



IV Semester M.B.A. Degree Examination, June 2009

(2007 Scheme)

MANAGEMENT

F-6 : Project Analysis and Implementation

Time : 3 Hours

Max. Marks : 75

SECTION – A

1. Answer **any six** of the following sub questions. **Each** carries **two** marks. (2×6=12)

- a) State the importance of capital invests.
- b) What is corporate appraisal ?
- c) What is project rating index ?
- d) What is trend projection method ?
- e) Define internal rate of return.
- f) What is sensitivity analysis ?
- g) What do you mean by loan syndication ?
- h) What is private placement ?

SECTION – B

Answer **any three** of the following questions. **Each** question carries **eight** marks. (3×8=24)

2. Explain the project life cycle phases.
3. Discuss the various components of Project Execution Plan.

P.T.O.



4. A company is contemplating to purchase a machine. Two machines A and B are available each costing Rs. 5,00,000. In comparing the profitability of a machine a discounting rate of 10% is to be used. Cash inflows after tax are expected as follows :

Year	Machine A	Machine B
1	1,50,000	50,000
2	2,00,000	1,50,000
3	2,50,000	2,00,000
4	1,50,000	3,00,000
5	1,00,000	2,00,000

Indicate which machine would be profitable using the following methods of ranking investment proposals :

- a) Pay back period                      b) Average rate of return  
 c) Net present value                    d) Benefit-cost ratio.
5. A project involves an outlay of Rs. 1,00,000. Its expected cash inflow at the end of year one is Rs. 40,000. Thereafter, it decreases every year by Rs. 2,000. It has an economic life of 6 years. The certainty equivalent factor is  $\alpha t = 1 - 0.05t$ . Calculate the net present value of the project if the risk free rate of return is 10 percent.
6. Skylark Airways is planning to acquire a light commercial aircraft at an investment of Rs. 50,00,000. The expected cash flow after tax for the next three years is as follows :

Year 1		Year 2		Year 3	
CFAT	Probability	CFAT	Probability	CFAT	Probability
14,00,000	0.1	15,00,000	0.1	18,00,000	0.2
18,00,000	0.2	20,00,000	0.3	25,00,000	0.5
25,00,000	0.4	32,00,000	0.4	35,00,000	0.2
40,00,000	0.3	45,00,000	0.2	48,00,000	0.1

The company wishes to take into consideration all possible risk factors relating to an airline operations. The company wants to know :

- i) The expected NPV of this venture assuming independent probability distribution with 6% risk free of interest  
 ii) The possible deviation in the expected value.



SECTION - C

Answer any two of the following questions. Each question carries 12 marks. (2x12=24)

- 7. Discuss the different techniques of project appraisal.
- 8. XYZ Ltd. has the following book value capital structure

	Rs. Crores
Equity capital (in shares of Rs. 10 each fully paid-up at par)	15
11% preference capital (in shares of Rs. 100 each fully paid-up at par)	1
Retained earnings	20
13.5% Debentures (of Rs. 100 each)	10
15% term loans	12.5

The next expected dividend on equity shares is expected to grow at the rate of 7%.

The market price per share is Rs. 40.

Preference stock, redeemable after 10 years, is currently selling at Rs. 75.

Debentures, redeemable after six years are selling at Rs. 80 per debenture.

Income tax rate of the company is 40%, required to calculate :

- a) Weighted average cost of capital based on book weights
- b) WACC based on market value proportions.

9. A company proposes to introduce a new product. The market study information suggests that the company can set a price of Rs. 36, or Rs. 38 or Rs. 40 per unit. The company intends to hire a machinery to manufacture the product at Rs. 4,00,000 per annum but if annual production exceeds 60,000 units additional cost Rs. 1,60,000 per annum will be incurred on the hire of machinery. The variable cost is Rs. 10 or Rs. 12 per unit produced. The following estimate of sales at each possible selling price has been prepared.

Selling Price	Rs. 36		Rs. 38		Rs. 40	
	Units	Probability	Units	Probability	Units	Probability
Pessimistic	70,000	0.3	60,000	0.1	30,000	0.4
Most likely	80,000	0.5	70,000	0.7	60,000	0.5
Optimistic	90,000	0.2	90,000	0.2	70,000	0.1



The probability of unit cost are 0.6 for variable cost of Rs. 10 per unit and 0.4 for variable cost of Rs. 12 per unit.

The company has committed an advertising expenditure of Rs. 80,000 per annum.

You are required to analyse and advise which selling price will be appropriate from the point of view of maximisation of profits.

#### SECTION – D

Case Study :

15

10. The initial investment outlay for a capital investment project consists of Rs. 100 lakhs for plant and machinery and Rs. 40 lakhs for working capital. Other details are summarised below :

Sales	: One lakh units of output per year for years 1 to 5
Selling price	: Rs. 120 per unit
Variable cost	: Rs. 60 per unit
Fixed overheads (Excluding depreciation)	: Rs. 15 lakhs per year for years 1 to 5
Rate of depreciation on machinery	: 25% on W.D.V. method
Salvage value of plant and machinery	: Equal to W.D.V. at the end of year 5
Applicable tax rate	: 40%
Time horizon	: 5 years
Post tax cut-off rate	: 12%

Required :

- Indicate the financial viability of the project by calculating NPV
- Determine the sensitivity if the project's NPV if the selling price decreases by 5%.



IV Semester M.B.A. (Day) Examination, June/July 2010

(2007-08 Scheme)

Management

F-6 : PROJECT ANALYSIS AND IMPLEMENTATION

Time : 3 Hours

Max. Marks : 75

SECTION – A

1. Answer **any six** questions : (2×6=12)

- a) Define project.
- b) What is MIRR ?
- c) What is Break even analysis ?
- d) What is venture capital ?
- e) What is agency problem ?
- f) What is IRR ?
- g) What is CAPM ?
- h) What is CFAT ?

SECTION – B

Answer **any three** of the following questions : (3×8=24)

2. Explain the different techniques of project appraisal.
3. Explain the factors influencing the choice of technology.
4. Explain the different methods of project financing.
5. Discuss the pre-requisites for successful project implementation.
6. How would you evaluate capital budgeting system of an organisation ?

P.T.O.



## SECTION – C

Answer **any two** of the following :

(2×12=24)

7. Explain the different sources of financing projects.
8. Discuss the different techniques of risk analysis in capital investments.
9. A textile company is considering two mutually exclusive investment proposals.

Their expected cash flow streams (CFAT) are given as follows :

Year	Proposal X (Rs. Thousand)	Proposal Y (Rs. Thousand)
0	(500)	(700)
1	145	100
2	145	110
3	145	130
4	145	150
5	145	160
6	145	150
7		120
8		120
9		110
10		100

Which project should be acceptable to the company if. The company employs the risk adjusted method of evaluating risky projects and select the appropriate required rate of return as follows :

Project pay back	Required rate of return (%)
Less than 1 year	8
1 to 5 years	10
5 to 10 years	12
over 10 years	15



SECTION - D

10. Case Study (Compulsory) : (1×15=15)

A company is considering an investment proposal to instal new milling tools at a cost of Rs. 50,000. The facility has a life expectancy of 5 years and salvage value. The tax rate is 35 per cent. Assume the firm uses straight line depreciation and the same is allowed for tax purposes. The estimated cash flows before depreciation and tax (CFBT) from the investment proposal are as follows :

Year	CFBT
1	Rs. 10,000
2	10,692
3	12,769
4	13,462
5	20,385

Compute the following :

Pay back period,

Average rate of return,

Internal rate of return,

Net present value at 10 per cent discount rate,

Profitability index at 10 per cent discount rate.



## IV Semester M.B.A. Degree Examination, June 2011

(2007-08 Scheme)

## MANAGEMENT

## F-6 : Project Analysis and Implementation

Time : 3 Hours

Max. Marks : 75

## SECTION – A

1. Answer **any six** of the following sub-questions. **Each** carries **2** marks.

(2×6=12)

- What is Capital rationing ?
- What is margin money ?
- What is agency problem ?
- Define Venture Capital.
- What do you mean by work break down structure ?
- What is post completion audit ?
- What is sensitivity analysis ?
- Define cost of capital.
- Explain Mutually Exclusive Projects.

## SECTION – B

Answer **any three** of the following questions. **Each** question carries **eight** marks.

(3×8=24)

- Outline the various phases of a project's life cycle.
- Discuss the various types of long term sources of funds available for financing a project.
- Consider the following cash flows about Project 'X' and Project 'Y' :

Year	X	Y
0	(1,00,000)	(1,00,000)
1	30,000	50,000
2	40,000	50,000
3	50,000	30,000
4	50,000	30,000

- Consider NPV and IRR assuming a cost of capital of 10%
- Also calculate MIRR.

P.T.O.



5. The probability distribution of possible net present value of project P has an expected value of Rs. 10,000 and standard deviation of Rs. 5,000. Assuming normal distribution, calculate the probability
- that net present value will be zero or less
  - that net present value will be greater than Rs. 15,000
  - that net present value will be more than Rs. 5,000 and less than Rs. 12,500.

6. Niko has purchased a brand new machine to produce its High Flight line of shoes. The machine has an economic life of 5 years. The depreciation schedule for the machine is straightline with no salvage value. The machine costs Rs. 30,00,000.

The sales price per pair of shoes is Rs. 600 while the variable cost is Rs. 80. Rs. 10,00,000 of fixed cost per year is attributed to the machine.

Assume that the Corporate tax rate is 34% and the appropriate discount rate is 8%. What is the present value break-even point ?

#### SECTION – C

Answer **any two** questions. **Each** question carries **12** marks. (2×12=24)

- Describe the various steps involved in project implementation and control.
- The CFO of Reliance is considering an investment of Rs. 30,00,000 in a machine that will be depreciated by SLM over its 7 year economic life. You are given the following information about the proposed market.

	Pessimistic	Expected	Optimistic
Market size (in units)	2,20,000	2,40,000	2,60,000
Market Share	20%	25%	30%
Selling price per unit	Rs. 110	Rs. 120	Rs. 130
Variable cost per unit	Rs. 75	Rs. 70	Rs. 65
Fixed cost per year	Rs. 17,00,000	Rs. 16,00,000	Rs. 15,00,000

The appropriate discount rate is 12% and the corporate tax rate for the company is 35%.

- Calculate NPV for each of the above scenarios.
- If each scenario is equally likely, is the machine a worthwhile investment ?



9. A firm is contemplating to invest in the following project. Advise the management whether to accept the project or not.

Building Cost	-	Rs. 36,000
Equipment cost	-	Rs. 24,000
Networking capital requirement		
as a percentage on sales	-	10%
First year sales ( in units)	-	20,000
Selling price per unit	-	Rs. 9.00
Variable cost per unit	-	Rs. 6.30
Fixed cost	-	Rs. 24,000
Life of the project	-	4 years
Depreciation (WDV)	-	10% on Buildings 25% on Machinery
Market value of Building		
at the end of life	-	Rs. 30,000
Market value of Equipment		
at the end of life	-	Rs. 3,000
Tax rate	-	35%
WACC	-	12%
Growth rate in units sold	-	0%
Growth in selling price per unit	-	2%
Growth in variable cost per unit	-	2%
Growth in fixed cost	-	1%



SECTION - D

10. Case Study compulsory :

15

Amco batteries is considering undertaking a special project requiring an initial outlay of Rs. 18,00,000. The project would have a two year life, after which there will be no expected terminal value. The possible incremental after tax cash flows and associated probabilities of occurrence are as follows.

Year 1		Year 2	
Initial probability	Net cash flow	Conditional probability	Net cash flow
0.30	12,00,000	0.30	4,00,000
		0.50	6,00,000
		0.20	8,00,000
0.40	14,00,000	0.30	8,00,000
		0.40	10,00,000
		0.30	12,00,000
0.30	16,00,000	0.20	12,00,000
		0.50	14,00,000
		0.30	16,00,000

The company's required rate of return for this investment is 8%.

- Calculate base case NPV.
- Suppose that the possibility abandonment exists at the end of first year for Rs. 9,00,000, what is the revised NPV ?
- Is it worthwhile to abandon the project ?

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**IV Semester M.B.A. Degree Examination, June/July 2012**  
**(2007-08 Scheme)**  
**MANAGEMENT**

**F6 : Project Analysis and Implementation**

Time : 3 Hours

Max. Marks : 75

**Instruction :** Answer **all** Sections. Marks are indicated against **each** Section.

**SECTION – A**

1. Answer **any six** of the following questions. **Each** question carries **two** marks. **(6×2=12)**
- a) What do you understand by Project Life Cycle ?
  - b) What is Project Rating Index ?
  - c) Differentiate between strategic planning and capital budgeting.
  - d) What is sensitivity analysis ?
  - e) Define project scheduling.
  - f) What is meant by social cost benefit analysis ?
  - g) Define venture capital.
  - h) What is capital rationing ?

**SECTION – B**

Answer **any three** of the following questions. **Each** question carries **eight** marks.

**(3×8=24)**

- 2. What is Project Feasibility Study ? Explain the market feasibility of a project of your choice.
- 3. What makes risk important in the selection of projects ? Explain briefly the various methods of evaluating risky projects.

P.T.O.



4. Explain the different forms of financing projects. What are the key factors should be considered while financing a project ?
5. X Ltd. is considering to buy a moulding machine. The machine having capital cost of Rs.20 lakh is expected to have 4 years economic useful life with no salvage value. The company follows the straight line method of depreciation and the same is accepted for tax purposes. The expected CFAT (with corporate tax rate of 35 per cent) during its 4 years economic useful life are as follows :

Year	CFAT (Rs. in lakh)
1	8
2	10
3	7
4	5

Inflation is expected to be 5 per cent per year and the machine's cost of capital in real terms would be 10 per cent. Compute the NPV of purchasing this machine.

6. Manoj Limited is considering an investment proposal involving an outlay of Rs. 45,00,000. The expected CF and certainly equivalent co-efficient are :

Year	Expected CF	Certainly equivalent coefficients
1	10,00,000	.90
2	15,00,000	.85
3	20,00,000	.82
4	25,00,000	.78

The risk free interest rate is 5% calculate the NPV of the proposal.



SECTION – C

Answer any two of the following questions. Each question carries twelve marks.  
(2x12=24)

- 7. How are venture capital proposals analysed ? What are the factors considered by venture capitalists while evaluating new project ? Discuss.
- 8. Y company is considering two mutually exclusive projects. The initial cost of both projects is Rs.50 lakhs and each has an expected life of 5 years. Under three possible states of economy, their annual cash flows and associated probabilities are as follows :

Economic State	Probability	NCF of Project A (Rs. in lakh)	NCF of Project B (Rs. in lakh)
Good	0.3	60	50
Normal	0.4	40	40
Bad	0.3	20	30

If the discount rate is 7 per cent, which project should the company accept and why ?

- 9. Pioneer Corporation is considering two projects, projects maxi and project mini, each of which requires an initial outlay of Rs. 50 million. The expected cash inflows from these projects are :

Year	Project Mini	Project Mini
1	Rs.11 million	Rs. 38 million
2	19	22
3	32	18
4	37	10



- a) What is discount payback period for each of the projects if the cost of capital is 12% ?
- b) If the two projects are independent and cost of capital is 12%. Which project(s) should firm invest in ?
- c) If the two projects are mutually exclusive and the cost of capital is 10%, which project should the firm invest in ?

SECTION - D

Case Study :

15

10. A company is considering two mutually exclusive projects X and Y. Project X costs Rs. 90,000 and project Y costs Rs.1,08,000. You have been given below the net present value probability distribution for each project.

Project X		Project Y	
N.P.V. estimate	Probability	N.P.V. estimate	Probability
9000	0.1	9000	0.2
18000	0.4	18000	0.3
36000	0.4	36000	0.3
45000	0.1	45000	0.2

- i) Compute the expected N.P.V. of project X and Y.
- ii) Compute standard deviation of each probability distribution.
- iii) Which project would you consider more risky and why ?
- iv) Compute the profitability index of each project.




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Fourth Semester M.B.A. (Day) Degree Examination, June/July 2013  
(2007-08 Scheme)

Management

F-6 : PROJECTS – ANALYSIS AND IMPLEMENTATIONS

Time : 3 Hours

Max. Marks : 75

*Instruction : Answer all Sections.*

SECTION – A

(6×2=12)

1. Answer any six sub-questions. Each sub-question carries 2 marks.

a) What is project rating index ?

b) What is capital rationing ?

c) Define uncertainty.

d) Define margin money.

e) What is work-break-down structure ?

f) What is loan syndication ?

g) Define agency problem.

h) What is risk-free rate of return ?

SECTION – B

(3×8=24)

Note : Answer any three of the following. Each question carries 8 marks.

2. Describe the various means of financing a project.

3. What is the importance of capital structure in project financing ?

4. Discuss the steps involved in project execution.

P.T.O.



5. Sulabh International is evaluating a project whose expected cashflows are as follows :

Years	0	1	2	3	4	5
Cash flows (Rs. in lakhs)	(10)	1	2	3	6	3

- a) What is the NPV of the Project if the cost of capital is 14 percent for the entire period ?
- b) What is the NPV of the Project if the discount rate is 12% for the year 1 and rises every year by 1 percent ?
6. Unique Products Ltd. is considering a proposal of whether to invest in a project which would need an immediate expenditure on capital equipment of Rs. 40,000. The projected sales from the project has been estimated as under :

Sales volume (units)	2,000	6,000	8,000	10,000	14,000
Probability	0.10	0.30	0.30	0.20	0.10

Once sales are established at a certain volume in the first year they will continue at that same volume in subsequent years. The unit selling prices will be Rs. 12, the unit variable cost will be Rs. 8. There will be additional fixed cost of Rs. 20,000 (all cash items). The project will have a life of 6 years after which equipment could be sold for scrap at a price of Rs. 3,000.

You are required to find out :

- a) the expected value of the NPV of the project
- b) the minimum volume of sales per annum required to justify the project.

The cost of capital of the company is 10%. Discount factor of Re. 1 per annum for 6 years at 10% is 4.355 and the discount factor of Re. 1 at the end of six years at 10% is 0.5645. Ignore taxation.



## SECTION - C

(2×12=24)

**Note :** Answer any two of the following. Each question carries 12 marks.

7. Discuss the different methods of demand forecasting.
8. Discuss the importance and problems of venture capital financing.
9. The Shorsight Company is attempting to decide whether or not to invest in a project that requires an initial outlay of Rs. 4 lakhs. The cash flows of the project are known to be made up of two parts, one of which varies independently over time and the other one which display perfect positive correlation. The cash flows of the six year life of the project are :

(Rs.)

Year	Perfectly Correlated Components		Independent Component	
	Mean	Standard Deviation	Mean	Standard Deviation
1	40,000	4,400	42,000	4,000
2	50,000	4,500	50,000	4,400
3	48,000	3,000	50,000	4,800
4	48,000	3,200	50,000	4,000
5	55,000	4,000	52,000	4,000
6	60,000	4,000	52,000	3,600

Find out the expected value of the NPV and its standard deviation, using a discount rate of 10%.



## SECTION - D

(1×15=15)

**Note :** Answer the following case study. This question is **compulsory**.

10. A firm has an investment proposal, requiring an outlay of Rs. 40,000. The investment proposal is expected to have 2 years' economic life with no salvage value. In year I, there is a 0.4 probability that cash inflow after tax will be Rs. 25,000 and 0.6 probability that cash inflow after tax will be Rs. 30,000. The probabilities assigned to cash inflows after tax for the year II are as follows :

		(Rs.)			
Cash inflow	Year I	25,000		30,000	
Cash inflow	Year II		Probability		Probability
		12,000	0.2	20,000	0.4
		16,000	0.3	25,000	0.5
		22,000	0.5	30,000	0.1

The firm uses a 10% discount rate for this type of investment.

Required :

- Construct a decision tree for the proposed investment project.
  - What net present value will the project yield if worst outcome is realised ?  
What is the probability of occurrence of this NPV ?
  - What will be the best and the probability of that occurrence ?
  - Will the project be accepted ?
- (Discount factor @ 10% 1 year - 0.909; 2 year - 0.826)



PG – 795

IV Semester M.B.A. Degree Examination, July/August 2014  
(2007 – 08 Scheme)  
**MANAGEMENT**  
**F-6 : Project Analysis and Implementation**

Time : 3 Hours

Max. Marks : 75

SECTION – A

1. Answer **any six** of the following questions. **Each** carries **2** marks. **(6×2=12)**
- What is feasibility analysis ?
  - What are the sources of positive N.P.V. ?
  - What is project life cycle ?
  - What is Delphi method of demand forecasting ?
  - What is deep discount bond ?
  - What is sensitivity analysis ?
  - What are the reasons for uncertainty in a new venture ?
  - What do you mean by post completion audit ?

SECTION – B

**(3×8=24)**

Answer **any three** of the following questions. **Each** carries **8** marks.

- Explain the characteristic features of a project.
- What is project rating Index ? Explain the steps involved in developing Project Rating Index.
- ABC Ltd. which makes only one product, sells 10,000 units of its product making a loss of Rs. 10,000. The variable cost is Rs. 8 and fixed cost is Rs. 30,000.  
The company has estimated its Sales demand as under.

Sales (Units)	10,000	12,000	14,000	16,000	18,000
Probability	0.10	0.15	0.20	0.30	0.25

  - What is the probability the company will continue to make loss ?
  - What is the probability the company will make a profit of atleast Rs. 6,000 ?

P.T.O.



5. Delta Corporation is considering in one of the following two mutually exclusive proposals

Project - A : Involves initial outlay of Rs. 17,00,000

Project - B : Involves initial outlay of Rs. 15,00,000

The certainty equivalent approach is employed in evaluating risky investments. The current yield on treasury bills is 8% and the company uses this as risk free (less) rate. The expected values of net cash inflow with their respective certainty equivalents are

Year	Project - A		Project - B	
	Cash inflow	C.E.	Cash inflow	C.E.
1	9,00,000	0.8	90,000	0.9
2	10,00,000	0.7	90,000	0.8
3	1,10,000	0.5	1,00,000	0.6

- a) Which project should be acceptable to the company ?  
 b) Which project is riskier and why ? Explain.
6. S Ltd. has Rs. 10 crores allocated for capital budgeting purposes. The following are the proposals and ascertained profitability Indexes have been determined.

Project	Amount/Investment (Rs. in lakhs)	Profitability Index
A	30	1.22
B	15	0.95
C	35	1.20
D	45	1.18
E	20	1.20
F	40	1.05

Assume that projects are indivisible and there is no alternative use of money allocated to capital budgeting. Which of the above investments should be undertaken on the basis of

- a) Profitability Index Method  
 b) Net Present Value Method ?



## SECTION – C

(2x12=24)

Answer **any two** questions. **Each** question carries **12** marks.

7. Briefly explain the techniques used in evaluating the investment proposals under uncertainty in order to choose the best project.
8. A company is considering two mutually exclusive projects X and Y. Project X costs Rs. 30,000 and Y costs Rs. 36,000. You have been given below the Net Present Value probability distribution for each of the project.

Project X		Project Y	
N.P.V. Estimate (Rs.)	Probability	N.P.V. Estimate (Rs.)	Probability
3,000	0.1	3,000	0.2
6,000	0.4	6,000	0.3
12,000	0.4	12,000	0.3
15,000	0.1	15,000	0.2

- a) Compute the expected N.P.V. of project X and Y.
- b) Compute risk attached to each project i.e S. D. of each probability distribution.
- c) Which project do you consider more risky and why ?
9. XYZ Ltd. wants to purchase a plant for its expanding operations. The cost of the plant is Rs. 10,00,000. The expected EBDT during its five years economic life are as shown below.

Year	EBDT
1	3,50,000
2	3,80,000
3	4,00,000
4	3,25,000
5	2,50,000

The rate of inflation during the period is expected to be 8% and the stated EBDT are also expected to grow at the rate of inflation. The Cost of capital is 10%. The firm follows W.D. V. method of depreciation at the rate of 25%. The salvage value of the machine is Rs. 1,00,000. Tax rate is 35% .

Advice the company whether the proposed machine should be purchased.



## 10. Case Study

A company is considering an investment in a project that requires an initial investment of Rs. 3,000 with an expected cash flow (CFAT) generated over three years as follows.

Year - 1		Year - 2		Year - 3	
CFAT (Rs.)	Probability	CFAT (Rs.)	Probability	CFAT (Rs.)	Probability
800	0.1	800	0.1	800	0.2
1000	0.2	1000	0.3	1000	0.5
1500	0.4	1500	0.4	1500	0.2
2000	0.3	2000	0.2	2000	0.1

- 1) What is the expected N.P.V. of this project ?  
(Assume probability distribution are independent and risk free rate of Interest is 7%)
- 2) Calculate the standard deviation about expected about expected mean.
- 3) Find the probability that N.P.V. will be less than 'zero'.
- 4) What is the probability that N.P.V. will be more than 'zero' ?



PG – 1015

IV Semester M.B.A. Degree Examination, June/July 2015  
(2007-08 Scheme)

MANAGEMENT

F.6 : Project Analysis and Implementation

Time : 3 Hours

Max. Marks : 75

SECTION – A

1. Answer any six of the following questions. Each carries 2 marks. (2×6=12)

- a) What is strategic investment ?
- b) What is project life cycle ?
- c) What is feasibility study ?
- d) What is plant capacity ?
- e) Why projects fail ?
- f) What is sensitivity analysis ?
- g) What is project diary ?
- h) What are the sources of positive N.P.V. ?

SECTION – B

Answer any three questions. Each question carries eight marks. (3×8=24)

2. Explain the different components of cost of project.
3. Explain the factors influencing the choice of technology.
4. Discuss the importance and problems of venture capital financing.

P.T.O.



5. The Textile Manufacturing Company Ltd. is considering one of two mutually exclusive proposals, Projects M and N, which require cash outlays of Rs. 8,50,000 and Rs. 8,25,000 respectively. The Certainty-Equivalent (C.E.) approach is used in incorporating risk in capital budgeting decisions. The current yield on government bonds is 6% and this is used as the risk free rate. The expected net cash flows and their Certainty Equivalents are as follows :

Year-ended	Project M		Project N	
	Cash flow (Rs.)	C.E.	Cash flow (Rs.)	C.E.
1	4,50,000	0.8	4,50,000	0.9
2	5,00,000	0.7	4,50,000	0.8
3	5,00,000	0.5	5,00,000	0.7

Present value factors of Re. 1 discounted at 6% at the end of year 1, 2 and 3 are 0.943, 0.890 and 0.840 respectively.

**Required :**

- Which project should be accepted ?
  - If risk adjusted discount rate method is used, which project would be appraised with a higher rate and why ?
6. X Ltd. has to decide between rental of two types of machine manufacturing the same product. Machine A, an inexpensive economy model, rents for Rs. 1,000 per month, but the variable production cost is Re. 0.25 per unit. Machine B rents for Rs. 3,000 per month but the variable production cost is only Re. 0.10 per unit. Monthly demand varies between 10,000 and 19,000 to the following probabilities :

<b>Demand</b>	10,000	12,000	15,000	17,000	19,000
<b>Probability</b>	0.12	0.17	0.41	0.24	0.06

Make a comparison of the two machines. Which machine X Ltd. should rent ?

If the demand is definitely known to be 10,000 units, would the decision reverse ?



## SECTION - C

Answer any two of the following questions. Each question carries 12 marks.

(2×12=24)

7. Discuss the techniques used in evaluating the investment proposals under uncertainty.
8. XY Ltd. wants to install a new machine in the place of an existing old one which has become obsolete. The company made extensive enquiries and from the replies received, short-listed two offers. The two models differ in cost, output and anticipated net revenue. The estimated life of both the machines is five years. There will be only negligible salvage value at the end of the fifth year. Further details are as follows : (Rs. lakhs).

Machine	Cost	Anticipated after-tax cash flow				
		Year 1	Year 2	Year 3	Year 4	Year 5
A	25	-	5	20	14	6
B	40	10	14	16	17	8

The company's cost of capital is 16%. You are required to make an appraisal of the two offers and advise the firm by using the following :

- Payback Period
  - Net Present Value
  - Profitability Index
  - Internal Rate of Return
9. A company is considering two mutually exclusive projects X and Y. Project X costs Rs. 30,000 and Project Y Rs. 36,000. You have been given below the net present value probability distribution for each Project :

Project X		Project Y	
NPV Estimate (Rs.)	Probability	NPV Estimate (Rs.)	Probability
3,000	0.1	3,000	0.2
6,000	0.4	6,000	0.3
12,000	0.4	12,000	0.3
15,000	0.1	15,000	0.2

- Compute the expected net present value of Projects X and Y.
  - Compute the risk attached to each project i.e., standard deviation of each probability distribution.
  - Which project do you consider more risky and why?
  - Compute the probability index of each project.
-



## SECTION – D

**Case study (Compulsory) :****(1×15=15)**

10. A firm has an investment proposal, requiring an outlay of Rs. 80,000. The investment proposal is expected to have two years economic life with no salvage value. In year 1, there is a 0.4 probability that cash inflow after tax will be Rs. 50,000 and 0.6 probability that cash inflow after tax will be Rs. 60,000. The probability assigned to cash inflow after tax for the year 2 are as follows :

The cash inflow year 1	Rs. 50,000	Rs. 60,000
The cash inflow year 2	Probability	Probability
	Rs. 24,000 0.2	Rs. 40,000 0.4
	Rs. 32,000 0.3	Rs. 50,000 0.5
	Rs. 44,000 0.5	Rs. 60,000 0.1

The firm uses a 10% discount rate for this type of investment :

**Required :**

- i) Construct a decision tree for the proposed investment project and calculate the expected Net Present Value (NPV).
- ii) What Net Present Value will the project yield, if worst outcome is realised ? What is the probability of occurrence of this NPV ?
- iii) What will be the best outcome and the probability of that occurrence ?
- iv) Will the project be accepted ?



PG – 962

IV Semester M.B.A. Degree Examination, July 2016  
(2007-08 Scheme)  
MANAGEMENT

F-6 : Project Analysis and Implementation

Time : 3 Hours

Max. Marks : 75

SECTION – A

Answer any six of the following. Each question carries 2 marks. (6×2=12)

1. a) What is economic analysis ?
- b) What is capital rationing ?
- c) Define portfolio risk.
- d) What are sources of positive N.P.V. ?
- e) What do you mean by consortium lending ?
- f) What is deep discount bond ?
- g) What is project rating index ?
- h) Define venture capital.

SECTION – B

Answer any three questions. Each carries 8 marks. (3×8=24)

2. The Textile Manufacturing Company Ltd. is considering one of two mutually exclusive proposals, Projects M and N, which require cash outlays of Rs. 8,50,000 and Rs. 8,25,000 respectively. The Certainty-Equivalent (C.E.) approach is used in incorporating risk in capital budgeting decisions. The current yield on Government bonds is 6% and this is used as the risk free rate. The expected net cash flows and their certainty equivalents are as follows :

Year-ended	Project M		Project N	
	Cash flow (Rs.)	C.E.	Cash flow (Rs.)	C.E.
1	4,50,000	0.8	4,50,000	0.9
2	5,00,000	0.7	4,50,000	0.8
3	5,00,000	0.5	5,00,000	0.7

Present value factors of Re. 1 discounted at 6% at the end of year 1, 2 and 3 are 0.943, 0.890 and 0.840 respectively.

**Required :**

- i) Which project should be accepted ?
- ii) If risk adjusted discount rate method is used, which project would be appraised with a higher rate and why ?

P.T.O.



3. Sony Electronics, has developed a new Camcorder Camera. If the camera is successful, the present value of the pay off (at the time the product is brought to market) is Rs. 200 million. If the camera fails, the present value of the pay off is Rs. 50 million. If the product goes directly to the market, there is a 50% chance of success. Alternatively, Sony can delay the launch by one year and spend Rs. 20 million to test market the Camcorder Camera. Test marketing allows the firm to improve the product and increase the probability of success to 75%. The appropriate discount rate is 15%. Should the firm conduct test marketing ?
4. Probability distribution of projects X and Y which costs Rs. 30,000 and Rs. 36,000 respectively is given below along with their NPV estimates.
- Compute mean NPV and standard deviation of NPV for each project.
  - Which project would you consider if you assume higher risk ?

Project X		Project Y	
NPV	Probability	NPV	Probability
3,000	0.1	3,000	0.2
6,000	0.4	6,000	0.3
12,000	0.4	12,000	0.3
15,000	0.1	15,000	0.2

5. Define project planning. Briefly explain the various categories of projects.
6. Examine the steps in conducting project analysis.

### SECTION - C

Answer any two questions. Each question carries 12 marks.

(2x12=24)

7. Explain the various sources of long term financing available to a project.
8. Nike Shoe Company is considering an investment of Rs. 4,20,000 in a machine that will be depreciated by the straight line method over its seven year economic life. The appropriate discount rate is 13% and the corporate tax rate for the company is 35%.

	Pessimistic	Expected	Optimistic
Unit Sales	23,000	25,000	27,000
Price per unit	Rs. 38	Rs. 40	Rs. 42
Variable cost per unit	Rs. 21	Rs. 20	Rs. 19
Fixed costs per year	Rs. 3,20,000	Rs. 3,00,000	Rs. 2,80,000

- Calculate the NPV of the project in each of the above scenarios.
- If each scenario is equally likely, is the machine a worthwhile investment ?



9. You are the financial analyst of Hittle Company. The director of capital budgeting has asked you to analyse two proposed capital investments, Projects X and Y. Each project has a cost of Rs. 100 million and the cost of capital for each project is 12%. The project's expected net cash flows are as follows :

Expected Net Cash flows		
(Rs. in millions)		
Year	Project X	Project Y
0	(100)	(100)
1	65	35
2	30	35
3	30	35
4	10	35

- Calculate each projects NPV and IRR.
- Which project should be accepted if they are mutually exclusive ?
- How might a change in cost of capital produce a conflict between the NPV and IRR rankings of these projects ?

#### SECTION - D

Case study.

(1×15)

10. The initial investment outlay for a capital investment project consists of Rs. 100 lakh for plant and machinery and Rs. 40 lakh for working capital. Other details are summarised below :

Sales (lakh units per annum for years 1 to 5)	1
Selling price (per unit)	120
Variable cost (per unit)	60
Fixed overheads (excluding depreciation) (lakh per annum for years 1 to 5)	15
Rate of depreciation on plant and machinery (per cent on WDV)	25
Salvage value of plant and machinery (Equal to the WDV at the end of year 5)	



Applicable tax rate (per cent)	40
Time horizon (years)	5
Post-tax cut off rate (per cent)	12

**Required:**

- i) Indicate the financial viability of the project by calculating the net present value.
  - ii) Determine the sensitivity of the project's NPV under each of the following conditions:
    - a) Decrease in selling price by 10 per cent
    - b) Increase in variable cost by 10 per cent
    - c) Increase in variable cost by 5 per cent and increase in selling price by 5 per cent.
-