



**THE OPEN UNIVERSITY OF SRI LANKA**  
**BACHELOR OF MANAGEMENT STUDIES DEGREE PROGRAMME**  
**FINAL EXAMINATION 2014**  
**MCU 3204 – PROJECT APPRAISAL**  
**Duration: Three (03) hours**

**Date: 06.07.2014**

**Time: 1.30 pm – 4.30 pm**

**Instructions:**

- Answer Question No.1 and any three from others.
- Use of a non programmable calculator is allowed.
- Hand writing should be legible.

1. Roberu Plc. plans to commence a new project for which special type of machinery is needed. Three different machines with different cash flows have been evaluated in relation to this machinery. Each proposed machinery would be fully used for the project but only one of the proposals can be accepted.

Estimated annual cash flows under different machines are given below.

Cash flows (Rs'000s)	Machine 1	Machine 2	Machine 3
Year 0	-1200	-950	-800
Year 1	-20	-110	-190
Year 2	-30	-140	-110
Year 3	-40	-90	-150
Year 4	-40	-60	-130
Year 5	-40	-50	-20
Residual value	20	5	0

The cash flows for Year 5 include, where applicable, the sale of the fixed assets purchased (Year 0) at residual value. The company's cost of capital is 15%.

You are required to:

- (i) Calculate net present value (NPV) for each machine. Suggest which machine should be selected by the company and explain, (with the relevant calculations) why that machine should be selected. (10 marks)
- (ii) Suppose the following are the net cash inflows for the above project irrespective of the selected machine type.

(Rs'000)

Year 1	Year 2	Year 3	Year 4	Year 5
350	450	500	400	350

Evaluate the new project with the following calculations and comment on the results.

- (a) Pay Back Period (PBP) (05 marks)
- (b) Net Present Value (NPV) of the project (06 marks)

- (c) Internal Rate of Return (IRR) (07 marks)  
 (d) Net Benefit Investment Ratio (NBIR) (06 marks)  
 (e) State the limitations to your decision and other factors to be considered before the decision of the new project is finalized. (06 marks) (Total 40 marks)
2. (i) Develop your own definition of a project highlighting at least six characteristics of projects. (15 marks)  
 (ii) Explain why projects are different with each other. (05 marks)
3. (i) At the outset number of alternative project ideas might have been identified. But all these project ideas do not warrant implementation. Explain with suitable examples the reasons for eliminating the project ideas in general. (15 marks)  
 (ii) Explain briefly what is meant by pre-feasibility study. (05 marks)
4. State whether you agree or disagree with the following statements. Explain the reasons for your answers.
- (i) "Changes in working capital as a result of implementing a project should be included in the project appraisal."  
 (ii) "The effect of a new project on other parts of a business is irrelevant when trying to decide whether to go ahead with the new project."  
 (iii) "IRR is not an appropriate tool for evaluating mutually exclusive projects."  
 (iv) "Non-discounted project analysis tools are crude measures." (5x4=20 marks)
5. (i) "Irrespective of whether we deal with a commercial or social project, analysis of demographic environment is important in project planning." Explain this statement with suitable examples where necessary. (15 marks)  
 (ii) Explain briefly the importance of evaluating economic environment in project appraisal. (05 marks)
6. Write short notes on following.
- (i) Importance of institutional analysis  
 (ii) Three main aspects of technical analysis  
 (iii) Single period budget constraint of a project  
 (iv) Aspects of financial analysis (5x4=20 marks)

$PVIF = 1/(1+i)$

**Table of Present Values**

Period (n)	Discount rates														
	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	22%	24%
1	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8547	0.8475	0.8403	0.8333	0.8197	0.8065
2	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.7306	0.7182	0.7062	0.6944	0.6719	0.6504
3	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.6244	0.6086	0.5934	0.5787	0.5507	0.5245
4	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.5337	0.5158	0.4987	0.4823	0.4514	0.4230
5	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4561	0.4371	0.4190	0.4019	0.3700	0.3411
6	0.6302	0.5963	0.5646	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3898	0.3704	0.3521	0.3349	0.3033	0.2751
7	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.3332	0.3139	0.2959	0.2791	0.2486	0.2218
8	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2848	0.2660	0.2487	0.2328	0.2038	0.1789
9	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.2434	0.2255	0.2090	0.1938	0.1670	0.1443
10	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.2080	0.1911	0.1756	0.1615	0.1369	0.1164

Period (n)	Discount rates														
	25%	26%	27%	28%	30%	32%	34%	36%	38%	40%	42%	44%	46%	48%	50%
1	0.8000	0.7937	0.7874	0.7813	0.7692	0.7576	0.7463	0.7353	0.7246	0.7143	0.7042	0.6944	0.6849	0.6757	0.6667
2	0.6400	0.6299	0.6200	0.6104	0.5917	0.5739	0.5569	0.5407	0.5251	0.5102	0.4959	0.4823	0.4691	0.4565	0.4444
3	0.5120	0.4999	0.4882	0.4768	0.4552	0.4348	0.4156	0.3975	0.3805	0.3644	0.3492	0.3349	0.3213	0.3085	0.2963
4	0.4096	0.3968	0.3844	0.3725	0.3501	0.3294	0.3102	0.2923	0.2757	0.2603	0.2459	0.2326	0.2201	0.2084	0.1975
5	0.3277	0.3149	0.3027	0.2910	0.2693	0.2495	0.2315	0.2149	0.1998	0.1859	0.1732	0.1615	0.1507	0.1408	0.1317
6	0.2621	0.2499	0.2383	0.2274	0.2072	0.1890	0.1727	0.1580	0.1448	0.1328	0.1220	0.1122	0.1032	0.0952	0.0878
7	0.2097	0.1983	0.1877	0.1776	0.1594	0.1432	0.1289	0.1182	0.1049	0.0949	0.0859	0.0779	0.0707	0.0643	0.0585
8	0.1678	0.1574	0.1478	0.1388	0.1226	0.1085	0.0962	0.0854	0.0760	0.0678	0.0605	0.0541	0.0484	0.0434	0.0390
9	0.1342	0.1249	0.1164	0.1084	0.0943	0.0822	0.0718	0.0628	0.0551	0.0484	0.0426	0.0376	0.0332	0.0294	0.0260
10	0.1074	0.0992	0.0916	0.0847	0.0725	0.0623	0.0536	0.0462	0.0399	0.0346	0.0300	0.0261	0.0227	0.0198	0.0173