

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF ARCHITECTURE AND QUANTITY SURVEYING
BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE
PART IV SECOND SEMESTER EXAMINATIONS – MAY 2005**

CONSTRUCTION FINANCE – AQS 4203

TIME: 3 Hours

TOTAL MARKS: 100

INSTRUCTIONS:

Answer all Questions. Show all your workings.

QUESTION 1

As the financial consultant of the Bourbon Can Co, a medium sized manufacturing business, you have been asked to advice on the current year's investment proposals. The proposed projects, shown below, are not, mutually exclusive.

PROJECT A	To replace the existing data processing equipment. Initial cost of \$250 000. Expected life of new equipment 6 years. Expected annual after tax cash inflow \$72 500.
PROJECT B	To develop a new type of container. Cost \$70 000. All to be incurred in the current year. Expected life of product 5 years. Expected annual tax cash inflow \$30 000, the inflows to commence in one year's time.
PROJECT C	To install safety equipment. Initial cost \$110 000. Expected life 3 years. Expected annual after tax cash inflow \$45 000.
PROJECT D	To construct a new factory building. Initial cost \$210 000. Expected life 8 years. Expected annual after tax cash inflow \$57 000.
PROJECT E	To extend the existing loading equipment. Initial cost \$170 000. Expected life 4 years. Expected annual after tax cash inflow \$70 000.
PROJECT F	To purchase patent rights to a new process. Initial cost \$1325 000. Expected life 7 years. Expected annual after tax cash flow \$36 000.

You may assume that with the exception of project B, all cash inflows would commence in the current year. For calculation purposes, you may assume that the annual cash inflows are always received on the last day of the year. Tax can be assumed to have been paid in the year in which the profits are earned.

The company's marginal cost of capital for the coming year is estimated at 16%. The company is, however, in a capital rationing situation and it estimates it will only have \$600 000 to invest on capital project in the current year.

Required:

- a) Which projects would you recommend the company to undertake? Give the reasons for your choice. (15 marks)
- b) What factors, if any, other than those given in the question, would you advise the company to consider before making a decision? (10 marks)

QUESTION 2

Elephant Hills Hotel expects to have a \$10 million credit sales this year. Its variable cost as a percentage of sales are 80% and its cost of capital is 16%. Currently the hotel's credit policy is 'net 25'. However its average collection period is 30 days, and 2% of sales are written off as bad debts. The hotel spends \$50 000 a year to collect money from debtors.

You are the credit manager and you are considering the following two proposals to change the credit policy:

Proposal 1:

Change the credit period from 'net 25' to 'net 20'. Collection expenses will remain at \$50 000 but the following changes are expected to occur:

- (i) Sales will decrease by \$1 million per year
- (ii) The average collection period will decrease from 30 to 22 days
- (iii) Bad debts losses will decline to 1% of sales.

Proposal 2:

Change the credit period from 'net 25' to 'net 30'. Under this proposal, the debts collection expenses will remain constant. Sales are expected to increase by \$1 million annually and the bad debt loss percentage on new sales will be 4% while the loss percentage on old sales will remain at 2%. The average collection period is expected to increase from 30 to 45 days on all sales.

Required:

Decide whether the change in credit policy should be implemented and state with reasons the alternative to be followed.

(25 marks)

QUESTION 3

- a) A company is considering a two-year project with an initial capital outlay of \$350 000. The expected cash flow from the project will depend on whether interest rates will fall in the first year or the second year of the project. There is a 60% chance that interest rates will fall in the first year. If this is the case, then the net cash flow will be \$250 000. However, if the interest rates do not fall in the first year, the net cash will be reduced to \$120 000.
- The cash flow in the second year will also depend on the interest rates in the first year or the second year. If interest rates fall in the first year then there is a 30% chance that the cash flow in the second year will be \$300 000 and a 70% chance that the cash flow will be \$200 000. However, if interest rates do not fall in the first year but only in the second year of operation, then there is a 60% chance that the cash flow in that year will be \$400 000 and a 40% chance that it will be \$450 000.

Required:

Analyze this decision. The required rate of return is 22%. (15 marks)

- b) A project has an initial investment of \$20 000 and annual cash flow of \$15 000 and \$20 000 in year 1 and year 2 respectively. The inflation rate is expected to be 20%pa in both years. If the real discount rate is 10%, calculate the NPV of the project. (10 marks)

QUESTION 4

Briefly define the following:

- | | |
|--------------------------------|-----------|
| (i) Money market | (4 marks) |
| (ii) Capital market | (4 marks) |
| (iii) Secondary market | (4 marks) |
| (iv) Stop limit order | (4 marks) |
| (v) Working capital management | (4 marks) |
| (vi) Capital budgeting | (5 marks) |

QUESTION 5

- a) In 2002, Isabel had earnings per share of \$4,50 and paid dividends per share of \$2,00. Analysts expected both to grow at 9,81% a year for the next 5 year. After the fifth year, the growth rate was expected to drop to 6% a year for ever, while payout ratio was expected to increase to 67,44%. The required return on Isabel is 12,78%. Calculate the value of the stock. (15 marks)
- b) What are the factors to be considered when a company is considering a merger? (10 marks)

END OF EXAMINATION