NOVA
NOVA SCHOOL OF BUSINESS & ECONOMICS

1202 – Management Accounting

Fall 2020/2021

Final Exam

December 18th, 2020 **Length: 2h 30m**

Student Name:____

Student Number:______________________ Class:_______________________

DIRECTIONS:

The questions must be answered in the space provided in the exam sheets.
You are required to keep the answer sheets stapled.
Close-book exam. Only basic or scientific calculators allowed.
Use 4 decimals in the intermediate calculations.

QUESTION 1 – MULTIPLE CHOICE

(5 marks)

- You are required to **show the supporting calculations** to numerical questions, otherwise it will **not be marked**.
- Unclear answers will not be marked.
- There is only one correct answer to each question. No penalties for wrong answers.

1. BeEvents is a specialized event planning company. The following information about the company is known:

	Corporate events	**Weddings**	**Other private events**	**Total**
Number of events	28	40	16	84 events
Number of attendees	5 076	3 574	2 150	10 800 people
Revenues	68 000 €	32 000 €	23 000 €	123 000 €
Hours of preparation	320 h	150 h	130 h	600 hours
Hours of events	150 h	200 h	70 h	420 hours
Direct Costs	15 200 €	15 200 €	7 600 €	38 000 €
Indirect Costs	?	?	?	50 000 €

If the company allocates its indirect costs proportionally to the number of attendees, what is the total cost of Corporate Events?

a) 38 700 €
b) 23 500 €
c) 15 200 €
d) 20 000 €
e) None of the others

Answer: A

2. PABLO PICLAYSSO Ltd. is a company that imports and sells a rare type of clay called 'Granho12', which is sold in the sculpting market. In 2019, the company decided to create its own sculpting division.

   The 2019's P&L by Function is the following:

	Granho12	**Sculpting Division**	**Total**
+ Sales	46 200 €	12 500 €	58 700 €
- Cost of goods sold	27 720 €	8 500 €	36 220 €
= Gross profit	**18 480 €**	**4 000 €**	**22 480 €**
- Selling and Administrative costs			17 200 €
= Operating profit			**5 280 €**

   Knowing that the C.M.S.M.U. in the P&L according to Financial Accounting for the same year is 30 800 €, what was the usage of materials in the Sculpting Division?

   a) 3 080 €
   b) 8 500 €
   c) 22 720 €
   d) 22 300 €
   e) None of the others

Answer: A

3. Juice&Sun sells two types of juices: Orange Juice and Papaya Juice.

The following information was collected regarding year N:

	Orange Juice	**Papaya Juice**	**Total**
Sales (€)	50 000	65 000	115 000
Cost of merchandises sold (€)	30 000	45 000	75 000
Return of empty bottles (nº of bottles)	12 500	10 000	22 500
Number of purchase orders	15	20	35
Hours of customer service	1 000	500	1 500

Activity	**Cost driver**	**Total costs (€)**
Bottles' return	Number of bottles	?
Orders made	Number of purchase orders	1400
Customer service	Number of hours of customer service	7500

Knowing that the Operating Profit for Papaya Juice is 14 700€, what is the value of the total cost of the activity "Bottles' return"?

a) 4 500€

b) 3 600€

c) 105 750€

d) 41 700€

e) None of the above

Answer: A

4. Plastex Company, Inc. is considering purchasing a new machine to replace another acquired four years ago for 40 000 €. Although the existing machine continues operational, the president is considering purchasing a new machine recently launched on the market that is operated electronically and involves lower maintenance costs.

The information collected on the two machines is the following:

	Old Machine	**New Machine**
Purchase value	40 000€	60 000€
Years of useful life at the acquisition date	10 Years	6 Years
Accumulated depreciation	16 000€	-
Annual cost to operate the machine	25 000€	19 000€
Value of current disposal	18 000€	-
Disposal value in 6 years	-	18 000€

Using only relevant costs in your analysis for a period of six years, you can conclude that:

a) The Company should purchase the new machine, because it will allow an additional profit of 18000€ (for the 6 years)
b) The Company should purchase the new machine, because it will allow an additional profit of 12000€ (for the 6 years)
c) The profits will be the same, whatever the decision.
d) The Company should not purchase the new machine, because it will allow an additional profit in 18 000€ (for the 6 years)
e) None of the other options

Answer: B

5. Note that this question includes 3 sub-questions, together they are worth as much as one of the previous (1 mark).

5.1. Traditional costing systems:

a) Are usually adequate when direct costs were the dominant costs in the organisation

b) lead to higher product costing accuracy

c) in the first stage, assign overheads to activity cost centers

d) are always adequate

e) none of the above is correct

Answer: A

5.2. Which of the following statements about Financial Accounting and Management Accounting is incorrect?

a) P&L by function and P&L according to financial accounting always need to provide the same profit before taxes for the year

b) In financial accounting companies can decide to use between any alternative costing system

c) Management accounting is advisable in large organisations

d) Management accounting provides detailed and specific economic information for decision-making

e) All of the above are correct

Answer: B

5.3. When a company operates with a high operating leverage, the company has:

a) High operating costs

b) Low variable costs and high fixed costs

c) High variable costs and low fixed costs

d) Low volatility in profits and therefore, low risk

e) None of the above

Answer: B

QUESTION 2
(5 marks)

Cookielicious is a company that produces two different types of cookies: Oat cookies and apple cookies. The following P&L account by function was prepared for the month of November adopting Variable Costing:

Description	Oat cookies	Apple cookies	TOTAL
1- Sales	297 500	200 000	497 500
2- Cost of Sales	85 000	80 000	165 000
3- Gross Profit	**212 500**	**120 000**	**332 500**
4- Non-manufacturing variable costs	17 000	6 000	23 000
5- Contribution Margin	**195 500**	**114 000**	**309 500**
6- Fixed costs			
-Manufacturing			78 750
-Non-manufacturing			25 000
7- Operating Profit			**205 750**

Product movements:

	Oat cookies	Apple cookies
Opening stocks	0	0
Production	90 000 packages	45 000 packages
Sales	85 000 packages	40 000 packages

Production based on practical capacity:

- 90 000 packages/month for Oat cookies
- 50 000 packages/month for Apple cookies

The cost of goods manufactured per unit for each type of cookies, using total full costing system, is:

- Oat cookies: 1.5€ / package
- Apple cookies: 2.75€ / package

1- Prepare the P&L Account using full costing based on practical capacity.

Description	Oat cookies	Apple cookies	TOTAL
Sales	297 500	200 000	497 500
COGS	127 500	107 000	234 500
Gross Profit	**170 000**	**93 000**	**263 000**
Non-manuf. Variable costs	17 000	6 000	23 000
Manufacturing fixed costs	0	3 375	3 375
Non-manuf. Fixed costs	0	0	25 000
Operating Profit	**-**	**-**	**211 625**

2- Drawing on the manufacturing fixed costs, explain the difference in profits generated by the two different costing systems (variable and full costing based on practical capacity).

Difference in profit = 205 750 – 211 625 = -5 875 €

	Variable Costing		**FCPC**	
	Oat cookies	**Apple cookies**	**Oat cookies**	**Apple cookies**
Fixed costs considered in COGS	0	0	42500	27000
URO	45000	33750	0	3375
TOTAL	45000	33750	42500	30375

3- Calculate the break-even point in units for each type of cookies.

BEP_{total} un = 41 903

	Oat cookies	Apple cookies
Sales Mix	68%	32%
BEP for each type of cookies	28 494	13 409

QUESTION 3
(3 marks)

The **Plastic Company** is organized to sell Product J in several markets. The Company manufactures product J with a yearly installed production capacity of 240 000 units. The domestic demand for product J is 190 000 units. External demand consists of a single company, which has contracted an agreement for 70 000 units annually. Every year the company can renew or not the contract.

The variable manufacturing costs for Product J are 17.5€ per unit.
Total fixed costs are 60 000€.
Only when selling externally, the Plastic Company has to support selling costs of 2€ per unit sold.
The selling price in the internal and external market is the same.
All the purchases and sales are constant throughout the year.

If Plastic Company renews the contract for next year, there will be a positive change in profit with the amount of 35 000€, compared with the alternative of not renewing the contract. If the contract is renewed, Plastic Company needs to supply all the quantities to the external client.

a) What is the current unit selling price? Justify all values that support your answer.

SP = 21€

Now imagine that an additional customer in the domestic market, made a proposal to acquire 20 000 units from the company. However, as the customer is afraid of disruption in supply, it demanded from Plastic Company to rent a warehouse in front of his factory. The annual cost is 10 000€, supported by Plastic Company.

b) Knowing that purchases and sales are constant throughout the year and the unit market selling price is 23€, do you think that Plastic Company should renew the contract (with the client of the external market), for next year? Justify all values that support your answer based on the concept of relevant costs and without doing any P&L.

Should renew the contract.

c) Do you agree with the following sentence: «The contribution margin at the break-even point plus total fixed costs equals total revenues»? Why? [use a maximum of 6 lines in your answer]

Do not agree. At BEP, CM = Fixed costs

QUESTION 4
(3.5 marks)

Electra Company is a high-technology organization that produces a specific electronic component (called 'Beta', for simplification).

The company is preparing the annual budget for year N+1 and it has available the following information:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Sales (in units)	60 000	65 000	75 000	90 000	290 000

• Selling price: 40€ per unit. The company charges VAT on sales at a rate of 20%.
• All sales are credit sales. Electra collects 80 percent of all sales within the quarter in which they are realized; the other 20 percent are collected in the following quarter.
• Fourth quarter sales for year N are 55 000 units.
• There is no beginning inventory of finished goods. Production for the year is as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Production (in units)	73 000	67 000	80 000	80 000	300 000

• Each unit of Beta requires 2 hours of direct labor and 3 units of direct materials. Direct labor is paid 3€ per hour, and one unit of direct materials costs 5€.

• Opening stocks of direct materials in January 1, year N+1 amount to 65 700 units. At the end of each quarter, Electra plans to have 50% of the materials needed for next quarter's units produced. Electra will end the year with the same level of materials found in this year's beginning inventory.

• Fourth quarter purchases for year N are 100 000 units.

• One-half of the materials' purchases is paid for in the quarter of acquisition, and the remaining half is paid for in the following quarter. The company supports VAT on direct materials purchase at a 20% rate.

• Wages and salaries are paid for in the quarter incurred.

• Fixed manufacturing overheads totals 100 000€ each quarter. Of this, 20 000€ represents depreciations. Fixed expenses are paid for in cash in the quarter incurred.

• Company's activity is regular within each quarter.

• The company calculates the difference between VAT charged to customers and VAT supported in direct materials' purchases on a monthly basis.

• Payment terms to State (VAT) = 60 days.

a) Prepare the Direct Materials Usage Budget (in units) and the budgeted direct materials closing inventory (in units) for year N+1;

Description:	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Opening Inv.	65 700	100 500	120 000	120 000	65 700
Purchases	25 3800	220 500	240 000	185 700	900 000
Consumption	219 000	201 000	240 000	240 000	900 000
Closing Inv.	100 500	120 000	120 000	65 700	65 700

b) Prepare the Cash Budget (only for 1st and 2nd Quarters of year N+1) ;

Description:	1st Quarter	2nd Quarter
Receipts:		
Sales	2 832 000 €	3 072 000 €
Payments:		
Purchases	1 061 400 €	1 422 900 €
Direct Labour	438 000 €	402 000 €
Fixed Manufacturing Overheads	80 000 €	80 000 €
VAT	302 067 €	250 633 €
Total Payments	1 881 467 €	2 155 533 €
«Cash» Balance	950 533 €	916 467 €

c) Knowing the Electra uses the Total full Costing, prepare the Budgeted Gross Profit for year N+1.

Sales	11 600 000,00 €
COGS	6 476 666,67 €
Gross Profit	5 123 333,33 €

QUESTION 5
(3.5 marks)

The accounting period has ended and the controller of FreshSocks has provided the following information:

	Budgeted P&L	Flexible Budget	Actual P&L
Sales Volume	**12 500**	**A)**	**12 000**
Sales	100 000 €	**B)**	106 000 €
Direct Materials	25 000 €	24 000 €	22 140 €
Conversion Costs	12 000 €	**C)**	12 000 €
Contribution Margin	**63 000 €**	**D)**	**71 860 €**
Fixed Costs	54 000 €	**E)**	55 000 €
Operating Profit	**9 000 €**	**F)**	**16 860 €**

- Budgeted usage of Direct Materials: 2 units of DM/finished good.

a) Calculate the missing values in the Flexible Budget and write them in the table below:

A)	12 000
B)	96 000
C)	11 520
D)	60 480
E)	54 000
F)	6 480

b) Compute the Sales Margin Volume Variance and provide one possible reason this variance:

SMVV = -2 520 UNF

Unexpected decrease in demand due to covid-19 crisis.

c) Knowing that the direct materials usage variance was unfavourable by 600€, what was the actual purchasing price of each unit of direct materials?

Actual price = 0.9€/un