

This examination paper must be returned intact. No part may be removed from the examination room.

Family name:
Other names:
Student ID:



AFIN 253
Financial Management
DIAGNOSTIC TEST: WEEK 4

Time allowed: 40 minutes.

Instructions

1. Writing is not permitted in reading time. All pens, pencils and highlighters must be on your desk.
2. There are **10** multiple choice questions. Select the 'one best' answer choice for each question. Answers to these must be recorded on a red-coloured General Purpose Answer Sheet which will be marked by a computer. Please make sure your name is on this sheet. Answers on the test question paper will not be marked.
3. **Materials Permitted**
 - A non-programmable calculator without text storage capability is permitted.
 - Financial calculators may be used.
 - Dictionaries may not be used.
 - Mobile phones must be turned off and left at the front of the examination room.
 - Bags must be left at the front of the room.

Select the one best answer choice for each question

Question 1: A three year corporate bond yields 12% pa with a coupon rate of 10% pa, paid **semi-annually**.

Find the effective six month rate, effective annual rate and the effective daily rate. Assume that each month has 30 days and that there are 360 days in a year.

All answers are given in the same order: $r_{eff\ semi-annual}$, $r_{eff\ yrly}$, $r_{eff\ daily}$.

(a) 0.06, 0.1236, 0.000324.

(b) 0.058301, 0.12, 0.000315.

(c) 0.05, 0.1025, 0.000271.

(d) 0.05, 0.1, 0.000278.

(e) 0.048809, 0.1, 0.000265.

Question 2: A 30-day Bank Accepted Bill has a face value of \$1,000,000. The interest rate is 8% pa and there are 365 days in the year. What will be its price?

(a) \$294,117.65

(b) \$993,467.61

(c) \$993,694.40

(d) \$3,400,000.00

(e) \$11,550,632.91

Question 3: The following equation is the Dividend Discount Model, also known as the 'Gordon Growth Model' or the 'Perpetuity with growth' equation.

$$P_0 = \frac{d_1}{r_{eff} - g_{eff}}$$

Which expression is **NOT** equal to the expected dividend yield?

- (a) $r_{eff} - g_{eff}$
- (b) d_1/P_0
- (c) d_5/P_4
- (d) $d_5(1 + g_{eff})^2/P_6$
- (e) $d_3/P_0(1 + r_{eff})^2$**

Question 4: You want to buy an apartment priced at \$500,000. You have saved a deposit of \$50,000. The bank has agreed to lend you the \$450,000 as a fully amortising loan with a term of 30 years. The interest rate is 6% pa and is not expected to change. What will be your monthly payments?

- (a) \$32,692.01
- (b) \$2,697.98**
- (c) \$2,652.17
- (d) \$2,250.00
- (e) \$1,250.00

Question 5: A share just paid its semi-annual dividend of \$10. The dividend is expected to grow at 2% every 6 months forever. This 2% growth rate is an effective **6 month** rate. Therefore the next dividend will be \$10.20 in six months. The required return of the stock 10% pa, given as an effective **annual** rate.

What is the price of the share now?

- (a) \$127.50
- (b) \$171.14
- (c) \$173.33
- (d) \$174.56
- (e) \$354.06**

Question 6: A share was bought for \$30 and paid its annual dividend of \$6 one year later (at $t=1$ year).

Just after the dividend was paid, the share price fell to \$27 (at $t=1$ year). What was the total return, capital return and income return given as effective annual rates?

The choices are given in the same order: $r_{total}, r_{capital}, r_{dividend}$.

- (a) -0.1, -0.3, 0.2.
- (b) -0.1, 0.1, -0.2.
- (c) 0.1, -0.1, 0.2.**
- (d) 0.1, 0.2, -0.1.
- (e) 0.2, 0.1, -0.1.

Question 7: What is the NPV of the following cash flows when the discount rate is 10% given as an effective annual rate?

10 yearly payments of \$80, with first payment 3 years from now.

1 payment of \$600 in 5.5 years (5 years and 6 months) from now.

(a) \$1,006.25

(b) \$846.78

(c) \$761.47

(d) \$741.87

(e) \$724.54

Question 8: Bonds X and Y are issued by different companies, but they both pay a semi-annual coupon of 10% pa and they have the same face value (\$100) and maturity (3 years).

The only difference is that bond X yields 8% pa bond Y yields 12% pa. Which of the following statements is true?

(a) Bonds X and Y are premium bonds.

(b) Bonds X and Y are discount bonds.

(c) Bond X is a discount bond but bond Y is a premium bond.

(d) Bond X is a premium bond but bond Y is a discount bond.

(e) Bonds X and Y have the same price.

Question 9: A wholesale vitamin supplements store offers credit to its customers. Customers are given 30 days to pay for their goods, but if they pay within 5 days they will get a 1% discount. What is the effective interest rate implicit in the discount being offered? Assume 365 days in a year and that all customers pay on either the 5th day or the 30th day. All of the below answer choices are given as effective annual interest rates.

(a) 0.158047

(b) 0.146000

(c) 0.136477

(d) 0.063047

(e) 0.000402

Question 10: You are a banker about to grant a 2 year loan to a customer. The loan's principal and interest will be repaid in a single payment at maturity, sometimes called a 'zero-coupon loan' or a 'discount loan'.

You require a real return of 6% pa over the two years, given as an effective annual rate. Inflation is expected to be 2% this year and 4% next year, both given as effective annual rates.

You judge that the customer can afford to pay back \$1,000,000 in 2 years, given as a nominal cash flow. How much should you lend to her right now?

(a) \$838,907.00

(b) \$838,986.09

(c) \$841,754.97

(d) \$889,996.44

(e) \$944,108.22