1. X is considering buying a car for R40 000. The bank has quoted her an interest rate of 18 percent p.a. (compounded monthly). If she wishes to repay the principle amount over 54 months, calculate her monthly installment (round off to the nearest R1).

a) R1005 b) R1086 c) R1572 d) R600 e) none of the above

2. X requires a minimum return of 15 percent p.a. on all investments. Determine the maximum X should pay to purchase an annuity of R650 per month for 20 months (round off to the nearest R1).

a) R 4305 b) R11 729 c) R4 068 d) R1144 e) none of the above

3. Calculate the present value (PV) for the following mixed stream of cash flows if the required discount rate is 10% p.a.

Year Cash flow

1 200

2 400

3 600

4 800

5 400

6 800

a) R3095.77 b) 2430.30 c) 2030.50 d) 2209.54 e) none of the above

4. X can set aside R1000 today to purchase a travel ticket to the USA. If the annual interest rate is 18% per annum compounded monthly, how much can X spend on the ticket four years from now. (round off to the nearest R1).

a) 2370 b)2043 c) 1939 d) 1392 e) none of the above

5. An inflation rate of 8.7% per year is estimated for the next 10 years. Calculate how long it wwill take for prices to double (round off to two decimal places)

a) 8.31 years b) 10 c) 8 d) 9.25 e) none of the above

6. You invest R2400 annually (at the end of each year) for successive years in a savings account at 15% p.a. (interest is compounded per year). At the end of the fifth year you withdraw R6181.72 and the balance is invested at 10% p.a. for 5 years. What will be the end value of the investment (round off to the nearest Rand).

a) 10000 b) 13484 c) 43103 d) 16105 e) none of the above

7. You bought a house for R200000 on 1 Feb 2002 (registration date) and you obtained an 80 % mortgage bond on that date. The bond interest rate since 2002 stayed constant at 16 % p.a., interest compounded monthly. No interest rate change are expected for the outstanding term of the bond. The duration of the bond is 20 years from date of registration.

Calculate the monthly instalment on the bond (round off to the nearest R1).

a) 2783 b) 2233.9 c) 2015 d) 2226 e) none of the above

8. The following information is submitted:

Net cash flow = R 1600 per year

Useful life = 5 years

Cost of capital = 8%

Initial investment = R7500

Calculate the internal rate of return (IRR) of the project.

a) 2,19% b) 6.67% c)0% d) 2.11%

9. The initial investment of a project is R132000. Using a discount rate of 12% the present value of the annual operating cash inflows is expected to total R 110 000. The internal rate of return (IRR) of the project will be:

a)greater than 20% b)smaller or equal to 20% c) equal to 20% d)smaller than 20%

10. The following information is given for project A with an initial investment of R500.

Year Net cash flow Present value of cash flow discounted @ 10%

1 R 110 R 100

2 R 145 R 120

3 R 160 R 120

4 R 170 R 116

5 R 177 R 110

Which one of the following statements is correct?

a) The internal rate of return (IRR) for project A is smaller than 10%

b) The net present value (NPV) for project A is negative

c) The discounted payback period for project A is 3 years

d) The payback period for project A is 3.5 years

**Use the information below to answer questions 11 to 13**

B. Ltd. Wants to purchase a machine for R2 million. It is expected that the new machine will require an immediate increase in inventory of R100 000. The machine will enable savings in operating costs of R1 million per year. Wear and tear will be allowed at 25% per year and the machine will be sold for 10 percent of its initial price at the end of the useful life of 4 years. The firm’s tax rate is 30% and the cost of capital is 20 %.

11. Calculate the initial investment of the project

a) R 1.9 million b) 2 milllion c) 2,1 million d) None of the above

12. Calculate the annual net operating cash flow of the project in 4 years.

a) R 990 000 b) 1050 000 c) 997 500 d) None of the above

13. Calculate thee net present value of the project (round off to the nearest Rand)

a) R 196875 b) 171 557 c) 167 940 d) none of the above

14. The following table gives the net present value NPV of two projects at two different levels

NPV @ 5% NPV@10 %

Project A R 100 R 0

Project B R 80 R 60

Which one of the following statements is correct?

a) A is more profitable than B

b) The internal rate of return is higher for A than B

c) A will not earn a 15% return

d) A is more sensitive to changes in the discount rate than B

15. You have R 1500 to invest today at 7% interest compounded quarterly. Calculate the amount of interest earned in the last quarter of the investment period of 3 years.

a) R 31,77 b) 30,82 c) 62,99 d) none of the above

16. A company has to decide between the following three mutually exclusive project.

Project A Project B Project C

Economic useful life 5 years 7 years 3 years

NPV R 1000 R 1500 R 900

Cost of capital 13% 13% 13%

Which of the projects is the most profitable?

a) Project A b) Project B c)Project C d) Project A and C

Question:

S Ltd. Over the past four years has spent R 3 million on developing a new silicon chip. It is now faced with three mutually exclusive choices:

1. It can manufacture the chip itself in which case the plant will cost R 5 million. This will be spent at the beginning of January 2012. An initial increase in working capital of R 2,1 Million will be required when production commences at the start of 2012. Working capital will not be recouped at the end of 2016. Sales and selling prices are expected to be as follows:

2012 2013 2014 2015 2016

Number sold (‘000s) 100 100 100 90 90

Sales price (R per unit) 120 120 120 100 100

S Ltd usually depreciates plant of this type over five years using the straight line method and assumes a zero scrap value. Variable costs are expected to be R65 per unit and fixed costs, including depreciation amount to R3 million per year.

2. Sell the know-how for royalty of R10 per unit. Anticipated sales of chips would be as shown above.

3. Sell the know-how to a major international firm for a single payment of R3,1 million, receivable at the beginning of January 2012

If choices (2) and (3) are taken, than the company will not manufacture the chips itself. S Ltd. Estimates that its weighted average cost of capital is 12%. You should assume that sales revenue and costs occur at the end of each year in which they arise. The tax rate is 30%.

Required:

a) calculate the net present value of each option

b) What other factors should bee taken into aacccount before a decision is made?

c) What would your decision be? Explain why?

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Question

M ltd. manufactures a standard model of car radio, which it sells to car manufacturers for R 1500 each. The company plans to make and sell 20 000 radios during next year. The budgeted costs for thee radios are the following:

Manufacturing

Variable materials R 500 per radio

Variable labour R 350 per radio

Other variable overheads R 300 per radio

Fixed overheads R 2 000 000 per year

Selling and administration

Variable R 70 per radio

Fixed R 1 500 000 per year

Required:

a) determine the breakeven sales in radios and sales value for the next year

b) determine the margin of safety percentage of the next year and explain what it means in terms of risk of the radio manufacturing operations

c) determine whether the company should go ahead with an advertising campaign that is expected to increase fixed costs by R1 200 000 per year and increase sales of the radios by 20% per year

d) Use the original information and determine how many radios must be sold for an operating profit of 40% on sales.

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