Item 1

Welcome to the Management Accounting Exam,

The exam, which lasts for 120 minutes, is composed of **6 parts**, comprising multiple choice questions and numerical questions.

The exam has a **hybrid format**: all **questions are on Wiseflow**, answers to **multiple choices must be on Wiseflow**, while **numerical questions** should be solved **on paper**. In some numerical questions, you're asked to input your results in Wiseflow. Please follow the instructions in each question.

Multiple choice questions **include a penalty for wrong answers** (-0.2), but no justification is required. For each question, there is **one and only one correct answer**.

> **You will be provided with 4 answer sheets. Insert your Student ID in all Sheets. Solve each Group (3, 4, 5, 6) in separate paper sheets. Use black or blue pen. Use the back of each answer sheet for draft purposes if needed.**

You are required to **show the supporting calculations** to numerical questions, otherwise, they will **not be marked**. In intermediate calculations, if needed, **round to 4 decimals.**

Unclear answers will not be marked.

The exam is **closed-book** and **only basic or scientific calculators** are allowed. Bathroom visits are not allowed. Make sure your phone and smartwatches are **turned off** and **away from you. Fail to comply with such procedures will result in your exam being invalidated immediately**.

You are expected to comply with Nova SBE's Code of Honour. **Unethical behaviour will not be tolerated.**

Best of luck!

Management Accounting Teaching Team

Teaching Team Tip: You can freely navigate back and forward, avoid getting stuck into questions :).

Do not write anything

Calculator

[each 1 Point, -0.2 if incorrect]

1.1) **WhiskerWorks Co.**, a cookware manufacturer, which uses **FIFO**, has shown the following data regarding year N:

Inventory	Opening	Closing
Of finished goods	60 000 €	?
Of work in progress goods	50 000 €	?
Total	**110 000 €**	**?**

Manufacturing Costs	Selling Costs	General Costs	Financial Costs
550 000 €	40 000 €	50 000 €	30 000 €

Movements in Finished Goods	Units
Production	50 000
Sales	52 000
Closing Stock	3 000

- Cost of Goods Manufactured (COGM): 571 000 €
- Selling Price: 15 €

In year N, the Change in inventories in the Profit and Loss Account (P&L) according to Financial Accounting is:

- [ ] - 46 740 €
- [ ] - 21 000 €
- [ ] - 25 740 €
- [ ] - 45 000 €
- [ ] None of the others

1.2) Which statement is true about **low** operating leverage businesses?

- [ ] Most costs are fixed, leading to high profit volatility.
- [ ] Most costs are fixed, leading to low profit volatility.
- [ ] Most costs are variable, leading to high profit volatility.
- [ ] Most costs are variable, leading to low profit volatility.

1.3) As a management consultant, you have been tasked with recommending companies where an Activity-Based Costing (ABC) system should be implemented. After conducting preliminary research, you have gathered data on four potential manufacturing firms with distinct characteristics, described below:

Prime Cost Share: Prime Costs as a % of the total COGM

Volume Mix : Distribution of volumes across products (i.e. Balanced: all products have nearly the same volume, Unbalanced: high volume products and low volume products)

Firm Name	Fendrix	Zenthos	Vireon	Lunex
Prime Cost Share	Low	High	Low	High
Volume Mix	Unbalanced	Balanced	Balanced	Unbalanced

Which firm will most likely extract the most benefits of implementing ABC?

- [ ] Fendrix
- [ ] Zenthos
- [ ] Vireon
- [ ] Lunex

Item 3

▦ Calculator

[each 1 Point, -0.2 if incorrect]

BoltCraft Industries produces specialized high precision bolts for aircraft fuselage assembly. These high-precision bolts are crafted using premium-grade titanium, in a complex machining process. These bolts have been in high demand: sales in November were 18% higher than the original forecast of 10 000 units. Consider the information below from November:

Budget P&L	10 000 Units
Sales	125 000 €
Direct Materials	15 000 €
Direct Labor	6 000 €
Contribution Margin	**104 000 €**

Actual P&L	11 800 Units
Sales	141 600 €
Direct Materials	21 560 €
Direct Labor	10 800 €
Contribution Margin	**109 240 €**

2.1) What was the impact in profit attributable to changes in sales volume?

- ☐ 18 720 €
- ☐ 10 630 €
- ☐ 16 600 €
- ☐ 22 500 €
- ☐ None of the others

2.2) Knowing that **750 units of Direct Materials** were **initially budgeted**, and the **direct materials efficiency variance is unfavourable in 1 900 €**, what is the **actual price per unit of direct materials** consumed in November, rounded to euros?

- ☐ 22 €
- ☐ 20 €
- ☐ 24 €
- ☐ 27 €
- ☐ None of the others

2.3) Knowing that the direct labor **efficiency variance was unfavourable in 1 920 €**, what was the **direct labor price variance**?

- ☐ 1 800 € Adverse
- ☐ 1 800 € Favorable
- ☐ 2 880 € Adverse
- ☐ 2 880 € Favorable
- ☐ There is not enough information
- ☐ None of the others

Item 4

Calculator

[4 Points]

NovaBites is a Portuguese manufacturer of snacks. Currently they produce potato chips and roasted peanuts sold in individual bags. The P&L for the year, respective units sold, and the oven-time per bag are presented below:

P&L Year N	**Chips**	**Peanuts**	**Total**
Sales	45 000 €	180 000 €	225 000 €
Cost of Sales	24 200 €	70 800 €	95 000 €
Gross Margin	**20 800 €**	**109 200 €**	**130 000 €**
Non-Manufacturing Variable Costs	2 800 €	1 200 €	4 000 €
Contribution Margin	**18 000 €**	**108 000 €**	**126 000 €**
Under-recovery of Overheads			36 000 €
Non-Manufacturing Fixed Costs			34 560 €
Operating Profit			**55 440 €**

Units Sold	12 500	37 500	50 000
Oven-hours per bag	1	0.75	

3.1) What is the break-even point revenue of **Peanuts**, assuming the current sales mix?

ANSWER ON PAPER

3.2) Juan Feliz, the marketing director of **NovaBites** , has been exploring the possibility of introducing a new product: caramelized almonds. Consider the information below:

- The firm utilized **all the capacity available this year** and **no expansions are foreseen**.
- The demand for almonds is estimated to be **8 000 bags**.
- The expected oven-hours per bag of almonds is **0.4 hours**.
- The introduction of almonds will have **no impact in fixed costs**.
- The expected variable cost per bag of almonds is **3 €**.
- The marketing department **has spent** over **50 000 €** in **R&D**, crafting the perfect recipe and production process.

What is the **minimum selling price** for launching the caramelized almonds, assuming the firm will meet the full demand?

ANSWER ON PAPER

Item 5

Calculator

[3 Points]

HappyView Manufacturing specializes in producing high-quality glassware, including vases, cups, and decorative items. The company operates several departments:

- **Molding** (Mh as unit of work), where raw glass is shaped into various forms.
- **Finishing** (Lh as unit of work), where the items are polished, engraved and packed.
- **Maintenance** (Lh as unit of work), that ensures the maintenance of all production equipment.
- **Cleaning** (Lh as unit of work), that cleans the factory.
- **Quality** , that ensures operational excellence across all departments. These costs are allocated first to all other departments proportionally to the number of employees.

Consider the information below for the month of November**:**

Manufacturing costs directly assigned to each homogeneous cost pool:

	Molding	Finishing	Maintenance	Cleaning	Quality
Direct Costs	205 000 €	50 000 €	40 000 €	20 000 €	10 000 €
Employees	25 Emp	45 Emp	10 Emp	20 Emp	5 Emp

Activities of the homogeneous cost pools

Users/Suppliers	Maintenance	Cleaning
Molding	300 Lh	50 Lh
Finishing	80 Lh	30 Lh
Maintenance	-	20 Lh
Cleaning	120 Lh	-
Total	**500 Lh**	**100 Lh**

4.1) Knowing that the Molding and Finishing Departments have worked 1 200 Mh and 4 000 Lh, respectively, compute the Departmental Overhead Rates for HappyView Manufacturing using the **Sequential Method**.

ANSWER ON PAPER

Calculator

[4 Points]

The **Inclined Company** is a manufacturer of hiking bags. Concerning the month of November, the following information is known:

Inventory

Finished Goods	Units
Opening stocks	0
Sales	7 500
Closing stocks	500

Non-manufacturing costs (NMC)

- Fixed: 30 000 €
- Variable: 25 000 €

Other information:

- The unit selling price is 50 €
- The Contribution Margin is 200 000 €
- The COGM per unit under Total Full Costing is 28.75 €

5.1) Determine the **Manufacturing Variable Costs and the Manufacturing Fixed Costs** of Inclined Company in November.

ANSWER ON PAPER

5.2) Knowing that the difference in profits between variable costing and full costing based on practical capacity is **– 5 000 €**, determine the **Practical Capacity** of the firm.

If you couldn't complete 5.1, assume a unit manufacturing variable cost of 30 € and total manufacturing fixed costs of 65 000 €.

INSERT YOUR ANSWER ON WISEFLOW, PRESENT CALCULATIONS ON PAPER

5.3) Fill the P&L under Full Costing Based on Practical Capacity presented below. **Round values to units**, do not insert any whitespaces, and costs should be represented **without** negative signs.

*If you couldn't complete **5.1** **<u>OR</u>** **5.2 without assumptions**, assume a unit manufacturing variable cost of 30 €, total manufacturing fixed costs of 65 000 € and a practical capacity of 5 000 units.*

INSERT YOUR ANSWER ON WISEFLOW, PRESENT CALCULATIONS ON PAPER

P&L FCPC	November
Sales	
COGS	
Gross Profit	
______ -recovery of Overheads	
NMC	
PBT	

[3 Points]

PapaiCris, Ltd. is a football merchandising company that buys and sells one single football. The company is preparing its annual budget for 2025, having collected the following information:

Balance Sheet as of **31st December 2024**

ASSETS	
Property and Equipment	800 000 €
Accumulated depreciation	-60 000 €
Merchandise Inventory	18 200 €
Receivables from Clients	15 375 €
Cash	7 000 €
Total Assets	**?**

EQUITY	?
LIABILITIES	
Payables to Suppliers	10 655 €
VAT Payable to Government	18 560 €
LT Bank Loan	400 000 €
Interest Payable	12 000 €
Total Equity + Liabilities	**?**

Budgeted Profit and Loss Account **2025**

P&L Budgeted	2025B
Sales Revenues	187 500 €
COGS	90 000 €
Gross Profit	**97 500 €**
S, G&A Costs	26 500 €
Financial Expenses	**A**
PBT	**?**

Collections and payments policy

- **Sales** collection period: **30 days**
- **Suppliers**' payment period: **45 days**
- Selling, general and administrative costs are **paid in the month they occur**.
- The difference between VAT collectible from clients and VAT payable to suppliers is calculated on a monthly basis and **delivered to the state 60 days later**.
- Activities (sales and purchases) are regular **all year around**, i.e. **all months look the same**.
- Assume all **months have 30 days**.
- **Sales and purchases** of merchandise are subject to **VAT at a rate of 20%**.
- Annual depreciation expense: 5 500 €.

Financial policy

- On July 1, 2023, the company obtained a **5-year long-term loan** of 500 000 €, to be repaid in **5 equal instalments**, **paid annually on July 1st**.
- The **long term loan** bears a **6% annual interest rate**, **paid annually** together with the instalments.
- The firm has a **minimum cash requirement of 5 000 €** at the end of each semester.
- The firm might borrow short term funds at the beginning of the semester, at an **8% annual interest rate**, **paid in the beginning** of the following semester.
- Short term borrowings can **only be done in multiples of 1 000** (2 000, 3 000…).
- There are **no short-term investments**.

Other information

- Budgeted selling price: 25 €
- Budgeted merchandise purchasing price: 12 €
- Opening inventory of merchandise 2025: 1 300 units

- Budgeted Closing inventory of merchandise year 2025: 2 800 units (36 200 €)

6.1) Complete the cash budget for 2025, that is presented below.

INSERT YOUR ANSWER ON WISEFLOW ROUNDED TO UNITS, PRESENT CALCULATIONS ON PAPER

Cash Budget	1st Semester	2nd Semester
Receipts		
From Sales	?	Insert here
Payments		
From Purchases	Insert here	64 800 €
From SG&A	10 500 €	Insert here
VAT to Government	Insert here	?
Operating Cash Balance	**15 510 €**	**29 250 €**

6.2) Considering all the information provided, including the cash budget, what is the value of:

- Financial Expenses in the P&L 2025 (**A**)
- Interest Payable in the Balance Sheet as of **31st December 2025**
- Loans (Long + Short Term) in the Balance Sheet as of **31st December 2025**

INSERT YOUR ANSWER ON WISEFLOW ROUNDED TO UNITS, PRESENT CALCULATIONS ON PAPER

Financial Expenses:

Interest Payable as of 31st December 2025:

Loans as of 31st December 2025: