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NPTEL

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Courses » Time value of money-Concepts and Calculations

Announcements **Course** Ask a Question Progress

Unit 3 - Week 2

Course outline

How to access the portal ?

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
- Quiz : Week 2 Assignment 2

Week 3

Week 4

Week 2 Assignment 1

The due date for submitting this assignment has passed. **Due on 2016-09-21, 23:00 IST**
As per our records you have not submitted this assignment.

1) An investor invests an amount of Rs.2000 in a market at a nominal interest rate of 14% per **3 points** annum (p.a.). What amount of interest will he earn when compounding is annually, quarterly and monthly?

- Rs.2295.04, 2280, 2298.68
- Rs.2280, 2295.04, 2298.68
- Rs.2448, 2698.36, 2569.32
- Rs.3252.12, 2587.10, 2956

No, the answer is incorrect.

Score: 0

Accepted Answers:

Rs.2280, 2295.04, 2298.68

2) Calculate the annual percentage to effective rate if interest is paid (a) Hourly, (b) Daily, (c) **2 points** Monthly, and (d) Quarterly. What will be the order of the frequent payments of interest if high effective interest rate to low effective interest rate is arranged? Assume the nominal interest rate to be 13 percent.

- Quarterly>Monthly>Daily>Hourly
- Monthly>Daily>Quarterly>Hourly
- Hourly>Daily>Monthly>Quarterly
- Daily>Hourly>Quarterly>Monthly

No, the answer is incorrect.

Score: 0

Accepted Answers:

Hourly>Daily>Monthly>Quarterly

3) Joseph Wants to buy a new car. For this he invests an amount into a bank account that pays **1 point** him 4% interest a year. If the interest is compounded Daily he will get the amount equal to the cost of car that is Rs.6107 after five years. How much amount he have to invest to buy the car?

- Rs.5500
- Rs.5000
- Rs.5600
- Rs.4600

No, the answer is incorrect.

Score: 0

Accepted Answers:

Rs.5000

4) Mr. Ping has invested a sum of Rs.10,000 in a bank. Bank pays 9 percent nominal interest **2 points** for a unknown frequency per year. After 20 years he received a maturity amount of Rs.59958.01. What is the value of frequency, compounding per year?

- 12
 11
 10
 09

No, the answer is incorrect.

Score: 0

Accepted Answers:

09

5) A man has to deposit in a saving bank account Rs.10,000 for 4 years. Assuming an annual **3 points** interest rate of 6 % compounding (i) annually (A) (ii) Quarterly (Q) and (iii) Monthly (M), Calculate future value at the end of four year and what is the effective rate of interest corresponding to all three alternatives?

- FV:-
 A=Rs.12624.77, Q=Rs.12689.85, M=Rs.12704.89

$I_{eff.}$:-
 A=6%, Q=6.13%, M=6.167%

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 A=Rs.12704.89, Q=Rs.12689.85, M=Rs.12624.77

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- FV:-
 A=Rs.12689.85, Q=Rs.12704.89, M=Rs.12624.77

$I_{eff.}$:-
 A=6.167%, Q=6.13%, M=6%

- FV:-
 A=Rs.12704.89, Q=Rs.12624.77, M=Rs.12689.85

$I_{eff.}$:-
 A=6%, Q=6.167%, M=6.13%

No, the answer is incorrect.

Score: 0

Accepted Answers:

FV:-

A=Rs.12624.77, Q=Rs.12689.85, M=Rs.12704.89

$I_{eff.}$:-

A=6%, Q=6.13%, M=6.167%

6) ₹6000 grows to an amount of ₹7,00,000 in 14 years when compounded continuously at an **1 point** unknown interest rate. Find the interest rate (approximate)?

- 24%
 34%
 32%
 22%

No, the answer is incorrect.

Score: 0

Accepted Answers:

34%



7) Santosh deposit an amount of Rs.7800 in a bank to get interest on that money. If the bank pays at nominal interest rate of 5.5 per cent, compounded semi-annually, how long it will take his investment to grow two and half times of the original? **1 point**

- 19.67 years
- 10.23 years
- 17.98 years
- 16.88 years

No, the answer is incorrect.

Score: 0

Accepted Answers:

16.88 years

8) Two people A and B invest an amount of Rs.4000 in a saving bank account that receives an interest of 5 % annually for 15 years. If A invests in an account which compounded Quarterly and B invest in an account which compounded continuously. Who made the better investment and what is the difference between their earned interests? **1 point**

- Person A, difference Rs.29.28
- Person B, difference Rs.29.28
- Person B, difference Rs.39.28
- Person A, difference Rs.39.28

No, the answer is incorrect.

Score: 0

Accepted Answers:

Person B, difference Rs.39.28

9) If ₹3400 is invested in an account at an interest rate of 7% for 4 years. What is the effective rate of interest of semi-annually compounding and compounding continuously respectively? **2 points**

- 7.12%, 7.25%
- 7.25%, 7.12%
- 7.21%, 7.52%
- 7.29%, 7.65%

No, the answer is incorrect.

Score: 0

Accepted Answers:

7.12%, 7.25%

10) In time value of money we know that if you deposit Rs.30,000 into a saving bank account on which interest compounded monthly for 25 years, you will have Rs.1,51,685.93. What is the rate of interest (I)? If there is another alternative to deposit your money (same amount) in another continuous compounded account at the same interest rate, after how much time (T) you will have a balance of Rs.2,45,321.14? **2 points**

- I=7.5%, T=15.32 years
- I=6.3%, T=30 years
- I=6.5%, T=32.32 years
- I=8.7%, T=23.32 years

No, the answer is incorrect.

Score: 0

Accepted Answers:

I=6.5%, T=32.32 years

Previous Page

Next Page

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