

Sen Finance FIN102 - II
Practice Questions
© Jayanta Sen 2008

Information for Questions 1 and 2) A firm has a project with the following cash flows.

The cost of capital of the firm is 6% and there are no cash flows after year 5 (terminal date).

Year	Cash Flow
0	-4,000
1	3,500
2	-2,400
3	5,000
4	-2,700
5	2,000

Question 1) If you transfer cash flows from year 1 to 5 to the terminal date, what is the amount?

- A) 6,136
- B) 6,316
- C) 6,626
- D) 6,876

Question 2) What is the MIRR for a project with the following cash.

- A) 8.07%
- B) 8.47%
- C) 9.17%
- D) 9.57%

Information for Questions 3 to 9. Suppose you can write a book every 2 years, or compose a symphony every 3 years. You can do only one, but not both at the same time. Let's also say that you derive equal artistic satisfaction from both endeavors, so your choice will be determined by economics.

To write a book you have expenses of \$40,000 a year, and after 2 years your book will sell for \$160,000. To compose a symphony you have expenses of \$35,000 a year, and after 3 years it sells for \$200,000. These include all costs, including the opportunity cost of your time etc. Assume these costs occur at the end of the year.

Your discount rate is 9%.

You can write as many books as you want at the rate of one every 2 years, and compose as many symphonies you want at the rate of one every 3 years.

Question 3) What is your NPV from writing a book?

- A) 60,844
- B) 62,594
- C) 64,304

D) 66,914

Question 4) What is your NPV from composing a symphony?

A) 65,841

B) 69,841

C) 73,841

D) 77,841

Question 5) If you were using the Replacement Chain analysis, what would be the number of years for the “common period” (lowest number of years that allows a repetition of both projects) for comparison?

A) 3

B) 6

C) 12

D) 2

Question 6) In the Replacement Chain analysis, what would be the NPV today (based on which comparison is made) from being an author (books) over the “common period”?

A) 127,982

B) 139,982

C) 151,982

D) 163,982

Question 7) In the Replacement Chain analysis, what would be the NPV today (based on which comparison is made) from being an composer (symphonies) over the “common period”?

A) 106,683

B) 116,683

C) 126,683

D) 136,683

Question 8) What is the Equivalent Annuity for writing a book?

A) 36,555

B) 38,755

C) 41,055

D) 43,755

Question 9) What is the Equivalent Annuity for composing a symphony?

A) 22,011

- B) 24,011
- C) 26,011
- D) 28,011

Question 10) Consider the following statements I and II.

I) Both Replacement Chain and Equivalent Annuity give the same choice (between the alternative choices) as they are based on “time value of money”.

II) Consider receiving the Equivalent Annuity for a book over the number of periods in the “common period” (that is the lowest number of years that is a multiple of life of both projects). Then the NPV today of that cash flow is higher than the Replacement Chain analysis NPV (based on which comparison is made).

	Statement I	Statement II
A)	True	True
B)	True	False
C)	False	True
D)	False	False

Question 11) What is the IRR of the following project?

Year	Cash Flow
0	-5,000
1	1,450
2	1,360
3	1,270
4	1,180
5	1,090

- A) 8%
- B) 9%
- C) 10%
- D) 11%

Question 12) A firm can borrow money at a rate 9% from its bank. Which of the following discount rates is appropriate for computing NPV for projects done by the firm?

- A) 9%
- B) 10%
- C) 13.5%
- D) 18%

Question 13) What is the MIRR for a project with the following cash flows. The cost of capital of the firm is 7% and there are no cash flows after year 4 (terminal date).

Year	Cash Flow
0	-2,000
1	2,500

- | | |
|---|--------|
| 2 | 3,400 |
| 3 | -5,000 |
| 4 | 1,700 |
- A) 10.56%
B) 11.22%
C) 12.27%
D) 13.38%

Answer Key

- 1)B
2)D
3)C
4)A
5)B
6)D
7)B
8)A
9)C
10)B
11) B
12) A
13) D