"Investing in Africa future"

COLLEGE OF BUSINESS, PEACE, LEADERSHIP & GOVERNANCE

NEIC504: ENTREPRENEURIAL FINANCE

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER 2021

LECTURER: DR K. R. TSUNGA

DURATION: 5 HOURS

INSTRUCTIONS

Answer all questions in Section A and two questions in Section B

Show all workings

Your workings should carry **four** decimal places while your final answer can be rounded off to two decimal places

You are encouraged to provide appropriate references where necessary in your work. Anti-plagiarism tools will be used to assess your answer for any form of exam misconduct. Any cases of positive exam misconduct will be punished in terms University Regulations.

Section A [60 Marks]

Question 1

Samantha has invested in a high growth firm and has made an assessment that her returns will contingent upon the state of the economy in the coming year. She has paid $35.50 for a share and expects the following year-end prices and dividends to be distributed as follows with each state of the economy equally likely to occur:

State of the Economy	Year-end Stock Price	Dividend
Accelerated Growth	$ 55	$ 2.55
Normal Growth	$ 50	$ 1.15
Recession	$ 21	$ 0.00

a) Calculate the expected holding-period return given the scenario [9]

b) What is the standard deviation of the expected holding period return scenario? [6]

Question 2

Stratton Inc., a fledging start-up, is contemplating investing in a new technology to improve their output efficiency whose installation will increase net operating cash flows because of efficiency gains. The firm has identified two equally desirable systems; Lightning II and Violet X but must now decide the one they should purchase and install. Currently, Stratton Inc requires a return of 15% on risky projects and information about the two technology systems is given in the table below.

Year	Lightning II Cash flows	Violet X Cash Flows
0 (Initial Purchase and Installation)	- $ 4 150	- $ 5 600
1	$ 1 500	$ 1 500
2	$ 1 700	$ 1 800
3	$ 1 550	$ 1 900
4	$ 900	$ 1 500

a) Which software package should Stratton Inc choose if they employ the payback period as their desired investment appraisal technique? [4]

b) Under the Net Present Value (NPV) decision rule, which software package would be more attractive to Stratton Inc? [8]

c) State two major disadvantages of the payback period as an investment appraisal technique [2]

Question 3

As a new business that hosts functions, you made an assessment that there is scope to expand your venue. In addition to the current configuration, you have ascertained that there are two more configurations you can expand to: Medium utilisation and Maximum utilisation. Medium utilisation will require a capital injection of $ 55 000 while Maximum utilisation requires $ 75 000 capital injection. You need to evaluation these options to expand to determine whether you should expand or remain in the current configuration. You have made the following determination about the revenues and likelihood of success for each scenario.

Demand	**Probability**	**Full Utilisation** Present value of Cash Flows	**Medium Utilisation** Present Value of Cash Flows	**Current Level (No expansion)** Present Value of Cash Flows
Higher Revenue	30%	200 000	170 000	85 000
Medium Revenue	50%	150 000	130 000	60 000
Low Revenue	20%	-90 000	-65 000	-45 000

a) Draw a decision tree to illustrate the possibilities [4]

b) Ascertain whether the option to expand should be exercised [10]

Question 4

Pearl Ltd is a start-up that produces baby clothing and is expecting an increased business over the coming year. Consequently, they will begin to sell on credit. Cash and working capital management is important for small entrepreneurs. Consequently, they need to prepare adequately for fluctuations. They want to prepare quarterly cash projections to avoid cash constraints assuming 90 days per quarter.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Sales	$ 45 000	$ 48 000	$ 51 000	$ 60 000

The following information is relevant:

- 50% of each quarter's sales are made on credit
- Accounts receivables are 45 days and opening receivables are $ 27 000
- Sales next year's first quarter are expected to be $ 48 000
- Sales for the current quarter are expected to be 60% of the following quarter's sales
- Wages and other costs are a 25% of that quarter's sales.
- Pearl Ltd will purchase new warehouse management software in the fourth quarter for $ 35 000 for cash.

- Interest payments of $ 6 000 are made each quarter
- The cash balance at the beginning of the quarter is $ 5 000
- Pearl Ltd intends to maintain a minimum cash balance of $ 7000

Prepare a Cash budget for the coming year [17]

SECTION B [40 Marks]

Answer any two questions from the following.

1. How is the difference between innovative and replicative entrepreneurship related to the difference between opportunity-based and necessity-based entrepreneurship? [20]

2. Identify some types of financing that are associated with each of the following stages of new venture development: research and development, start-up, early growth, rapid growth, and exit. Why do small firms, especially new ones, have limited access to the public debt market? [20]

3. Identify some common features of a term sheet or investment agreement. What problems do these provisions anticipate, and how do they help to mitigate the problems?

[20]

Formula List

$$FV = PV(1+r)^t$$

$$PV = \frac{FV}{(1+r)^t}$$

$$PV = \frac{CF}{(1+r)^1} + \frac{CF}{(1+r)^2} + \ldots + \frac{FV}{(1+r)^t}$$

$$PV = C\left[\frac{1-\frac{1}{(1+r)^t}}{r}\right]$$

$$PV = \frac{C}{r}$$

$$PV = \frac{C}{r-g}$$

$$Holding\ period\ returns = \frac{Ending\ Price - Beginning\ Price + Receipt}{Beginning\ Price}$$

$$Expected\ holding\ period\ returns = \sum r(probability)$$

$$Variance = \sum(return\ in\ state - expected\ return)^2 \times probability$$

$$Standard\ deviation = \sqrt{Variance}$$

$$Average\ Accounting\ Return = \frac{Average\ Net\ Income}{Average\ Book\ Value} \times \frac{100}{1}$$

$$IRR = Lower\ rate + \frac{Higher\ NPV \times (Higer\ rate - Lower\ rate)}{(Higher\ NPV - Lower\ NPV)}$$

$$D_1 = D_0(1+g)$$

$$E(r) = \frac{D_1}{P_0} + g \text{ or } \quad P_0 = \frac{D_1}{r-g} \quad \text{or} \quad P_0 = \frac{D_0(1+g)}{r-g}$$

$$P_0 = \frac{D}{r}$$

$$PV = \frac{FCF_1}{(1+r)^1} + \frac{FCF_{t+1}}{(1+r)^{t+1}} \ldots + \frac{FCF_t}{(1+r)^t}$$

$$V = C\left[\frac{1-\frac{1}{(1+r)^t}}{r}\right] + \frac{FV}{(1+r)^t}$$

$$WACC = \frac{E}{V} \times R_e + \frac{P}{V} \times R_p + \frac{D}{V} \times R_d \times (1 - T_c)$$