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NPTEL

Courses » **Time value of money-Concepts and Calculations**

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Unit 3 - Week 2

Course outline

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Week 1

Week 2

○ Discrete annually compounding- 1 & 2

○ Continuous compounding

○ Comparison of all compounding methods

○ Present Value

○ Week 2 Assignment 1 Solution

○ Week 2 Assignment 2 Solution

○ Quiz : Week 2 Assignment 1

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Week 3

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Week 2 Assignment 2

The due date for submitting this assignment has passed. **Due on 2016-09-25, 23:00 IST.**
As per our records you have not submitted this assignment.

1) If the turnover of a company was Rs.16,434,386 in the year 2001 according to data   **0 points**
published by the company and were Rs.18,414,288 in year 2011, by saying that the growth was
continuous throughout these years. What will be the turnover of company by year 2030 (Assume if it
grow with same rate)?

○ Rs.19,567,896.32
○ Rs.18,996,759.12
○ Rs.20,567,789.78
○ Rs.20,601,746.36

No, the answer is incorrect.
Score: 0

Accepted Answers:

2) Complete the following table, solving for present value :   ***2 points***

○ A=Rs.31,309.68, B=Rs.6,689.50, C=Rs.14002.115
○ A=Rs.6,689.50, B=Rs.14002.115, C=Rs.31,309.68
○ A=Rs.14,002.115, B=Rs.31,309.685, C=Rs.6,689.50
○ A=Rs.31,309.68, B=Rs.14,002.115, C=Rs.6,689.50

No, the answer is incorrect.
Score: 0

Accepted Answers:
A=Rs.14,002.115, B=Rs.31,309.685, C=Rs.6,689.50

3) Suppose Ram is putting a quantity of money today in his account that earns 10% simple ***1 point***
interest, compounded annually. If his goal is to have Rs. 8,000 in the account at the end of 5 years, how
much must he deposit in the account today?

○ Rs. 4976.37
○ Rs. 4967.37
○ Rs. 4960.00
○ None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rs. 4967.37

4) Suppose the time value of money is 12% per year compounded semi-annually, the present **2 points** value, on April 30, 2015, of a sum is Rs. 5,000 what will be the value of it on April 30, 2020?

○ Rs. 8954.24
○ Rs. 6691.13
○ Rs. 6690.00
○ Rs. 6600.31

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rs. 8954.24

5) Let's assume 'P' is the Present worth and 'i' is the annual interest rate of an annuity 'A' for   **2 points** annually compounding. For the present worth is equal to annuity, choose the correct answer? (Here 'N' is the number of periods)

○ $(i+1)^N = 1$
○ $1/ [(i+1)^N-1] = 1/ [i(i+1)^N]$
○ $[1+ 1/ i(1+i)^N] = (1/i)$
○ both (b) and (c)

No, the answer is incorrect.
Score: 0

Accepted Answers:
both (b) and (c)

6) Swati receives cash in her business as: Rs 1000, Rs.1500, Rs. 2000 and Rs.1200 per year **2 points** as discrete amounts at the end of 1st, 3rd, 7th and 8th year respectively. Interest rate is 12 % per year compounded annually. Determine the present worth at zero time of cash-flow?

○ Rs. 2536.00
○ Rs. 3394.89
○ Rs. 3349.89
○ Rs. 2500.00

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rs. 3349.89

7) Shiva's grandmother is planning to retire this year. Her company has offered her a onetime **3 points** Retirement payment of Rs.50,000 or a Rs.8,000 lifetime ordinary annuity whichever she chooses. His grandmother is in reasonably good health and expects to live for at least 10 more years. By assuming that 12% annual interest rate is appropriate to evaluate the annuity, calculate the present value?

○ Rs. 42,501.78
○ Rs. 45,201.78
○ Rs. 42,000.78
○ Rs. 45,000.78

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rs. 45,201.78

8) Compare the present value obtained in (i) and (ii), for Rs.1000 received after the end of 2   **3 points** years:
(i) if the simple interest is 10% per annum(p.a.) and compounding is annual or
(ii) with same interest rate but compounding is continuously.

○ (i) > (ii)
○ (ii) > (i)
○ (i) = (ii)

○ None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
(i) > (ii)

9) Complete the following, solving for present value, PV:　　　　　　　**2 points**

○ Rs. 4976.37, 368702.69

○ Rs. 4464.89, 368702.69

○ Rs. 4464.89, 336000.00

○ None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rs. 4464.89, 368702.69

10) A student starts saving money at the age of 7 and after 10 years he saved small an amount **2 points** which is Rs.986. He has to choose from two banks. First bank offers a compound interest monthly at a rate of 7.4% annually for 8 years and another bank offers continuous compounding at an interest rate of 8.1% for 9 years? what will be the difference of two banks account at end of their terms?

○ Rs.264.93

○ Rs.294.12

○ Rs.274.59

○ Rs.214.78

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rs.264.93

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