_A = 8 + 0.9\,(10)$

$= \underline{17\%}$

(d) = $\underline{17\%}$

(e) Yes

$ß_E = 0.9 \left[\frac{10}{9}\right]$

$= 1$

(f) $= 17\%$

(g) $\bar{R} = 8 + 1.2\ (10)$

$= 20\%$

SOLUTION 4

Asuo Limited

a)

Year		Cashflow	PV @ 10%	PV @ 12%
0	Investment	(335,600)	335,600	335,600
1 - 5	Renevue	350,000	1,326,500	1,260,000
1 - 5	Variable cost	(150,000)	(568,500)	(540,000)
1 - 5	Fixed cost	(110,000)	(416,900)	(396,000)
5	Scrp value	35,000	21,700	19,950
	Positive NPV's		27,200	8,350

In view of the Positive NPV at 10% the project should be accepted.

b) Sensitivity

(i) Variable Costs

The percentage change in variable costs required to change the decision is obtained by expressing the NPV of the project as a percentage of the PV of variable costs.

$\text{Sensitivity} = \frac{27,200}{568,500} \times 100 = 4.78\%$

A rise of 4.78% in variable costs causes the decision to change.

(ii) Scrap Value

$\text{Sensitivity} = \frac{27,200}{21,700} \times 100 = 125.3\%$

It would have to cost 25.3% of 35,000 = GHS8,855 to complete the project before the decision changes.

(iii) Discount Rate

Sensitivity to discount rate is found via the project's IRR

$\text{IRR} = 10\% + \frac{27,200}{27,200 - 8,350}\ (12\% - 10\%)$

$= 12.9\%$ say 13%

The discount rate must rise from 10% to 13% before the decision would change.

c) Probability of Failure

For the decision to change, the PV of the revenue must fall by GHS27,200. This represents a fall in the annual revenue of GHS27,200/3.79 = GHS7,177

This represents $\frac{7,177}{4,800}$ = 1.50 std deviation

The probability of failure = (0.5 - 0.4332)

= 0.0668 or 6.68%

SOLUTION 5

(a) (i) The synergy is the PV of the increased cash flow GHS960,000 in perpetuity at 24% has 1

PV = $\frac{960,000}{0.24}$ = GHS4,000,000

(ii) Alternative A: Cash offer

Paying GHS15 million for a firm worth GHS12 million has a cost of GHS15.12 million = GHS3 million

Alternative B: Issue shares

PV of combined firm = PV of K. Asante + PV Pumbros + Synergy

= 40m + 12m + 4m

= GHS56 m

25% of this equals 25% of 56m = GHS14 m

Cost of share offer = GHS14m - GHS12m

= GHS2 million

(iii) NPV of each alternative to K. Asante

NPV = Gain - Cost

Cash Alternative:

Gain = GHS4m

Cost = GHS3m

NPV = GHS4 - GHS3 = GHS1m

Share Alternative

Gain = GHS4m

Cost = GHS2m

NPV = GHS4m – GHS2m = GHS2m

(iv) NPV to Pumbros shareholders

Cash offer:

Receive GHS15m in exchange for GHS12m coupon

Cost = 0

NPV = GHS3m

Share offer too Pumbros

Gain: Receive GHS14m and give up GHS12m

(b) $FV = PV\,(1 + r)^n$

$FV = 2000; \quad PV = 1000; \quad r = 12\%$

$$\ln\left[\frac{FV}{PV}\right] = n \ln (i + r)$$

$$= r \quad n = \frac{\ln\left[\frac{FV}{PV}\right]}{\ln (i + r)} = \frac{\ln\left[\frac{2000}{1000}\right]}{\ln 1.12}$$