ACCOUNTING, FINANCE AND CONTROL

MULTIPLE CHOICE TEST

Call July 5th, 2023

Please state in CAPITAL LETTERS your Name and Surname in the following spaces

NAME	
SURNAME	
STUDENT ID	

Available Time: 60 minutes

In taking multiple-choice tests, you want to keep in mind the basics of test taking: read each question carefully, and have a systematic approach to the whole exam.

In the following, two very well-known strategies for approaching multiple-choice questions are reminded briefly.

Choose the Best Response, there is only one correct answer per question!

Many options in a multiple-choice answer may have some truth to them. You want to identify the *best* response from the *good* responses. If you have eliminated other answer options and have narrowed it down to two, and both seem true, try to pick the answer option that is in some way better than one that is just good. Be sure to read once again the question when selecting the *best* answer.

Mark only "Sure Things" first, and make 3 "Passes" through the test.

Go through the test first and answer all the questions for which the answers come easily. For the questions that seem more difficult, eliminate as many options as you can. This will give you a head start for your second pass. You may come across another question that gives you a clue about the one that stumped you. On your second pass spend extra time to figure out the "best" of the rest of the answer options. On your third pass, take an educated guess at the ones that are still elusive because any answer is better than no answer.

There are no penalties for wrong answers.

In the following questions:

- consider that **1k€ = 1 thousand euros** and **1M€ = 1 million euros;**
- **the international convention for decimal and thousand separators is used – i.e., the comma is used to separate groups of thousands and the dot is used to separate decimals;**
- **calculations in the exercises need to be rounded up to the second decimal place.**

If you read the text above, turn the page and begin your test

ANSWERS SHEET

MULTIPLE CHOICE TEST

Time = 1 hour

FILLING THIS SHEET IS MANDATORY
FOR HAVING YOUR TEST CHECKED AND EVALUATED

Please state in CAPITAL LETTERS your Name, Surname and Student ID in the following spaces

NAME	
SURNAME	
STUDENT ID	

For each question (1-9) indicate the right answer with the corresponding CAPITAL LETTER [A-B-C-D]. Please consider that <u>only</u> this answer sheet will be assessed.
In case of different choices in the answer sheet below and the single question, the letters in the answer sheet will be taken as the answers chosen by the student.

Filling this answer sheet is mandatory for having the test evaluated.

Question	***1A***	***1B***	***2A***	***2B***	***3A***	***3B***	***4***	***5***	***6***	***7***	***8***	***9***
Your Answer												

QUESTION 1A – 3 POINTS

The following data have been extracted from the 2022 financial statements of company Fantasy (data are in "k€"):

- Current assets: 18,600
- Bank debts (all to be repaid from 2025 on): 5,600
- Interests on debt: 2,600
- Bonds (bullet repayment scheme, maturity date: 31/10/2025): 7,200
- Non-financial non-current liabilities: 3,400
- Net Profit: 3,775
- Financial revenues: 1,250

Additionally, you have the values of the following ratios (still based on the 2022 financial statements)

- Interest Coverage Ratio (ICR): 3.25
- EBITDA Margin: 10.50%
- Assets Turnover Ratio (ATR): 2.50
- ROE: 12.5%
- Current Ratio: 1.50

Based on this information, and knowing that there are no other non-current liabilities (other than those listed above), what is the value of Depreciation & Amortisation (D&A) in 2022? Please consider 2 digits in the calculations.

A. 6,985 k€
B. 9,422.50 k€
C. 6,092.50 k€
D. None of the other answers is correct

SOLUTION:

Non-Current Liabilities = Long term debts + Bonds + Other non-current liab = 16,200 k€

Current Liabilities = Current Assets/Current Ratio = 12,400 k€

Equity = Net Profit/ROE = 30,200 k€

Total E + L = Total Assets = 30,200 + 16,200 + 12,400 = 58,800 k€

Revenues = ATR * Total Assets = 147,000 k€

EBITDA = EBITDA Margin * Revenues = 15,435 k€

EBIT = ICR * Interests on Debt = 8,450 k€

Depr & Amort = EBITDA – EBIT = 6,985 k€

The correct answer is A.

- B is not correct since ICR is computed taking into account also Financial Revenues
- C is not correct since non-current Liabilities are computed taking into account just Financial Liabilities

QUESTION 1B – 3 POINTS
Still, about company Fantasy, you have the following additional information available:

- D/E (where D = Financial Liabilities): 0.58
- Accounts payable are 80% of current non-financial liabilities
- Cost of raw materials consumed in the production process: 58,000 k€
- Change in the inventories of raw materials (end vs. start): - 2,000 k€
- Other purchases (services, utilities, leasing, rentals, etc): 28,000 k€

Based on the information available, what is the correct value of DPO (computed using 360 days/year)?

A. Around 39.52 days
B. Around 25.15 days
C. Around 26.35 days
D. None of the other answers is correct

SOLUTION:

From data provided in Q1a it is possible to compute Equity = 30,200 k€

Total Financial Liabilities = D/E * E = 17,516 k€

Total Current Financial Liabilities = Total Financial Liabilities – Non current Financial Liabilities = 17,516 – 5,600 – 7,200 = 4,716 k€

Current Non Financial Liabilities = Current Liabilities – Current Financial Liabilities = 12,400 – 4,716 = 7,684 k€

Accounts Payable = 0.8 * 7,684 = 6,147.20 k€

Purchases of Raw Materials (R.M.) = RM consumed + Change in the value of Inv. RM (e-s) = 56,000 k€

Total Purchases = 56,000 + 28,000 = 84,000 k€

DPO = 6,147/84,000 * 360 = 26.35 dd

The correct answer is C.

- A is not correct since it does not take into account purchases of services etc.
- B is wrong because in computing total purchases of RM the sign of the change in the value of inv RM is wrong.

QUESTION 2A – 3 POINTS
You are evaluating the Equity Value of company Ficio at the end of 2023. You have reliable forecasts on free cash flows until December 2026.

The following forecasts for year 2026 are available:

- Financial debts at 31.12.2025: 1,200,000 k€
- EBIT = 200,000 k€
- New bank debt opened on January 1st, 2026: 300,000 k€
- No debt is repaid in 2026
- Cost of debt (including the new debt opened): 7%
- Corporate tax rate: 20%
- Cash inflows from financial incomes: 45,000 k€
- Dividends: null

- There are no changes in share capital
- WACC: 9.2%
- TV_{EV} (computed with the perpetuity formula without growth): 120,000 k€

Knowing that the company pays its financial costs accordingly to the matching principle, what is the value of the expected FCFE in 2026 (consider 2 digits in the calculations)?

A. Around 251,040 k€
B. Around 11,040 k€
C. Around 263,040 k€
D. None of the other answers is correct

SOLUTION:

FCFF = TV_{EV}*WACC = 120,000*9.2% = 11,040 k€

Cash flow from financial expenses = financial cost = kd* (initial debt + debt issued) = 7%*(1,200,000 + 300,000) = 105,000 k€

FCFE = FCFF - fin cost (1-tc) + fin income (1-tc) + debt issued = 263,040 k€

The correct answer is C.

- A is wrong since it does not consider the tax rate in the computation of FCFE
- B is wrong since it computes the FCFF rather than the FCFE
- D is wrong since it exists a correct solution

QUESTION 2B – 3 POINTS

Still considering the data about the company Ficio at the end of 2026, you know that the interest rates of government bonds will be raised in year 2026 to face inflation, compared with your initial forecasts.

Specifically, looking at the 10-Year Bond Yield in year 2026, the following changes in forecasts are expected:

- Italian bonds will increase from 1% to 4%
- German bonds will increase from 0.1% to 1.5%
- US bonds will increase from 0.5% to 2%
- Japan bonds will increase from 0.4% to 0.7%
- China bonds will increase from 0.9% to 3%

Moreover, you know, with respect to year 2026, that for the company Ficio:

- Cost of equity is estimated through the CAPM approach
- Bl (beta-levered): 3
- Rm (market return): 7%
- Equity: 500,000 k€

Assuming that all non-mentioned governmental bonds were above 1% before the increase of interest rates, and with all the other metrics remaining unchanged, what is the value of the new WACC (considering both the data here provided and those of question 2A) in year 2026?

A. Around 8.45%
B. Around 9.00%
C. WACC cannot be computed as it is not specified the currency of Ficio
D. WACC will not be affected by this change

SOLUTION:

The changes in the governmental bond change the risk-free rates. However, you don't know the currency in which the company operates. Therefore, you must disclose which was the risk-free rate employed to value the WACC before the increase.

Ke (before increase) = (WACC – kd*(1-tc)*D/(D+E))*(D+E)/E = 20%

Rf (before the increase) = (ke – bl*rm)/(1-bl) = 0.5% → US bonds

- ➔ New rf = 2%

Ke (new) = rf+bl*(rm-rf) = 2% + 3*(7%-2%) = 17%

WACC (new) = ke(new) * E/(D+E) + kd* (1-tc) * D/(D+E) = 8.45%

The correct answer is A.

- B is wrong since it considers the German bonds in the computation
- C is wrong since WACC can be computed
- D is wrong since WACC changes in comparison to the previous value

QUESTION 3A – 3 POINTS

You are a financial analysist working for company Magic Berry, a non-listed company cultivating and selling red fruits (e.g., blueberries and raspberries) in different countries. Magic Berry is composed of two completely independent business units: the Cultivation division, in charge of producing the red fruits, and the Selling division, in charge of marketing and selling the red fruits.

The strategy of Magic Berry is to invest on the latest innovative infrastructures in agriculture for obtaining a high-quality and a large-variety harvest of red fruits, and to build a strong reputation for its flexibly in serving customers located in Italy and nearby countries.

The CEO of Magic Berry has asked you to estimate the Enterprise Value (EV) of Magic Berry through relative valuation, by summing the value of its two divisions. You have some data about the Cultivation and Selling divisions of Magic Berry as well as potential comparable listed companies that you might use for the relative valuation.

	D/E	**#Shares**	**Share Market value (€/share)**	**EBITDA (€)**	**Enterprise Value (€)**	**Net Financial Debt (€)**	**Competitive Advantage**
"Cultivation" division	0.85	Magic Berry is not listed yet	Magic Berry is not listed yet	7,800		9,100	
Red TECH	0.90	65,000	0.22	7,955	120,000	8,400	High-tech precision farming for high-end varied harvests
Passion fruit	0.75	72,000	0.56	3,900	60,000	1,800	Traditional manual fruit picking
The Cranberries	0.81	63,000	0.16	8,200	115,000	8,700	4.0 Agriculture for quality and variety

	D/E	**Net profit**	**#Shares**	**Share Market value (€/share)**	**Market**	**Net Financial Debt**
"Selling" division	1.11	9,700	Magic Berry is not listed yet	Magic Berry is not listed yet		4,000
Apples& Pears	0.76	8,180	52,000	3.4	Local customers with seasonal products	2,900
Fresh Fruit	1.09	9,119	45,000	5.1	Multi-national customers with varied harvests	3,700
Fruit Center	1.14	9,595	69,000	4.7	International markets, thanks to its considerable width of product range	4,500

Which are the comparable companies respectively for the Cultivation Division and for the Selling Division?

A. Cultivation Division: Red TECH, The Cranberries; Selling Division: Apples&Pears, Fruits Center
B. Cultivation Division: Passion Fruit, Red TECH; Selling Division: Fresh Fruit, Fruits Center
C. Cultivation Division: Red TECH, The Cranberries; Selling Division: Fresh Fruit, Fruits Center
D. Cultivation Division: Passion Fruit, The Cranberries; Selling Division: Fresh Fruit, Apples&Pears.

SOLUTION:

The correct answer is C. Red TECH and The Cranberries share the same competitive advantage of the Cultivation Division, and they have similar profiles in terms of risk and cash generation. Equally, Fresh Fruit and Fruits center share the same competitive advantage with the Selling Division, and they are also similar for risk.

- A is wrong. While the comparable companies for the Cultivation Division are correct, the comparable companies for the Selling Division are wrong. Indeed, Apples & Pears is not a comparable company for Selling Division since they have polar competitive advantages: the Selling Division is selling products obtained through innovative technologies for varietal development; Apples & Pears is only selling few lines of fruit and all naturally obtained. In addition, they have a different risk profile. The D/E of Apples & Pears is 0.76 versus 1.11 of Selling Division.

- B is wrong. While the comparable companies for the Selling Division are correct, the comparable companies for the Cultivation Division are not correct. Indeed, Passion Fruit pursues a different strategy compared to the Cultivation Division, by investing on traditional manual fruit picking without recourse to innovative infrastructures, which are instead a key asset for Cultivation Division. Further, the two companies have diverse profiles in terms of cash, because the EBITDA (that is a proxy of a company cash generation) of Passion Fruit is almost the half of the EBITDA of Cultivation Division.

- D is wrong. It considers Passion Fruit and Apples&Pears as comparable companies (but they are not).

QUESTION 3B (3 points)

What is the Enterprise Value of Magic Berry (please consider 2 digits in the calculations)?

A. Around 403,543 €
B. Around 408,847 €
C. Around 399,543 €
D. None of the other answers

SOLUTION:

The correct answer is A. To estimate the value of Cultivation Division, the suggested multiple is EV/EBITDA due to the considerable weight of infrastructures for the farming. To estimate the value of Selling Division, the suggested multiple is P/E since the Selling Division is competing on brand reputation and data for calculating assets-side multiples are not available.

The EV of Cultivation Division is:

Cultivation	**RED Tech**	**The Cranberries**	**Average**
EV/EBITDA	15.08	14.02	14.55
EV of Cultivation	113,490		

The EV of Selling Division is:

Selling	Fresh Fruit	Fruit Center	Average
P/E	25.17	33.80	29.49
Equity Value of Selling	286,053		
Enterprise Value of Selling (Computed as Equity Value + Net Financial Position)	290,053		

P/E of Fresh Fruit:

- P= Number of share* share market value = 45,000*5.1= 229,500 €
- E= Net profit = 9,119 €
- P/E= 25.167 → 25.17

P/E of Fruit Center:

- P= Number of shares* share market value = 69,000* 4.7= 324,300 €
- E= Net profit = 9,595 €
- P/E= 33.798 → 33.80

Average P/E = 29.485 → 29.49

Equity Value of Selling Division = Average P/E* Net profit of Selling Division = 29.49*9,700= 286,053 €

Enterprise Value of Selling Division = E + NFD = 290,053 €

EV of Magic Berry is 113,490 + 290,053 = 403,543 €

B is wrong. It considers wrong comparable companies in the computation. It considers Passion Fruit (instead of The Cranberries) and RED Tech as comparable companies for Cultivation Division.

Cultivation	RED Tech	Passion Fruit	Average
EV/EBITDA	15.08	15.38	15.23
EV of Cultivation	118,794		

Selling	Fresh Fruit	Fruit Center	Average
P/E	25.17	33.80	29.49
Equity Value of Selling	286,053		
Enterprise Value of Selling (Computed as Equity Value + Net Financial Position)	290,053		

EV of Magic Berry is 118,794 + 290,053 = 408,847 €

C is wrong. Even though the selected multiples are correct, the computation of the EV of Magic Berry. It is wrong since it sums: EV of Cultivation + E of Selling Division, instead of EV of Selling Division. EV of Cultivation, with EV/EBITDA as multiples is = 113,490 €. E of Selling, with P/E as multiple is = 286,053 €. EV of Magic Berry is 399,543 €, which is wrong because it does not consider the Net Financial Debt of the Selling Division (+ 4,000).

D is wrong. The correct answer is A.

QUESTION 4 – 2 POINTS

Company Pry is a multinational company competing in the cable sector and it is articulated into three Business Units. Pry reporting system allocates some specific corporate costs to the three Business units; these corporate costs include general, selling, and administrative expenses (including the main corporate functions) and commercial and distribution expenses. Based on the available information, which of the following statements is CORRECT?

A. In the income statement of the three Business Units, the cost of goods sold represents a relevant component of corporate costs
B. Set-up time of manufacturing machines is an appropriate cost allocation base for dividing corporate costs among the three business units
C. Corporate costs do not include depreciation and amortization
D. None of the other answers

SOLUTION:

The correct answer is D, none of the other answers is CORRECT.

- A is wrong, because corporate costs typically refer to period costs.
- B is wrong, because set-up time is a cost allocation base often used for allocating production costs, that are not part of corporate costs.
- C is wrong, because corporate costs include depreciation and amortization related to general, selling and administrative expenses and commercial and distribution expenses.

QUESTION 5 – 2 POINTS

Which of the following statements about responsibility centres is CORRECT?

A. Revenues centres' performances are properly evaluated based on the comparison between their actual costs and their budgeted costs
B. The price of purchased materials is not always directly controllable by cost centres
C. EBIT allows to measure cost centres' performances properly
D. None of the other answers

SOLUTION:

Answer B is correct.

- A is wrong, because revenues centres are typically evaluated based on revenues or contribution margin (not based on their costs).

- C is wrong, since EBIT can be used for measuring performances of those organizational units that can control both revenues and costs (which is not the case of responsibility centres).
- D is wrong, because B is correct.

QUESTION 6 – 2 POINTS

Bravo is a large size company located in Italy that produces and sells medical devices for monitoring patients' parameters. It is organized into two Business Units (BUs): Cardiology (located in Italy, with 150 employees) and Diabetes (located in Croatia, with 120 employees). Croatia has a lower average tax rate compared to Italy. The two BUs are not separate legal entities (they are part of Bravo, which is the only legal entity). Their market is mainly (90%) focused on Europe. Cardiology and Diabetes are profit centres. Cardiology owns a particular equipment – that has been paid by Bravo – that is currently used for producing the packaging of the medical devices sold by Cardiology and Diabetes.

The equipment is not working at full capacity and is not expected to work at full capacity in the coming years.

Among the others, what is the reason for Bravo to implement a transfer price mechanism between Cardiology and Diabetes concerning the usage of the same equipment? Select the TRUE statement among the ones below:

A. To allow Bravo to accurately measure the profitability of Cardiology and Diabetes
B. To get fiscal benefits because Croatia has a lower tax rate compared to Italy
C. To contribute to the repayment of the equipment through the price paid by Diabetes
D. None of the other answers

SOLUTION:

Answer A is correct. By defining a transfer price mechanism, Bravo can account the "internal sale" between Cardiology and Diabetes. Knowing this, Bravo can measure their performance more accurately.

- B is wrong because Cardiology and Diabetes are not legally independent, and their financial reports are consolidated in the ones of Bravo.
- C is wrong because transfer prices are fictitious prices and there the price paid by Diabetes to Cardiology does not generate an additional cash inflow.
- D is wrong because answer A is correct.

QUESTION 7 – 2 POINTS

Delta company is committed to increasing its capability to contribute positively to societal challenges. In this view, the company is designing a dashboard where to include also relevant non-financial indicators. Delta wants to measure the accessibility to qualified human resources (where accessibility is defined as the company's capability of having access to increase the amount of a particular resource, if needed).

Based on the above information, which of the following indicators should be included in the dashboard?

A. Number of employees who are committed to social innovation initiatives
B. Number of senior managers delivering lectures in universities whose teaching programs are focused on responsible management
C. Average number of likes collected by Delta in her social media posts about social challenges
D. None of the other answers is correct

SOLUTION:

Accessibility-focused indicators measure the capability of the company to increase a specific resource.

Answer B is correct because senior managers, by participating in lectures, have the opportunity to collect CVs and promote the company among students.

- Answer A is wrong, because the indicator measures the commitment to social challenges of current employees but does not tell anything about the capability to hire new employees interested in this topic.
- Answer C is wrong, because the causal-effect connection between the average number of likes and the capability of hiring personnel oriented to social challenges is weak. We could say that the more the number of likes more the probability to receive CVs from professionals who are interested in societal challenges, but this connection is weak.
- Answer D is wrong, because answer B is correct.

QUESTION 8 – 2 POINTS

Which of the following sentences about factoring without recourse is CORRECT?

A. If payments are late or unpaid, then the factoring company absorbs the costs without any implications for the creditor firm.
B. If an invoice is unpaid or paid late to the factor, the credit risk is divided between the creditor firm and the factoring company.
C. If an invoice is unpaid or paid late to the factoring company, then it is up to the creditor firm to buy back the invoices and either settle the debt or chase up payment with its customers.
D. None of the above.

SOLUTION:

Answer A is correct. The factoring company assumes responsibility for recovering the payment directly from the customer/debtor. Therefore, in the factoring without recourse, the creditor company is protected from any losses due to non-payment or late payment by the debtors.

- B is wrong. The factoring company assumes all the credit risk. If a customer fails to pay or pays late on an invoice, the factoring company cannot recoup costs from the creditor company who gives the credit.
- C is wrong. In factoring without recourse, it is the factoring company's responsibility to absorb the risk of non-payment and handle the collection of payment directly from the customers/debtors. Therefore, the creditor company that transferred the invoices is not obligated to repurchase them or chase up payment with its customers.
- D is wrong, because A is the correct one.

QUESTION 9 – 2 POINTS

Which of the following statements about the cash flows budget is CORRECT?

A. The primary purpose of the cash flows budget is to verify if a company is reaching the profitability targets defined for the budgeted year
B. The amounts of financial expenses and taxes reported in the cash flows budget can be different from the amounts of the same items reported in the budgeted income statement
C. The amount of dividends reported in the cash flow budget is derived from the budgeted income statement
D. None of the other answers

SOLUTION:

Answer B is correct.

- A is wrong, because the primary purpose of the cash flows budget is to monitor the balance between cash inflows and outflows.
- C is wrong, because the amount of dividends is not derived from the income statement because dividends are not reported in the income statement.
- D is wrong, because B is correct.