Present Value and Discount

Test bank · Multiple-choice questions

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Rules

Discount	$D = M_v \times r \times t$
Commission	$C_0 = M_v \times$ rate ‰
Collection fees	$M_v \times$ rate ‰ (use the minimum if the result is smaller)
Agio	Agio = D + C_0 + collection fees
Present value	$P_v = M_v -$ Agio
Real rate	$r^* =$ Agio ÷ $(M_v \times t) \times 100$

Choose one answer for each question. The answer and the working are under each question.

Q1 A commercial paper with a maturity value of 8,000 pounds was discounted 60 days before maturity at a commercial discount rate of 12% annually. Calculate the commercial discount.

A) 140 L.E. **B)** 150 L.E. **C)** 160 L.E. **D)** 170 L.E.

> **Answer: C) 160 L.E.**
> D = 8000 × 0.12 × 60/360 = 160

Q2 A commercial paper with a maturity value of 10,000 pounds was discounted 90 days before maturity at a commercial discount rate of 10% annually. Calculate the commercial discount.

A) 200 L.E. **B)** 225 L.E. **C)** 250 L.E. **D)** 275 L.E.

> **Answer: C) 250 L.E.**
> D = 10000 × 0.10 × 90/360 = 250

Q3 A commercial paper with a maturity value of 15,000 pounds was discounted 120 days before maturity at a commercial discount rate of 8% annually. Calculate the commercial discount.

A) 350 L.E. **B)** 375 L.E. **C)** 400 L.E. **D)** 425 L.E.

> **Answer: C) 400 L.E.**
> D = 15000 × 0.08 × 120/360 = 400

Q4 A commercial paper with a maturity value of 6,000 pounds was discounted 75 days before maturity at a commercial discount rate of 14% annually. Calculate the commercial discount.

A) 160 L.E. **B)** 170 L.E. **C)** 175 L.E. **D)** 180 L.E.

Answer: C) 175 L.E.

D = 6000 × 0.14 × 75/360 = 175

Q5 A commercial paper with a maturity value of 12,000 pounds was discounted 45 days before maturity at a commercial discount rate of 9% annually. Calculate the commercial discount.

A) 125 L.E. **B)** 130 L.E. **C)** 135 L.E. **D)** 140 L.E.

Answer: C) 135 L.E.

D = 12000 × 0.09 × 45/360 = 135

Q6 A commercial paper with a maturity value of 20,000 pounds was discounted 6 months before maturity at a commercial discount rate of 10% annually. Calculate the commercial discount.

A) 800 L.E. **B)** 900 L.E. **C)** 1,000 L.E. **D)** 1,100 L.E.

Answer: C) 1,000 L.E.

D = 20000 × 0.10 × 6/12 = 1000

Q7 A commercial paper with a maturity value of 9,600 pounds was discounted 75 days before maturity at a commercial discount rate of 15% annually. Calculate the commercial discount.

A) 280 L.E. **B)** 290 L.E. **C)** 300 L.E. **D)** 310 L.E.

Answer: C) 300 L.E.

D = 9600 × 0.15 × 75/360 = 300

Q8 A commercial paper with a maturity value of 9,600 pounds was discounted 75 days before maturity. The commission rate is 2‰. Calculate the commission.

A) 17.2 L.E. **B)** 18.2 L.E. **C)** 19.2 L.E. **D)** 20.2 L.E.

Answer: C) 19.2 L.E.

C_0 = 9600 × 2/1000 = 19.2

Q9 A commercial paper with a maturity value of 9,600 pounds was discounted 75 days before maturity. The collection fees rate is 0.5‰ with a minimum of 5 pounds. Calculate the collection fees.

A) 4.8 L.E. **B)** 5 L.E. **C)** 5.2 L.E. **D)** 5.5 L.E.

> **Answer: B) 5 L.E.**
> C-Fees = 9600 × 0.5/1000 = 4.8 → minimum 5

Q10 A commercial paper with a maturity value of 9,600 pounds was discounted 75 days before maturity at a commercial discount rate of 15% annually, commission rate of 2‰, and collection fees rate of 0.5‰ with a minimum of 5 pounds. Calculate Agio.

A) 320 L.E. **B)** 322.2 L.E. **C)** 324.2 L.E. **D)** 326.2 L.E.

> **Answer: C) 324.2 L.E.**
> Agio = 300 + 19.2 + 5 = 324.2

Q11 A commercial paper with a maturity value of 9,600 pounds was discounted 75 days before maturity. Agio = 324.2 L.E. Calculate the present value.

A) 9,270.8 L.E. **B)** 9,275.8 L.E. **C)** 9,280.8 L.E. **D)** 9,285.8 L.E.

> **Answer: B) 9,275.8 L.E.**
> Pv = 9600 − 324.2 = 9275.8

Q12 A commercial paper with a maturity value of 9,600 pounds was discounted 75 days before maturity. Agio = 324.2 L.E. Calculate the real discount rate.

A) 15.21% **B)** 16.21% **C)** 17.21% **D)** 18.21%

> **Answer: B) 16.21%**
> $r^* = 324.2 / (9600 \times 75/360) \times 100 = 16.21\%$

Q13 Khaled discounted a commercial paper with a maturity value of 60,000 pounds on 21/3/2012, due on 9/7/2012. The commercial discount rate is 12% annually. Calculate the commercial discount.

A) 2,000 L.E. **B)** 2,100 L.E. **C)** 2,200 L.E. **D)** 2,300 L.E.

> **Answer: C) 2,200 L.E.**
> t = 110 days, D = 60000 × 0.12 × 110/360 = 2200

Q14 Khaled discounted a commercial paper with a maturity value of 60,000 pounds. The commission rate is 2‰. Calculate the commission.

A) 100 L.E. **B)** 110 L.E. **C)** 120 L.E. **D)** 130 L.E.

> **Answer: C) 120 L.E.**
> $C_0 = 60000 \times 2/1000 = 120$

Q15 Khaled discounted a commercial paper with a maturity value of 60,000 pounds. The collection fees rate is 1‰ with a minimum of 20 pounds. Calculate the collection fees.

A) 50 L.E. **B)** 55 L.E. **C)** 60 L.E. **D)** 65 L.E.

> **Answer: C) 60 L.E.**
> C-Fees $= 60000 \times 1/1000 = 60$

Q16 Khaled discounted a commercial paper with a maturity value of 60,000 pounds. D = 2,200, C_0 = 120, C-Fees = 60. Calculate Agio.

A) 2,300 L.E. **B)** 2,350 L.E. **C)** 2,380 L.E. **D)** 2,400 L.E.

> **Answer: C) 2,380 L.E.**
> Agio $= 2200 + 120 + 60 = 2380$

Q17 Khaled discounted a commercial paper with a maturity value of 60,000 pounds. Agio = 2,380 L.E. Calculate the present value.

A) 57,500 L.E. **B)** 57,620 L.E. **C)** 57,700 L.E. **D)** 57,800 L.E.

> **Answer: B) 57,620 L.E.**
> Pv $= 60000 - 2380 = 57620$

Q18 Khaled discounted a commercial paper with a maturity value of 60,000 pounds for 110 days. Agio = 2,380 L.E. Calculate the real discount rate.

A) 12.50% **B)** 12.98% **C)** 13.50% **D)** 14.00%

> **Answer: B) 12.98%**
> $r^* = 2380 / (60000 \times 110/360) \times 100 = 12.98\%$

Q19 A commercial paper with a maturity value of 1,000 pounds matures in 5 months. The commercial discount rate is 12% annually. Calculate the commercial discount.

A) 40 L.E. **B)** 45 L.E. **C)** 50 L.E. **D)** 55 L.E.

> **Answer: C) 50 L.E.**
> D = 1000 × 0.12 × 5/12 = 50

Q20 A commercial paper with a maturity value of 1,000 pounds matures in 5 months. The commission rate is 4‰. Calculate the commission.

A) 3 L.E. **B)** 4 L.E. **C)** 5 L.E. **D)** 6 L.E.

> **Answer: B) 4 L.E.**
> C_0 = 1000 × 4/1000 = 4

Q21 A commercial paper with a maturity value of 1,000 pounds matures in 5 months. The collection fees rate is 2‰ with a minimum of 5 pounds. Calculate the collection fees.

A) 2 L.E. **B)** 3 L.E. **C)** 4 L.E. **D)** 5 L.E.

> **Answer: D) 5 L.E.**
> C-Fees = 1000 × 2/1000 = 2 → minimum 5

Q22 A commercial paper with a maturity value of 1,000 pounds matures in 5 months. D = 50, C_0 = 4, C-Fees = 5. Calculate Agio.

A) 55 L.E. **B)** 57 L.E. **C)** 59 L.E. **D)** 61 L.E.

> **Answer: C) 59 L.E.**
> Agio = 50 + 4 + 5 = 59

Q23 A commercial paper with a maturity value of 1,000 pounds matures in 5 months. Agio = 59 L.E. Calculate the present value.

A) 935 L.E. **B)** 940 L.E. **C)** 941 L.E. **D)** 945 L.E.

> **Answer: C) 941 L.E.**
> Pv = 1000 − 59 = 941

Q24 A commercial paper with a maturity value of 1,000 pounds matures in 5 months. Agio = 59 L.E. Calculate the real discount rate.

A) 13.16% **B)** 14.16% **C)** 15.16% **D)** 16.16%

> **Answer: B) 14.16%**
> $r^* = 59 / (1000 \times 5/12) \times 100 = 14.16\%$

Q25 A commercial paper with a maturity value of 3,000 pounds matures in 7 months. The commercial discount rate is 12% annually. Calculate the commercial discount.

A) 200 L.E. **B)** 210 L.E. **C)** 220 L.E. **D)** 230 L.E.

> **Answer: B) 210 L.E.**
> $D = 3000 \times 0.12 \times 7/12 = 210$

Q26 A commercial paper with a maturity value of 3,000 pounds matures in 7 months. The commission rate is 4‰. Calculate the commission.

A) 10 L.E. **B)** 11 L.E. **C)** 12 L.E. **D)** 13 L.E.

> **Answer: C) 12 L.E.**
> $C_0 = 3000 \times 4/1000 = 12$

Q27 A commercial paper with a maturity value of 3,000 pounds matures in 7 months. The collection fees rate is 2‰ with a minimum of 5 pounds. Calculate the collection fees.

A) 4 L.E. **B)** 5 L.E. **C)** 6 L.E. **D)** 7 L.E.

> **Answer: C) 6 L.E.**
> C-Fees $= 3000 \times 2/1000 = 6$

Q28 A commercial paper with a maturity value of 3,000 pounds matures in 7 months. D = 210, C_0 = 12, C-Fees = 6. Calculate Agio.

A) 220 L.E. **B)** 225 L.E. **C)** 228 L.E. **D)** 230 L.E.

> **Answer: C) 228 L.E.**
> $\text{Agio} = 210 + 12 + 6 = 228$

Q29 A commercial paper with a maturity value of 3,000 pounds matures in 7 months. Agio = 228 L.E. Calculate the present value.

A) 2,770 L.E. **B)** 2,772 L.E. **C)** 2,775 L.E. **D)** 2,780 L.E.

Answer: B) 2,772 L.E.

Pv = 3000 − 228 = 2772

Q30 A commercial paper with a maturity value of 3,000 pounds matures in 7 months. Agio = 228 L.E. Calculate the real discount rate.

A) 12.03% **B)** 13.03% **C)** 14.03% **D)** 15.03%

Answer: B) 13.03%

$r^* = 228 / (3000 \times 7/12) \times 100 = 13.03\%$