1. **Company A produces chocolate snacks and other sweets. You know the following 2019 financial data about Company A:**

	Financial data 2019 [k€]
Net Working Capital	7,500
CAPEX	2,500
Gross Profit	27,000
Delta inventories of raw materials (f-i)	20,000
Purchase of Raw Materials	38,000
Income Taxes	2,300
Net financial expenses	550
Net Profit	10,200

You also know that:

- **The cost of raw materials represents the 30% of Cost of Sales (Cost of Goods Sold)**
- **Operating Profit Margin (Return On Sales) = 15%**
- **EBITDA Margin = 20%**
- **Quality of Operating Earnings = 1.3**

Considering the available data, which of the following answers is CORRECT?

(4 Points)

A. D&A = 7.68 mln €; Cash Flow from Operating Activities = 29.97 mln €
B. D&A = 4.35 mln €; Cash Flow from Operating Activities = 16.97 mln €
C. EBIT = 13.05 mln €; Cash flow from Operating Activities = 7.05 mln €
D. EBIT= 33.05 mln €; Cash Flow from Operating Activities = 13.26 mln €

Cost of Raw Materials in the production unit = Purchase of raw materials – Delta inventories (f-i) = 38 mln € - 20 mln € = 18 mln €
Cost of Sales = 18 mln € / 30% = 60 mln €
Revenues = Gross profit + Cost of sales = 27 mln € + 60 mln € = 87 mln €
EBIT = Revenues * Operating Profit Margin = 87 mln € * 15% = 13.05 mln €
EBITDA = Revenues * EBITDA Margin = 87 mln € * 20% = 17.40
D&A = EBITDA – EBIT = 17.40-13.05 = **4.35 mln €**
CFFO = EBIT * Quality of Operating Earnings = 13.05 * 1.3 = **16.97 mln €**

2. **In dealing with intra-company transfer prices, considering a short-term horizon of time, which of the following answers is WRONG:**

(2 Points)

A. By adopting a full actual cost policy, the selling business unit is not motivated to optimize its efficiency
B. By adopting a marginal standard cost policy rather than a full standard cost policy, make or buy decisions are more aligned with the goal of the whole corporation
C. By adopting a full standard cost policy, there might happen a suboptimal saturation of the manufacturing capacity
D. By adopting a full actual cost policy, the corporation favors the overall efficiency.

3. **Which one of the following sentences on accounting principles is CORRECT?**

(3 Points)

A. According to the accrual logic, transactions are recorded in the Income Statement when they can be considered as "completed", i.e. when cash is received (and/or payments are made)
B. The impairment test is not used with the cost model
C. If an asset is evaluated according to the fair value model, depreciation must not be calculated
D. With the fair value model, the change in the value of an asset can be balanced either in the Income Statement or in the Equity section of the Balance Sheet

4. **Company X is an Italian manufacturing company: it manufactures shoes and sells them in all Europe. Imagine you are estimating the <u>EQUITY VALUE</u> of Company X according to the Discounted Cash Flow (DCF) methodology, and that you are able to build reliable forecasts only until year 2023.**

In particular, forecasted financial data concerning year 2023 are the following:

Forecasted Financial Data of Company X for year 2023 [k€]	
EBIT	20,000
Net Profit	11,500
Financial Revenues (P&L)	500
Financial Expenses (P&L)	1,000
Interests Paid	2,000
Debt	8,000
FCFF	15,000
WACC	4%
Ke	6%

You also know that:

- **Debt at the end of year 2022 = 10,000 k€**
- **Company X cash flows are expected to grow at 3% every year till to infinite after 2023**

On the base of available data, what is the Terminal Value?

(4 Points)

A. TV is around 436 mln €
B. TV is around 65 mln €
C. TV is around 49 mln €
D. TV is around 211 mln €

The first step consists in calculating the FCFE at the end of 2023.
To do so, the tax rate is needed. It can be calculated as:
EBT = EBIT – financial expenses + financial interests = 19,500 k€
Taxes = EBT-E=8,000 k€
Tc = 8,000 / 19,500 = 0.41

After this preliminary step, FCFE can be calculated as:

FCFF	15,000
- financial expenses (net of taxes)	1,000 * (1-0.41) = 589.7 k€
+ financial interests (net of taxes)	500 * (1-0.41) = 294.9 k€
+ delta debt	8,000 – 10,000 = - 2,000 k€
No dividends paid	
No delta share capital	
FCFE	12,705 k€

Then the TV can be calculated applying the perpetuity formula with growth:

TV = $FCFE * \frac{1+g}{ke-g} \approx$ 436 mln €

5. **Company A produces cars: it has 4 Business Units (BUs) and all of them use a centralized Quality Laboratory for testing inputs. Resources used in the Laboratory consist in a CNC machine (energy costs and raw materials used vary according to the pieces analysed) and in some workers, with fixed salary, who supervise the Laboratory.**
   Imagine that you are required to allocate the Costs incurred by the *Quality Laboratory* in 2019 to the 4 BUs. Which of the following sentences is WRONG?

   (2 Points)

   A. Complete cost allocation would lead to a proportional allocation of all costs incurred by the Quality Laboratory to the BUs (according to selected drivers)
   B. The saturation rate of the machine (and of workers) could be useful to choose the most proper allocation method
   C. Actual costs allocation would force the Quality Laboratory to increase its efficiency
   D. ~~In case of~~In case of partial ~~standard allocation, fees~~ allocation based on fees (both for variable and fixed costs)~~,~~ fees do not depend on the forecasted (i.e. budgeted) demand by the BUs

6. **Which of the following statements regarding the lines of credit as a financing option is CORRECT?**

   (2 Points)

   A. Lines of credit are the less expensive among short term financing possibilities
   B. Lines of credit are a good instrument for investment activities
   C. Lines of credits are used mostly to cover short-term imbalances (i.e. short-term liquidity needs)
   D. Interest rates of line of credits are always floating

7. **You are comparing Company F and Company D using multiples.**

For company F, you know the following information:

- **Price per share (31.12.2019) = 3.5 € per share**
- **Revenues (2019) = 150 mln €**
- **Revenues (2018) = 120 mln €**
- **N. of shares (2019) = 18 mln of shares**
- **Net profit margin (2019) = 12%**
- **EPS (2019) = 1 € per share**
- **EPS (2018) = 0.97 € per share €**
- **The number of shares is stable between 2018 and 2019**

For company D, you know the following information:

- **Price per share (31.12.2019) = 3.5 € per share**
- **Revenues (2019) = 120 mln €**
- **Revenues (2018) = 115 mln €**
- **EPS (2019) = 0.35 € per share**
- **EPS (2018) = 0.30 € per share**
- **The number of shares is stable between 2018 and 2019**

With the information available, which of the following sentences is CORRECT?

(4 Points)

A. In 2019, the Enterprise Value of Company F is lower than the Enterprise Value of Company D
B. In 2019, the Equity Value of Company D is lower than the Equity Value of Company F
C. In 2019, the PEG of Company F is lower than the PEG of Company D
D. In 2019, the PEG of Company D is lower than the PEG of Company F

Net profit (F) = revenues x net profit margin = 150mln x 12% = 18mln
P/E (F) = market capitalization / net profit = (18mln of shares * 3.5 € per share) / 18mln euros
P/E (F) = 3.5
Earnings growth = 3%
PEG (F) = PE ratio / Earnings growth = 3.5 / 3% = 1.17

P/E (D) = price per share/EPS = 3.5€ per share /0.35€ per share = 10
Earnings growth = (0.35-0.30)/0.30 = 16.7%
PEG (D) = PE ratio / Earnings growth = 10 / 16.7% = 0.59
P/E (D) > P/E (F) **but** *PEG (D) < PEG (F)*

8. Regarding Value Drivers (Indicators), which of the following statements is WRONG:

(2 Points)

A. These indicators are used to evaluate those factors that are critical for the achievement of a company's strategic objectives
B. These indicators can be related to various factors, such as: customer relationships, employees, operations, quality, the organisation's supply chain or its pipeline
C. These indicators cannot be used to measure a company's risk factors
D. These indicators are long-term oriented

9. Which of the following sentences regarding Weighted Average Cost of Capital (WACC) is WRONG?

(3 Points)

A. The computation of WACC takes into account the return of risk-free investments
B. The computation of WACC takes into account the credit default spread
C. Because of the tax shield effect, WACC is generally lower than the cost of debt
D. The computation of WACC takes into account the volatility of returns of a company

10. Consider the following data about company ABC that produces respirator masks.

Expected Financial data 2020	
Volume of sales 2020 [units]	14,000
Price/unit [€/u]	6
Inventory of finished goods at 01/01/2020 [€]	3,300
Direct manufacturing labour [€]	15,500
Manufacturing overhead [€]	8,500
Cost of Goods Sold [€]	47,920
Marketing expenses [€]	8,000
Administrative and general expenses[€]	6,500
R&D expenses [€]	5,200
Financial Expenses [€]	4,200
Repayment of debt [€]	2,200

Additionally, you know they have purchased from an external supplier 1,300 more units (at 3 €/unit) to cover the unmet demand and they will have no inventories left at the 31/12/2020. What is their direct material usage budget for 2020?

(4 Points)

A. 16,720 €
B. 12,520 €
C. 20,620 €
D. None of the above

Budget Revenues=14,000 units * 6 € =84,000 €
Budgeted period costs= marketing + administrative costs + R&D = 19,700 €

Cost of sales = Cost of good available for sale (no inventories left)

Cost of goods manufactured = 47,920 (Cost of good available for sale) - 3,900 (Cost of good purchased) - 3,300 (finished goods inventory (beginning)) = 40,720

Direct material usage budget = 40,720€ (Cost of goods manufactured) – 15,500€ (Direct manufacturing Labor) – 8,500€ (total overhead) = 16,720 €