Fourth Semester MBA Degree Examination, June 2012
Project Appraisal, Planning and Control

Time: 3 hrs.   Max. Marks:100

Note: 1. *Answer any FOUR questions, from Q.No.1 to Q.No.7.*
2. *Question no. 8 is compulsory.*
3. *Use of PV/FV Tables and Z tables is permitted.*
4. *Students are expected to work with scientific calculators.*

1 a. Why are capital budgeting decisions considered important by any company? **(03 Marks)**
   b. With a neat diagram, explain BCG matrix. **(07 Marks)**
   c. Rashme borrows Rs. 5 lakhs at a interest rate of 14% p.a. This loan is to be repaid in 4 equal installments every year. Prepare loan amortization schedules separately for i) Year end payments ii) Beginning of the year payments satisfying following conditions :
   1) Equal installments   2) Installment = Principle + Interest   3) Interest payable on remaining balance of principle only. **(10 Marks)**

2 a. What are the sources of positive NPV for any project? **(03 Marks)**
   b. Explain the following methods of demand forecasting :
   i) Sales force composite   ii) Delphi technique. **(07 Marks)**
   c. Given data on actual no. of units sold over past 14 days, determine demand fore casting equation in the form $y = a + bx$ **(10 Marks)**

Days	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
No. of units sold	10	13	14	17	18	18	19	20	22	23	22	24	24	25

3 a. What do you mean by saying technical analysis? **(03 Marks)**
   b. Explain the disadvantages of using payback period as a method of project appraisal. **(07 Marks)**
   c. Jaya Prakash Associates are considerung a project that has following cash flows associated with it.

Year	⓪	①	②	③	④	⑤	⑥
Cash flows, Rs Millions	(-) 120	(-) 80	20	60	80	100	120

   Cost of capital of project is 15%. Determine modified internal rate of return. **(10 Marks)**

4 a. What is the meaning of margin money for working capital? **(03 Marks)**
   b. What are the components of cost of project? Briefly explain them. **(07 Marks)**
   c. If an equipment costs Rs.5 lakhs and has a life of 8 years, what should be the minimum annual cash inflow before it is worthy to buy this equipment if cost of capital is 10%? Work out separately for two situations – cash flows occur in the beginning of each year and at the end of each year. **(10 Marks)**

5 a. How accounting breakeven is different from financial break even? **(03 Marks)**
   b. What are the three elements of cash flow stream of a project? **(07 Marks)**

c. Ramya Flour Mills is setting up a factory in Bangalore. You have developed following estimates for its operations. Determine financial breakeven and confirm the same. Data is as under (Rs. In 000's). **(10 Marks)**

	Rs		Rs
Investment	20,000/-	Taxes	1,000/-
Sales	18,000/-	PAT	2,000/-
Variable costs 66⅔ % of sales	12,000/-	Cash flows (PAT + dep)	4,000/-
Fixed costs	1,000/-	Salvage value	Nil
Depreciation	2,000/-	Life	10 years
Pre tax profits	3,000/-	Cost of capital	12 %

6 a. What are the three states of nature used in sensitivity analysis? **(03 Marks)**

b. Explain why simulation analysis is only an indication and cannot be the right answer for any given situation. **(07 Marks)**

c. Girish Ltd is evaluating a investment proposal where NPV is modeled as under :

$$NPV = \sum_{t=1}^{N} CFAT\left[\frac{1}{1+R6}\right]^n - CFAO \text{ (assume salvage = 0)}.$$

Given values of selected exogenous variables, ie. CFAO = Rs 13,000/- and Rf = 10% and values of CFAT and life as under ; use following random numbers, simulate 10 trials and decide whether the project can be accepted or not. **(10 Marks)**

Random Nos, CFAT	53,	66,	30,	19,	31,	81,	38,	48,	90,	58 (ten numbers)
Random Nos, life	97,	99,	81,	09,	67,	70,	75,	83,	33,	52 (ten numbers)

CFAT, Rs/year		Life (years)	
CFAT (Rs.)	Probability	Life	Probability
1000	0.02	3	0.05
1500	0.03	4	0.10
2000	0.15	5	0.30
2500	0.15	6	0.25
3000	0.30	7	0.15
3500	0.20	8	0.10
4000	0.15	9	0.03
		10	0.02

7 a. Why do you consider serial cost benefit analysis is required for very large projects? **(03 Marks)**

b. What are the similarities and differences between UNIDO approach and Little – Mirrless approach? **(07 Marks)**

c. Consider a set of 5 projects as under :

Project	CFAO, Rs.	CFAT, Rs/year	Life (Years)
M	50000	18000	10
N	100000	50000	4
O	120000	30000	8
P	150000	40000	16
Q	200000	30000	25

Assume a discount rate of 10%. Rank the projects on basis of NPV and PI. In case there are any conflicts, resolve them using the method of equivalent annual benefit. In all cases, assume net salvage value = Nil. **(10 Marks)**

8 Compulsory : Answe any ONE :

a. A Project consists of 12 activities and time estimates in days are as under. Draw the network diagram and determine probability of completion of the project within 30 days. **(20 Marks)**

Activity	t opt	t ml	t pessimistic
1 - 2	4	6	10
1 – 3	3	7	12
1 – 4	5	6	9
1 – 7	2	4	6
2 – 4	6	10	20
2 – 6	3	4	7
2 – 7	5	9	15
3 – 4	3	7	12
4 – 5	2	4	5
5 – 6	1	3	6
3 – 7	2	5	8
6 - 7	1	2	6

b. Swetha Ltd is introducing a new product for which following information is available :
   i)   Product life = 7 years.
   ii) Sales in Rs. Millions / year are 80, 120, 160, 200, 160, 120, 80.
   iii) Capital equipment costs Rs. 120 millions, depreciation 25% p.a. WDV method, net salvage value Rs. 25 millions.
   iv) Networking capital required = 25% of sales adjusted in beginning of the year wrf sales for the year. At the end of 7 years, this will be recovered in full except a loss of Rs 4 millions due to bad debts, which is a tax deductible expense.
   v)   Following are cost estimates for now product :
        Raw material 30% of sales, Variable mfg costs 10% (sales) , Fixed cost Rs 10 million / year, variable sales costs 10% (sales) , Overheads allocated (excluding depreciation , maintenance , interest) = 10%, incremental overhead due to this new product = 5% of sales.
   vi) Manufacture of new product will reduce existing sales by Rs 10 millions per year.
   vii) Tax rate = 30%.
   Determine post tax cash flows and NPV if cost of capital = 15%. **(20 Marks)**

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