Practice 3.2: INVESTMENT SELECTION PROBLEMS

1.- One person, Mr. Smith, is able to invest his available liquid capital to 5 percent rate per year. Currently, another person, Mr. Martinez, must pay Mr. Smith the amount of $ 1,000, but he's going thru a period of scarce liquidity and asks him to withhold. How much money will Mr. Smith require if it is delayed a year? What if it's a two year delay? What if it were three years of deferment?

2.- In the year 0, the company Alfa S.A., has the following financial structure:

Capital.....6.000.000

Reserves.....4.800.000

Debt.....7.200.000

Total.....18.000.000

If this company can retain benefits of 1,200,000 Euros at end of year 1, what is its ability to obtain new debt in year 1 (how much more you can borrow in year 1 compared to 0) without changing its financial structure?

3.- Límite S.A. has 1,200 millions to invest in this period. Applying the criterion of recovery or payback, indicate which investment project is preferred and why.

Project	Initial outlay	Cash Flows					
		Q_1	Q_2	Q_3	Q_4	Q_5	Q_6
X	1.200	-200	300	500	200	400	400
Y	1.200	200	200	200	200	200	200
Z	1.000	125	125	250	250	250	250

4.- What is the maximum amount we should invest in a project at time 0 if the estimated annual cash inflow is €30,000 over a period of 4 years starting from year 1? Assume that the estimated internal rate of return is 8%.

5.- Consider these projects and provide answers for the following questions:

CASH FLOW IN EUROS						
PROJECTS	**C_0**	**C_1**	**C_2**	**C_3**	**C_4**	**C_5**
A	-1.000	+1.000	0	0	0	0
B	-2.000	+1.000	+1.000	+4.000	+1.000	+1.000
C	-3.000	+1.000	+1.000	0	+1.000	+1.000

a) If the interest rate is 10%, which projects have a positive NPV?
b) Calculate the payback period for each project.

c) Which project(s) would be accepted by a company that uses the payback period model if the maximum period is three years?

6.- Assuming an interest rate of 7%, consider a three-year investment period generating a positive cash flow of €10,000 per year with an internal rate of return of 10%. Calculate the NPV of this investment.

7.- You want to rank, in order of preference, according to the criterion of NPV, the investment projects with initial payments and cash flows generated in the different years of its duration, listed in the table below:

PROJECTS	Net Cash Flows (euros)					Initial outlay (euros)
	First Years	Second Year	Third year	Fourth year	Fifth year	
A	2.000	2.000	3.500	3.500	3.500	10.000
B	2.000	2.000	4.000	4.000	4.000	11.000
C	3.000	3.000	4.000	4.000	4.000	12.000
D	2.000	2.000	15.000	------	------	13.000
E	2.000	3.000	5.000	5.000	5.000	14.000
F	4.000	4.000	4.500	4.500	4.500	15.000

The required profitability is the same for all projects (10 percent). Which projects should be undertaken by an individual who has 40,000 Euros to invest if they can not be repeated (neither can be done several times)?

8.- The director of the financial department for the GOFRES, S.A. Company raises the possibility of investing in a project with a profitability of 8.5%. GOFRES, SA is funded on a 30% equity capital; the cost is estimated to be 15%, and the rest with foreign funds, with an average cost of 8%. What would be your advice to this executive: to carry out the project or to not invest and why? How does your answer change if you were offered another investment project with a yield of 18.5%?

9.- Company OSOPANDA, S.L. is considering an investment, for which it has two offers. The first offer's (Project A) initial payment amounts to €16,653 and generates cash-flows of €6,500 and €13,000

during the first and second years (two-year period), respectively. The second offer (Project B) means a much higher initial payment, amounting to €71,428. It will end in a year, and it is expected to generate positive cash-flow of €76,428 by the end of that year. As per the information given, answer the following questions and account for your answers:

a) Which project would the company choose if it uses the payback period model?

b) Analyze both alternatives in terms of internal rate of return (IRR).