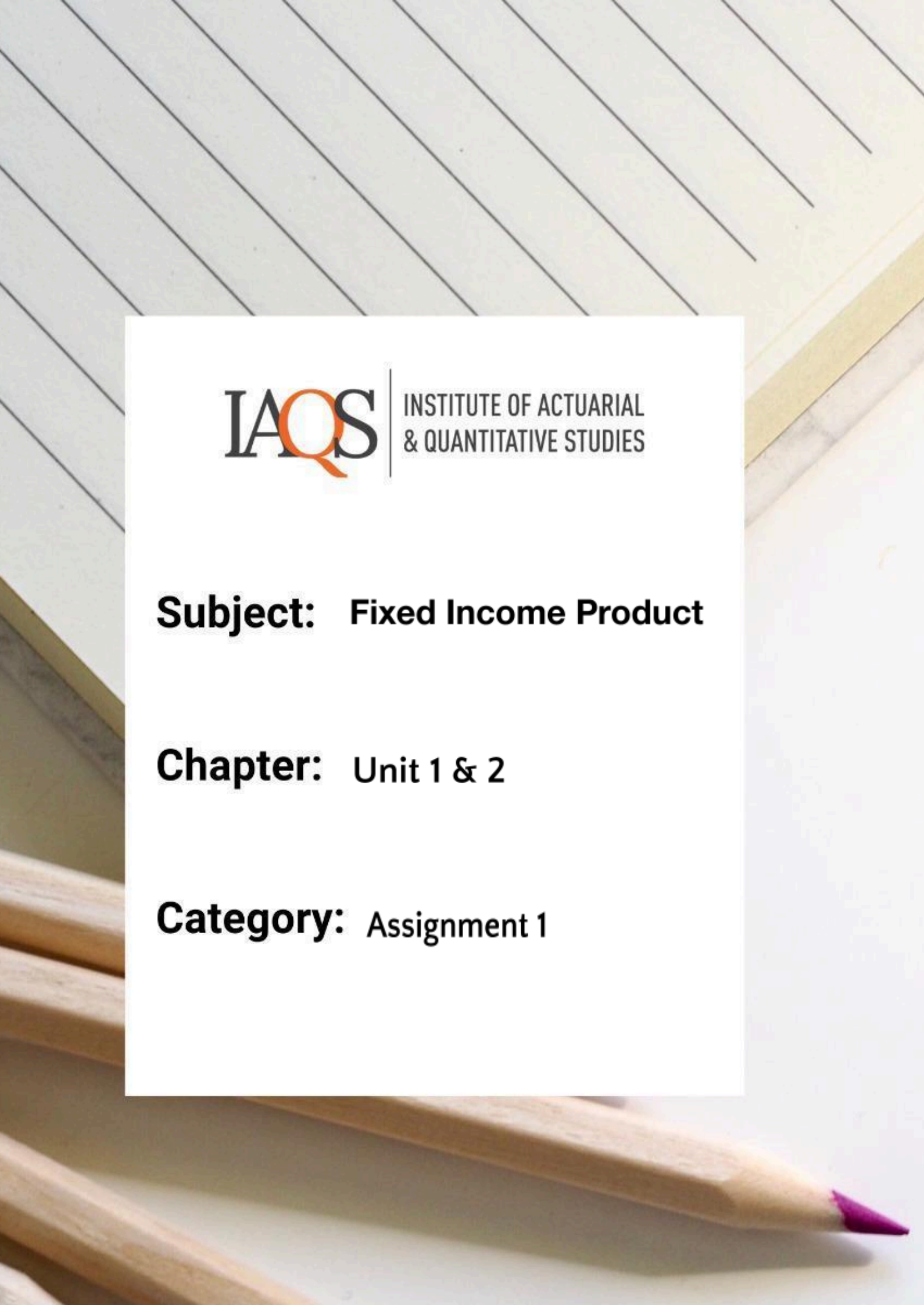

Subject: Fixed Income Product

Chapter: Unit 1 & 2

Category: Assignment 1

1. Identify whether each of the following bonds is trading at a discount, at par value, or at a premium. Calculate the prices of the bonds per 100 in par value. If the coupon rate is deficient or excessive compared with the market discount rate, calculate the amount of the deficiency or excess per 100 of par value.

2. (i)Calculate the yield-to-maturity for a bond with coupon rate 2.25% per period and number of periods to maturity is 6. The price of the bond is 96.50

(ii) Calculate the yield-to-maturity for a bond with coupon rate 0% per period and number of periods to maturity is 60. The price of the bond is 22.375

3. Calculate the price (per 100 of par value) and the yield-to-maturity for a four-year, 3% annual coupon payment bond given the following two sequences of spot rates.

Time-to-Maturity	Spot Rates A	Spot Rates B
1 year	0.39%	4.08%
2 years	1.40%	4.01%
3 years	2.50%	3.70%
4 years	3.60%	3.50%

4. A 6% German corporate bond is priced for settlement on 18 June 2015. The bond makes semiannual coupon payments on 19 March and 19 September of each year and matures on 19 September 2026. The corporate bond uses the 30/360 day-count convention for accrued interest. Calculate the full price, the accrued interest, and the flat price per EUR 100 of par value for two stated annual yields-to-maturity: (A) 6.00%, and (B) 6.20%.

quarterly coupon payments and

B. An annual rate that can be used for direct comparison with otherwise comparable bonds that make annual coupon payments.

6. A four-year French floating-rate note pays three-month Euribor (Euro Interbank Offered Rate, an index produced by the European Banking Federation) plus 1.25%. The floater is priced at 98 per 100 of par value. Calculate the discount margin for the fl oater assuming that three-month Euribor is constant at 2%. Assume the 30/360 day-count convention and evenly spaced periods.

7. Suppose that a money market investor observes quoted rates on the following four 180-day money market instruments:

Money market instrument	Quotation basis	Assumed number of days in the year	Quoted rate
A	Discount rate	365	4.36%
B	Add- on rate	365	4.45%

Calculate the bond equivalent yield for each instrument.

8. Suppose that an investor observes these prices and yields-to-maturity on zero-coupon government bonds:

Maturity	Price	Yield-to-Maturity
1 year	97.50	2.548%
2 years	94.25	2.983%
3 years	91.75	2.891%

The prices are per 100 of par value. The yields-to-maturity are stated on a semiannual bond basis.

1. Compute the "1y1y" and "2y1y" implied forward rates, stated on a semiannual bond basis.

2. The investor has a three-year investment horizon and is choosing between (1) buying the two-year zero and reinvesting in another one-year zero in two years and (2) buying and holding to maturity the three-year zero. The investor decides to buy the two-year bond. Based on this decision, which of the following is the minimum yield-to-maturity the investor expects on one-year zeros two years from now?

A. 2.548%

B. 2.707%

UNIT 1 & 2

ASSIGNMENT 1

A. contains its covenants.

B. is the same as a debenture.

C. relates only to its interest and principal payments.

10. A 10-year bond pays no interest for three years, then pays $229.25, followed by payments of $35 semiannually for seven years, and an additional $1,000 at maturity. This bond is:

A. A step-up bond

B. A zero-coupon bond

C. A deferred-coupon bond

11. In which type of primary market transaction does an investment bank sell bonds on a commission basis?

A. Single-price auction.

B. Best-efforts offering.

C. Underwritten offering.

12. In a repurchase agreement, the percentage difference between the repurchase price and the amount borrowed is most accurately described as:

A. The haircut.

B. The repo rate.

C. The repo margin.