



FINAL EXAMINATION - 2007

Time Allowed: Three Hours

Date: 28-04 2008 (Monday)

Time: 0930 - 1230 hrs.

Answer any Four (04) questions.

Q1.

- (a) Explain what is meant by time value of money.
(Marks 05)
- (b) "Lenders are the losers during a period of high inflation". Explain this statement.
(Marks 05)
- (c) Explain with the help of an example what is understood by 'capital recovery factor'. What is the use of this to a prospective investor?
(Marks 05)
- (d) Briefly explain what is understood by the following two terms; compounding and discounting. Use examples to illustrate your answer.
(Marks 05)
- (e) Define capital budgeting and explain why 'investment decisions' require special attention.
(Marks 05)

Q2.

- (a) Discuss advantages and disadvantages of 'pay back period' as capital investment appraisal method.
(Marks 10)
- (b) A company is evaluating two machines; X and Y for the purpose of purchasing one. Machine X has a life of 4 years and an initial investment cost of Rs. 10,000,000. Machine Y has a life of 5 years and an initial investment cost of Rs. 10,000,000. The Table below depicts the yearly earnings for both the machines;



	Machine X (Rs. 000's)	Machine Y (Rs. 000's)
Earnings		
Year 1	4,400	3,100
Year 2	3,300	2,400
Year 3	3,200	2,200
Year 4	4,000	2,100
Year 5		1,500

Cost of capital is 14%.

Compute the payback period for each machine.

(Marks 08)

(c) Compute the Average Annual Rate of Return (AARR) for each machine given in (b) above.

(Marks 07)

Q3

(a) A firm is considering three projects each with initial investment of Rs.1, 000,000 and a life of 5 years. The profits generated by the projects are estimated to be as follows (all values in Rs.);

Year	Project 1	Project 2	Project 3
1	200,000	350,000	150,000
2	200,000	200,000	150,000
3	200,000	150,000	150,000
4	200,000	150,000	200,000
5	200,000	150,000	350,000
Total	1,000,000	1,000,000	1,000,000

Determine the the Net Present Value of all the 3 projects. Assume the interest rate as 15%. Make your comments on the values obtained.

(Marks 07)

(b) You plan to retire at the age of 60 years after a highly successful career. You would like to accumulate enough money by age 60 to withdraw Rs.225,000 per year for 15 years from there on. You plan to pay into your account 30 equal installments beginning when you are 30 and ending when you are 60. Your account bears interest of 12 percent per year.

- How much do you need to accumulate in your account by the time you retire?
- How much do you need to pay into your account in each of the 30 equal installments?

(Marks 10)

(c) Discuss the advantages of 'Net Present Value' over 'Internal Rate of Return in capital budgeting.

(Marks 08)



Q4.

- (a) Explain alternative ways of incorporating inflation in the computations made under discounting cash flow techniques. You may use an example to illustrate your answer.

(Marks 08)

- (b) The following information has been taken from a construction project;

Interest rate = 24%

Inflation rate = 18%

Determine the effective interest rate applicable for the project

(Marks 05)

- (c) Sigma is a precast concrete production company that is intending to purchase a new 'cement sand block' casting machine at a cost of Rs.75, 000 in a bid to diversify its business. The machine has an expected life of five years and can produce 100 blocks per day and will be used 260 for days per year. Following information is given too;

Salvage value is Rs. 2,000

Maintenance required Rs.10, 000 at the end of the third year.

Sales price per block Rs. 13.75

Cash production cost per block

Direct materials Rs. 7.50

Variable labour and overhead cost Rs. 4.25

Assuming a 16 percent discount rate, related to Sigma's prospective investment, determine the net present value of the investment.

(Marks 12)

Q5

- (a) An extract of a company balance sheet is as follows;

	Rs. (Million)
Long term loans	1,000
Share capital	800

Average before tax cost of borrowing is 18% and cost of equity (share capital) is 25%. Calculate the Weighted Average cost of capital of the company.

(Marks 06)

- (b) Compare the advantages of 'Discounting cash flow methods' over 'Non discounting cash flow methods' in capital budgeting.

(Marks 09)



- (c) A pantry cupboard manufacturer who is determined to expand his business is considering the purchase of several electrically operated machines and tools to reduce both costs of production and time taken for production. The total purchase will cost Rs. 1,695,000 and will have a life of 10 years. These will have only a negligible scrap value, which can be ignored. The machines and tools will result in Labour savings of Rs. 300,000 per year. You may ignore the gains result in from increased volume of production

Compute the internal rate of return (IRR) of this investment

(Marks 10)

Q6

ABC Company operates a snack food center at the Airport. On January 1, 2000 ABC purchased a special cookie-cutting machine, which has been used for three years. ABC is considering purchasing a newer, more efficient machine. If purchased, the new machine would be acquired today, January 1, 2003. ABC expects to sell 300,000 cookies in each of the next four years. The selling price of each cookie is expected to be Rs.50 on average.

ABC has two options (1) continue to operate the old machine or 2) sell the old machine and purchase the new machine. The seller of the new machine offered no trade in. The following information has been assembled to help management decide which option is more desirable (all values are given in Rs.):

	Old Machine	New Machine
Initial purchase costs of machine	8,000,000	12,000,000
Terminal disposal value at the end of useful life assumed for depreciation purposes	1,000,000	2,000,000
Useful life from date of acquisition	7 years	4 years
Expected annual cash operating costs:		
Variable cost per cookie	20	14
Total fixed costs	1,500,000	1,400,000
Depreciation method used for tax purposes	Straight line	Straight line
Estimated disposal prices of machines:		
January 1, 2003	4,000,000	12,000,000
December 31, 2006	700,000	2,000,000

ABC is subject to a 40% income tax rate. Assume that any gain or loss on the sale of machines is treated as an ordinary tax item and will affect the taxes paid by ABC in the year in which it occurs. ABC has an after tax required rate of return of 16%.

- (a) Using Net present value method determine whether ABC should retain the old machine or acquire the new machine.

(Marks 10)

- (b) How much more or less would the recurring after tax cash operating savings have to be for ABC to exactly earn the 16% after tax required rate of return under both options? Assume all other data about the investment will not change.

(Marks 10)

- (c) Assume that the financial differences between the net present values of the two options are so slight that ABC is indifferent between the two proposals. Identify and discuss the non-financial and qualitative factors that ABC should consider.

(Marks 05)

