

These questions are all from our slides. So of course, the solutions are on the slides too. If you feel that you cannot answer some of the questions, very likely I will talk about them during the review class.

1. If APR=10%, if you are able to do compounding monthly returns, what is EAR?
2. Give me one example that illustrates the fact that when coupon rate < YTM, then bond price < par value.
3. Find the present value (as of January 1, 2011), of a coupon 6 3/8%, Government of Canada bond with semi-annual payments, and a maturity date of December 31, 2016 if the YTM is 5-percent. The Par Value of the bond is \$1,000. Coupon payments are made semi-annually (June 30 and December 31 for this particular bond). On January 1, 2011, the required annual yield is 5%.
4. A common stock just paid a dividend of \$2. The dividend is expected to grow at 8% for 4 years, then it will grow at 5% in perpetuity. If stocks of similar risk earn 15% effective annual return, what is the stock worth?
5. Suppose Captain Jack Sparrow is investing \$1600 at time zero in digging holes to find a treasure. After one year, he expects to find gold worth \$10,000. However, he will have to pay \$10,000 after two years for damage to environment and refilling the holes. He will finance to pay future costs. Suppose he borrowed money from Elizabeth Swann at 20%. He can also re-invest his money at 20%. What is MIRR for this project.
6. Name three disadvantages of Payback period rule.
7. The IRR of a project A is 5%, Manager X needs a project with required return of 4%. Should X take project A? Why?
8. Project A has a cash flow of (-10,000, 10,000, 1,000, 1,000)
Project B has a cash flow of (-10,000, 1,000, 1,000, 12,000)
In terms of NPV, under what conditions that a manager will take project A? And under what conditions a manager will take project B?
9. Give one example to show why PI rule has problems with mutually exclusive investments.
10. NPV for MMCC example in the lecture 2, both simple and tax shield approach.
11. When we try to calculate the NPV of a project, is the cashflow of depreciation a source of the cash flow for the project? What is the reason we have to calculate the cash flow of depreciation?
12. There are times when application of the NPV rule can lead to the wrong decision. Consider a factory that must have an air cleaner. The equipment is mandated by law, so there is no "doing without." Discount rate is 10%.
There are two choices:
The "Cadillac cleaner" costs \$4,000 today, has annual operating costs of \$100 and lasts for 10 years.
The "cheaper cleaner" costs \$1,000 today, has annual operating costs of \$500 and lasts for five years.
Which one should we choose?
13. The Solar Electronic Corporation example in lecture 2.

14. Sensitivity Analysis for SEC: using all parameters from successful column except the variable cost is optimistic.
15. How many units per year does SEC have to sell to make accounting break even, if initial tests are successful?
16. How many units per year does SEC have to sell to make NPV breakeven, if initial tests are successful?
17. Suppose you have come up with a design of a hotel that is 'green' in every aspect. You believe that the first hotel will cost \$ 12 million and it will produce annual after tax cashflow of \$2 million forever. The appropriate discount rate for your hotel project is 20%.
 - a) Should you take or reject the project.
 - b) You believe that if the hotel is successful, you will have a cashflow of \$3 million and you can expand it to 10 hotels.
If it is unsuccessful, you will have a cashflow of \$ 1 million.
Suppose there is a 50%-50% chance of hotel succeeding or failing
Accept or reject?
 - c) There is a 50% probability that your Green Hotel will generate annual perpetual cashflow of \$6 Million and 50% probability that your cashflow will be -\$2 Million forever. Your initial investment is for \$12 million dollars. The discount rate for this hotel is also 20%.
Accept or reject?
 - d) What if in c), But you can abandon the project after one year?
18. If a new house is worth 1million dollars, its depreciation rate is 20%, interest rate is r , how to calculate the present value of the depreciation cashflow?