MULTIPLE CHOICE TEST (individual assignment)

Time = 1 hour

Read each question carefully and choose the best response: indeed, **there is only one correct answer per question!**

Write below in this answer sheet the letter corresponding to the correct answer for each question.

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

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.

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.

If you have read the above text, you can start with the test!

Please state in CAPITAL LETTERS your Name and Surname 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 only this answer sheet will be assessed.

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

QUESTION 1A (3 points)

You have the following data about the company Summer Ltd, which is a small Italian company that produces ice-cream for the ho.re.ca (hotel, restaurants and café) market. Data reported are taken from the 2021 annual report:

- Trade receivables (final) = 40,000 €
- Trade receivables (initial) = 15,000 €
- Other operating income = 1,000 €
- Changes in Inventories of Finished Goods and WIP (final - initial) = 500 €
- Inventories of raw materials (final) = 1,900 €
- Inventories of raw materials (initial) = 1,500 €
- Depreciation & amortization = 30,000 €
- Personnel costs = 25,000 €
- Other operating expenses = 15,000 €
- Purchases of raw materials = 98,500 €
- Financial expenses = 4,500 €
- Net profit = 9,500 €
- Net profit margin = + 4.75%

Based on the information above, the EBIT of the company is:

A. 33,400€

B. 32,400€

C. 33,000€

D. None of the other answers

Solution

A. It is correct

Revenues = net profit/net profit margin = 9,500/4.75% = 200,000€

Raw material costs = purchases of raw materials – changes in inventories of raw materials (f-i) = 98,500 € - (1,900 € -1,500 €) = 98,100 €

EBIT = (revenues + other operating incomes + changes in inventories of finished goods) – raw material costs – personnel costs – d&a – other operating expenses = (200,000 + 1,000 + 500) – 98,100-25,000-30,000-15,000 = 33,400€

B. It is wrong since other operating incomes are not included

C. It is wrong since the changes in inventories of raw materials is not included in the computation of EBIT

QUESTION 1B (3 points)

Still with reference to Summer Ltd, you have the following additional information:

- Current ratio = 1.2
- Current assets = 48,000 €
- Current bank debts = 8,500 €
- Current bonds = 2,500 €
- Other current financial liabilities = 0
- Non-current bank debts = 68,000 €
- Non-current bonds = 5,500 €
- Trade payables are the only current non-financial liabilities
- In the analysed period the only purchases of the company are related to raw materials

Based on these data, how many days are needed to collect payables (average value)?

A. Around 116 days

B. Around 127 days

C. Around 93 days

D. None of the other answers

Solution

Current ratio = Current assets /current liabilities → current liabilities = 48,000 €/ 1,2 = 40,000 €

Current liabitilies = current financial liabilities + trade payables → trade payables = 40,000 € - 8,500 € - 2,500 € = 29,000 €

Purchases of raw material = 98,500 € (from the text)

DPO = trade payables / purchases of raw materials *365 = around 107 days

A. Is wrong since it does not include non-current bonds in the computation

B. Is wrong since it includes non-current bank debts

C. Is wrong since it considers both the purchases of raw materials and other operating costs

QUESTION 2A (3 points)

Today, September 1st, 2022, you are analysing Mandolino Ltd, an Italian company that operates mostly in Europe, and you have collected the following forecasts about the next year 2023:

- EBIT = 5,000 k€
- Taxes on EBIT = 1,125 k€
- Cash flows from financial revenues = 140 k€

- Cash flows for financial expenses = 1,020 k€
- Capital issued = 0 €
- Dividends = 100 k€
- Debt repaid = 0 €
- FCFE = 4,059 k€

About 2024, FCFF is expected equal to 4,975 k€.

If the FCFF will grow linearly by 5% per year from 2025 onwards till infinite, and WACC will remain constant to 8% from 2023 onwards till infinite, what is the expected Enterprise Value (EV) of Mandolino Ltd?

A. About 158,032 k€
B. About 147,157 k€
C. About 170,674 k€
D. About 182,873 k€

Solution:

t = taxes on EBIT/EBIT = 1125/5000 = 22.5%

FCFF (2023) = FCFE – (CF from financial revenues * (1-t) – CF from financial revenues * (1-t) + capital issued – dividends – debt repaid) = 4,841 k€

TV = FCFF (2024) * (1+g) / (WACC – g) = 174,125 k€

EV = FCFF (2023)/(1+WACC)+ FCFF(2024)/(1+WACC)^2 + TV((1+WACC)^2 = 158,032 k€→ Option A

QUESTION 2B (3 points)

You know also that the Equity of Mandolino Ltd is equal to 10,000 k€ and that the company has a leverage (Financial Liabilities/E) of 2. You have also the following information about market indexes and yield of government bonds:

Market Indexes	
FTSE MIB	5%
DAX	3%
CAC 40	1%
FTSE 100	5.5%
EUROSTOXX 50	4%
S&P 500	9 %
DOW JONES	4.5%

10-year Government bonds	
United Kingdom	0.8%
Germany	0.2%
France	0.5%
Italy	1.0%
United States	1.3%
Japan	0.3%

Considering that company Mandolino Ltd pays financial costs accordingly to the matching principle, what is the beta levered of Mandolino Ltd in 2022?

A. About 2.05

B. About 5.03

C. About 4.18

D. About 3.31

Solution:

D = E*D/E = 20,000 k

the company have fully paid its financial interests in their respective years, so cash flow for financial expenses = financial interests of 2022

kd = cash flow for financial expenses/D = 5.1%

ke = (WACC – kd * (1-t)*D/D+E) / (E/D+E) = 16.10%

rf = 0.2%

rm = 4%

bl = (ke/rf)/(rm/rf) = 4.18 → Option C

QUESTION 3A (2 points)

Recharger Ltd is a not listed company that produces batteries for cars and other vehicles. Some data concerning the company are listed in the followings (as of December 31st, 2021):

- Revenues: 150 M€
- EBIT: 26 M€
- Cash and cash equivalents: 3.10 M€
- Net Profit Margin: 8%
- Income tax rate: 40%
- D/E ratio (computed considering only Financial Liabilities): 0.6
- Total Assets: 174 M€

- Non-financial liabilities = 0

Recently, the shareholders of the company asked an equity advisor to estimate the total market value of their shares (i.e., the potential "market capitalization"). The value communicated by the advisor was 120 M€. Based on the available information, what is the Enterprise Value of the company?

A. 185.25 M€
B. 225.65 M€
C. 182.15 M€
D. None of the others

Solution:

	Correct	NFP = Equity - Cash	NFP = Fin Liab
E (Equity)	108.75		
D	65.25		
Net Financial Position (= D (Fin Liab) – Cash and cash equivalents)	62.15	105.65	65.25
EV	182.15	225.65	185.25

QUESTION 3B (2 points)

Still concerning Recharger Ltd: you also know that to estimate the value of the company the advisor used the P/E multiple. In the following table you will find some data concerning the initial set of possible comparable companies identified by the advisor:

	A	B	C	D	E
Market cap. [M€]	126	192	144	240	220
EBIT [M€]	30	25	20	90	40
EBITDA [M€]	42	34	28	115	48
Revenues [M€]	130	105	122	250	110
n. of shares [u]	1,000,000	2,000,000	1,500,000	3,000,000	500,000
EPS [€/u]	**???**	8.00	12.00	15.00	40.00
D/E ratio (i.e. Fin Liab/E)	0.75	0.63	0.57	1.2	0.70
Growth rate (computed on FCFE)	+7.8%	+8.5%	+9.2%	+1.1%	+6.1%

Based on the information available, which are the companies that can be considered really comparable to Recharger?

A. all the five companies
B. A+B+C+D
C. A+B+C+E
D. A+C+E

Solution:

By looking at size, risk exposure (measured through its proxy D/E) and growth rate values it is clear that the only company which is not comparable to Recharger is D So the set of comparable companies is made of A, B, C and E.

QUESTION 3C (2 points)

Following previous question: what is the value of EPS of company A?

A. 8.40 €/u
B. 14.00 €/u
C. 4.85 €/u
D. None of the others

Solution:

Based on information reported in part A, we can compute:

Net Profit = 0.08*150= 12 M€

P/E = 120/12 = 10

We know (from previous question) that the set of comparable companies is made of A, B, C and E. We can compute the value of P/E of B, C and E:

	B	C	E
P per share	96	96	440
P/E	12	8	11

So the value of P/E of A is:

10 = (X + 12 + 8 + 11)/4

X = 9

Then:

Net Profit (A) = 126/9 = 14 M€

EPS = 14,000,000/1,000,000 = 14 €/share

QUESTION 4 (2 points)

Being in the shoes of the Chief Financial Officer of a manufacturing company who is designing the management reporting system at the business unit level with the aim of maximizing the ability of the system of capturing "specific responsibility" of the BUs, how would you manage the corporate costs related to the salary of the Chief Executive Officer (CEO)? You know also that the CEO is not willing to produce any time sheet about how she is using her office time because she is largely dedicated to investor and stakeholder relationships.

A. You would recommend implementing a "no allocation" approach
B. You would recommend implementing a "complete allocation" approach
C. You would recommend implementing a "fee-based allocation" approach where the capacity is measured using BU revenues as a proxy
D. You would recommend implementing a "fee-based allocation" approach where the capacity is measured using BU full-time employees (FTE) as a proxy

Solution:

The corporate cost allocation method that fits more with the "specific responsibility" requirement is the "fee-based approach". However, because the CEO is not tracing the usage of her time, this method cannot be used. Revenues are not a reliable proxy of how the CEO uses her time. Additionally, revenues are usually used as the allocation basis in a "complete allocation" approach. The same arguments are valid for FTE as a proxy. The "complete allocation" method would fail to meet the specific responsibility requirement because the CEO uses a large part of her time for activities at the corporate level and the complete allocation approach would overestimate the costs for the Bus. In this situation, the best solution is to implement a "no allocation" approach even if you know that you would underestimate the costs incurred by the BUs. However, this underestimation would bias less the performance of the BUs rather than the overestimation through a complete approach.

QUESTION 5 (2 points)

The reporting system of Gamma Ltd relies on accounting-based indicators. Which one of the following sentences is correct?

A. The reporting system is properly designed for measuring performance of the responsibility centres of the company (revenues, cost, and expense centres), as it ensures high completeness which is particularly relevant for these organizational units

B. The reporting system is properly designed for measuring performance of the business units of the company, as it ensures high timeliness

C. The reporting system is properly designed for supporting decision-making at top management levels, as it ensures long-term orientation and completeness, though timeliness is low

D. None of the other answers is correct

Solution:

A. It is wrong: accounting-based indicators are not suitable indicators for measuring performance of responsibility centers and completeness is less relevant for responsibility centres than for other organizational units.

B. It is wrong: even if accounting-based indicators are suitable for measuring performance of business units, they are not timely

C. It is wrong: accounting-based indicators have a poor long-term orientation, which is required at top levels.

D. It is correct being all the others wrong.

QUESTION 6 (2 points)

Beta Ltd has two Business Units (BUs) that are not independent legal entities. The upstream BU operates in a crowded market with many direct competitors and offers basic products. The upstream BU sells these products also to the downstream BU. The upstream BU is working at full capacity with an ATR higher than 3 as a result of different plant efficiency strategies. Transaction costs are neglectable. The downstream BU competes in a niche market where it sells customized products based on the different needs of a limited number of customers; there is not a reference price; vice versa the price is negotiated differently for every customer. The downstream BU claims that its products are unique and there are no direct competitors.

Based on the information available, what transfer price (TP) method would you recommend for accounting for the exchanges between the two BUs?

A. Market-Based TP

B. Marginal standard cost plus mark-up TP

C. Dual TP

D. Full standard product cost plus mark-up TP

Solution:

You must focus your attention first on the product that is exchanged that is basic and sold by many other competitors. Second, the upstream BU is working at full capacity. This means that you should recommend a market-based TP. The upstream BU would not accept a TP lower than the price in the market and the downstream BU would not accept a TP higher than the price in the market.

Marginal standard cost plus mark-up TP should be preferred when the upstream BU has spare capacity.

Dual TP should be preferred when the downstream BU is not able to cover the market price and it is strategic for the corporate

Market-based TP should be preferred to full standard product cost plus mark-up TP when a market price is available and is sufficiently homogeneous.

QUESTION 7 (2 points)

M&H is a fast fashion apparel producer and retailer, competing in the low end (i.e. the cheapest segment) of the market.

Which indicators would you include in the company's performance measurement system?

A. Claim number, Time to market, Product range
B. Time to market, Product range, Degree of product customization
C. Price, Productivity, Time to market
D. Design quality, CO_2 emissions, delivery time

Solutions

A- WRONG: The company competes on low cost, low prices, and fast serving the market. Thus, quality and product range are not expected to be critical competitive drivers for the company.
B- WRONG: The company competes on low cost, low prices, and fast serving the market. Thus, product range and degree of product customization are not key competitive drivers for the company.
C- CORRECT: Considering that the company competes on low costs, low prices, and fast serving the market, price, productivity and time to market can be key indicators to monitor.
D- WRONG: The company competes on low cost, low prices, and fast serving the market. Emissions and design quality cannot be inferred to be relevant to a company competing on costs.

QUESTION 8 (2 points)

Company Zed is preparing an ambitious growth strategy based on acquisitions that imply huge capital expenditures during the next 5 years. Given the massive amount of money that the company is planning to invest, the executives are aware that the current financial resources are not enough to cover for planned investments. Select the most appropriate list of instruments and actions that the executive team should consider.

A. Line of credits, leasing, long-term debt.
B. Bond emission, mortgage, leasing.
C. Factoring, short-term debt, additional share capital emission.
D. Bond emission, long-term debt, additional share capital emission.

Solution:

A. WRONG: the company is planning to invest a lot of money to acquire other companies, thus line of credits are not an appropriate instrument since they cover for short term cash imbalances, also leasing is not appropriate since it finances acquisitions of physical assets.
B. WRONG: the company is planning to invest a lot of money to acquire other companies, thus leasing is not appropriate since it finances acquisitions of physical assets such as offices and cars, also mortgage is not appropriate.
C. WRONG: the company is planning to invest a lot of money to acquire other companies, thus factoring is not appropriate since it aims at improving the NWC of a company.
D. CORRECT

QUESTION 9 (2 points)

Violet is the parent company of a group and it holds participations in other companies, as detailed as follows:

- Violet owns the 60% of the shares of Company A
- Violet owns the 45% of the shares of Company B and is entitled to appoint the majority of the members of the board of directors of Company B
- Violet, Purple and Yellow have signed a joint arrangement, creating and jointly managing Company C
- Violet owns the 45% of the shares of Company D, whose remaining ownership is highly fragmented among a high number of shareholders, owning a very tiny share of equity
- Violet has a financial investment in Company E that amounts to the 5% of the equity of Company E. Violet has no additional rights or powers over Company E.

Which companies are subsidiaries of Violet?

A. A, B, D, E
B. A, B, C
C. A, B, D
D. A, B, C, D

Solution:

A. WRONG: Company E is not controlled by the company as Violet owns only the 5% of the shares.
B. WRONG: Company C is a joint venture, so it is not a subsidiary of Violet, and Company D is missing.
C. CORRECT: Company A is controlled as Violet has the majority of the shares, Company B is controlled as Violet has a significant share of the equity of the company and it has also the power to appoint the majority of the board members, Company D is controlled as Violet is the only company that owns a significant share of the equity of Company D while the rest of the ownership is highly diluted.
D. WRONG: Company C is a joint venture, so it is not a subsidiary of Violet.