

**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER, 2011**

TITLE OF PAPER : PROJECT EVALUATION

COURSE CODE : ECON 305

TIME ALLOWED : THREE (3) HOURS

- INSTRUCTIONS :**
- 1. ANSWER FOUR QUESTIONS:
TWO FROM SECTION A AND
TWO FROM SECTION B**
 - 2. ALL QUESTIONS CARRY EQUAL
MARKS OF 25 EACH**

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SECTION A

Question 1

a) Assume you are in the business of producing/publishing textbooks, and are currently considering producing a textbook for high schools in Swaziland. Your investigations indicate that the fixed costs associated with such a project are E40, 000, the variable costs are E1.20 per book and you can only sell the book at E2.00 per copy. You have also found that, given the existence of other producers, you cannot sell more than 40, 000 copies.

i) Using break-even analysis, determine if you should publish this textbook. Use diagrams to illustrate your answer. [8 marks]

ii) Calculate the amount of profit/loss experienced by the company. [5 marks]

b) A company is interested in an investment which would require a capital outlay of E6000 immediately and is expected to produce net cash inflows of E15, 000 per year for the first four years and E3, 000 in the fifth year. Also, assume that the management of the company has an 8% acceptable rate of return investment criteria. Would you advise the company to invest in the project? Show work.

[12 marks]

Question 2

a) Hardware Enterprises is interested in initiating an income generating project. The management has decided to set aside E40, 000 as an investment capital. However, the management is divided as to which of the two mutually exclusive projects with the same life of six years is to be undertaken. Details on these options are as follows:

The first capital project has the following cashflows: E10, 000 for the first two years; followed by E15, 000; and then E19, 000 for the rest of its life.

The second project has the following cashflows: E15, 000; E9, 000; E15, 000; and E12, 000 for the rest of its life with a terminal value of E5, 000

The minimum acceptable rate of return is 8%

As an economist, use the NPV approach to advise this company, taking into consideration the reasons for your selection.

[13 marks]

b) (i) Assume an initial (investment cost of E25, 000 with a cashflow/yield of E42, 000 after 1 year. If the market rate of interest is 35%, use the Internal Rate of Return (IRR) criterion to determine if the investment is viable?

[7 marks]

(i) What are the disadvantages of using the IRR in project evaluation?

[5 marks]

Question 3

a) Investment analysts argue that discounted measures of project worth are superior and preferred to undiscounted measures. Do you agree with this view? Support your answer.

[5 marks]

b) Provide an evaluation of two proposed projects, both with 5 year expected lives and identical initial outlays of E100, 000. The required rate of return on these projects is 12%. The expected after tax cash flows from each project are as follows:

<u>Year</u>	<u>Project A</u>	<u>Project B</u>
0	-100, 000	-100, 000
1	40, 000	50, 000
2	30, 000	30, 000
3	20, 000	40, 000
4	60, 000	30, 000
5	60, 000	50, 000

(i) What is the Payback period on each project? If the government imposes a three year maximum payback period, which of these projects would be accepted?

[7 marks]

(iii) What are the discounted Payback periods for each of the projects? If Government requires a 3 year maximum discounted Payback period on new projects, which of the two projects should be accepted?

[7 marks]

c) Consider a project that requires an initial outlay of E200, 000 and has an economic life of 5 years. The project is expected to generate an average annual profit of E50, 000 over its lifespan. Compute the Return on Investment (ROI) of the project.

[6 marks]

Question 4

a) Suppose a project has an initial cost outlay of E18, 000 and annual net cash flows of E5, 600 over 5 years, calculate the Internal Rate of return.

[10 marks]

b) Suppose one starts with E1000 cash flow which is compounded forward using variable interest rates of 10%, 20% and 15% over years 1, 2, and 3 respectively. Use

Total Discount Factors (TDF) to compute the present values of the project over the three years.

[8 marks]

c) Use the Minimax Regret criterion to select the best strategy to reduce losses under conditions of uncertainty. Use the payoff matrix provided below:

N =	1	2	3	4
S = 1	2	2	0	1
2	1	1	1	1
3	0	4	0	0
4	1	3	0	0

Where N = Possible state of nature
S = Strategy

[7 marks]

SECTION B

Question 5

- a) (i) Define Cost-Benefit Analysis (CBA) and explain the components of CBA [6 marks]
- (ii) Discuss factors that affect reliability of basic figures in CBA. [7 marks]
- (iii) Discuss the criticisms levelled against CBA. [7 marks]
- a) Write short notes on the importance of project planning. [5 marks]

Question 6

- a) What is Sensitivity Analysis? Describe the purpose of Sensitivity Analysis. [8 marks]
- b) Provide a detailed discussion of the areas to which projects are normally sensitive. [17 marks]

Question 7

a) Why should projects be evaluated?

[7 marks]

b) Discuss the six phases in project evaluation

[18 marks]

Question 8

a) Explain the Arrow-Lind Theorem. What are the limitations of this theorem?[8 marks]

b) With the aid of examples, define negative and positive externalities in consumption and production..

[8 marks]

c) With the aid of a diagram, explain the welfare effects of a per unit tax aimed at reducing the impact of a negative externality in production.

[9 marks]