

Final program test

Part 1

1. Up to how many CZK will increase the deposit in the amount CZK 15,000.00 that is deposited for 3 years and 5 months at interest rate 10.5% p.a. with half-yearly, quarterly or monthly entering the interest accrued?
2. Mortgage credit in the amount CZK 1,000,000.00 is to be discharged by after-date yearly annuities in 10 years at fixed interest rate 5.4% p.a. and yearly entering the interest accrued. Determine the amount of yearly annuity and draft the discharging schedule.
3. With what interest rate is operated the account running interest by compound interest with monthly frequency if corresponding effective annual interest rate amounts to approx. 3.2% p.a.?
4. On 5th April 2009, Raiffeissenbank was offered for discount a bill of exchange with the date of issue 11th February 2009, face value CZK 1,000,000.00 and the date of bill 1st August 2009. Determine the amount received by the client on the day of discount if discount rate of the bank amounts to 8%.
5. How much will we save in 4 years if we deposit at the beginning of each month the amount CZK 1,200.00 at interest rate 7.5% p.a. and yearly interest period?

Part 2

1. A young couple wants to buy a flat in the value CZK 1,500,000.00. The couple has saved CZK 300,000.00 and has to borrow remaining sum of money. The young couple can decide between mortgage credit and American mortgage. Mortgage credit runs interest 4.5% p.a., the period of maturity is calculated as 20 years, the charge for approval of credit amounts to 0.8% of a borrowed amount, the charge for operation of the account amounts to CZK 150.00/month. American mortgage runs interest 7% p.a. and the period of maturity is 15 years, the charge for approval of credit amounts to 0.75% of a borrowed amount, the charge for operation of the account amounts to CZK 150.00/month. Calculate the amount of monthly instalment for both products providing monthly entering of the interest accrued. Calculate the amount of interest for both products to be paid by the young couple. Decide what product is a more advantageous one.
2. A young family has decided to buy a dish-washer in the amount CZK 37,850.00. The family does not have required amount at disposal but they can receive it either
 - a) from the bank as consumer credit with interest rate 13.4% p.a., monthly instalment in the amount CZK 1,807.00, the period of maturity 2 years, the charge for approval of credit in the amount CZK 400.00 and yearly charge for operation of the account in the amount CZK 588.00 *or*
 - b) from a credit company, when at the beginning we will pay 20% of the price for the goods and remaining sum of money will be paid off by monthly instalments in the amount CZK 3,000.00 for the period of one year.

What alternative is a more advantageous one?

3. Mr Martin plans to buy a new car in 3 years, he expects purchase price CZK 320,000.00. He intends to trade in his existing car that is 2 years old; estimated proceeds of the sale are CZK 80,000.00. For remaining part of the price for a new car, Mr Martin wants to deposit each quarter the necessary amount that remains the same, onto his bank account at 3% p.a. and half-yearly entering of the interest accrued. What will each deposit amount to?
4. The bill of exchange of face value CZK 10,000,000.00 is to be sold 6 months before the date of maturity for CZK 9,800,000.00. The buyer can also invest his/her funds via term deposit that runs interest 3.5% p.a. Which of the investments is a more advantageous one to the buyer?
5. What is the net real rate of return if gross nominal rate of return amounts to 2.8%, income tax amounts to 15% and inflation rate 1.8%?