

College of Applied Business (CAB)

Sent-up Examination, February 2015

BBA / Seventh Semester / BFN 207: Capital Investment Decision

Candidates are required to give their answers in their own words as far as practicable.

Section "A"

Time:- 20 Min.

Brief answer questions.

[10 × 1 = 10]

Indicate whether the following statements are “True” or “False”. Support your answer with reason.

1. Other things held constant, an increase in the cost of capital will result in a decrease in a project's IRR.
2. The phenomenon called "multiple internal rates of return" arises when two or more mutually exclusive projects that have different lives are being compared.
3. One advantage of the payback method for evaluating potential investments is that it provides some information about a project's liquidity and risk.
4. The replacement chain, or common life, approach is required when analyzing projects that have different lives regardless of whether the projects are mutually exclusive or independent.
5. Changes in net operating working capital do not need to be considered in a capital budgeting cash flow analysis because capital budgeting relates to fixed assets, not working capital.
6. Sensitivity analysis provides useful knowledge about the sensitivity of a project's NPV to a change in more input variables at a time.
7. The option to abandon a project is a real option, but a call option on a stock is not a real option.
8. The post audit of a project is used to stimulate management to improve and bring results into line with forecasts.
9. Risk free rate of return is employed as a discount rate to evaluate investment projects using certainty equivalent approach.
10. Cross over rate is the point where the mutually exclusive projects will have same NPVs.

Section "B"

Time:- 30 Min.

Short answer questions. (ANY TWO)

[2 × 5 = 10]

11. Write about cross over rate and its use in capital investment decision.
12. Write about the UNIDO approach for social cost benefit analysis.
13. Filkins Fabric Company is considering the replacement of its old, fully depreciated knitting machine. Two new models are available: **Machine 190-3**, which has a cost of \$190,000, a 3-year expected life, and after-tax cash flows (labor savings and depreciation) of \$87,000 per year; and **Machine 360-6**, which has a cost of \$360,000, a 6-year life, and after-tax cash flows of \$98,300 per year.

Knitting machine prices are not expected to rise, because inflation will be offset by cheaper components (microprocessors) used in the machines.

Assume that Filkins's cost of capital is 14%.

What is the Equivalent Annual Annuity for each machine? Should the firm replace its old knitting machine? If so, which new machine should it use?
14. Shao Industries is considering a proposed project for its capital budget. The company estimates the project's NPV is \$12 million. This estimate assumes that the economy and market conditions will be average over the next few years. The company's CFO, however, forecasts there is only a 50% chance that the economy will be average. Recognizing this uncertainty, she has also performed the following scenario analysis:

Economic Scenario	Probability of Outcome	NPV
Recession	0.05	-\$70 million
Below Average	0.20	-\$25 million
Average	0.50	\$12 million
Above Average	0.20	\$20 million
Boom	0.05	\$30 million

What is the project's expected NPV, its standard deviation, and its coefficient of variation?

Section "C" Time:- 80 Min.

Comprehensive answer question.

[2 × 10 = 20]

15. The Taylor Toy Corporation currently uses an injection-molding machine that was purchased 2 years ago. This machine is being depreciated on a straight-line basis, and it has 6 years of remaining life. Its current book value is \$2,100, and it can be sold for \$2,500 at this time. Thus, the annual depreciation expense is $\$2,100/6 = \350 per year. If the old machine is not replaced, it can be sold for \$500 at the end of its useful life.

Taylor is offered a replacement machine that has a cost of \$8,000, an estimated useful life of 6 years, and an estimated salvage value of \$800. This machine falls into the MACRS 5-year class, so the applicable depreciation rates are 20%, 32%, 19%, 12%, 11%, and 6%. The replacement machine would permit an output expansion, so sales would rise by \$1,000 per year; even so, the new machine's much greater efficiency would reduce operating expenses by \$1,500 per year. The new machine would require that inventories be increased by \$2,000, but accounts payable would simultaneously increase by \$500. Taylor's marginal federal-plus-state tax rate is 40%, and its WACC is 15%. Should it replace the old machine?

16. Jasmin Thapa, a fresh MBA graduate is planning for assembling Motorbike in Biratnagar, which requires Rs.90,40,179 initial costs for this project. He is estimated only two year's life of project because within two years if he can't recover the initial cost, the project will phase out and no salvage value is expected. The OCFs are time dependent, so the year 1 results (OCF₁) affects the cash flow in year II (OCF₂) as follows:

Year 1		Year 2	
OCF	Probability	OCF	Probability
Rs.40,00,000	0.30	4,00,000	0.30
		5,00,000	0.60
		3,00,000	0.10
Rs.50,00,000	0.40	5,00,000	0.20
		6,00,000	0.50
		7,00,000	0.30
Rs.60,00,000	0.30	6,50,000	0.25
		5,50,000	0.50
		8,50,000	0.25

Required:

- Develop decision tree diagram for the proposed investment proposal.
- Expected NPV if required rate of return is 12%.
- Comment on the financial viability of the investment proposal.
- Is this project accepted if the required rate of return is 10%?