		ISCTE 🛇 Business School Instituto Universitário de Lisboa	
		MANAGEMENT ACCOUNTING I	
		2nd Mid Test School Year 2013/2014 Undergraduation in Management	
	14 May, 2014		Time: 75 minutes
Сог	ırse	Class	

Name_

___No. _____

Attention:

1 – You must keep this test stapled. You have to deliver it with the test sheet.

2 – The answers are only considered correct if duly justified by the calculations.

PART I (Based on this test sheet answer the questions 1 to 5 inclusive)

Byproducts company markets four products it obtains in a production process with the following characteristics:

- At a first stage of the process, the raw material 'M1' is cleaned and prepared in a section 'Preparation'. After that it is converted in the section 'Production1' where an intermediate product A1 and a by-product S are obtained.
- Then the intermediate product A1 is converted in the section 'Production 2', where the intermediate product A2 is obtained, as well as the Final Product B and the by-product Z. This by-product Z is packed in the section 'Packing' before being sold. The material 'M2'is added to the intermediate product A2 and the Final Product A is obtained after conversion in the section 'Production 3'.

Regarding March of the year N, the company registered the following data :

Production and Sales

	Production (tons)	Sales (tons)	Selling Price (€)
Product A	30 000	25 000	21.5
Product B	15 000	10 000	16.5
By-product S	3 000	3 000	6
By-product Z	1 500	1 200	5

Materials Consumption: M1 57 640 € M2 40 150 € Conversion Costs: Section Preparation 10 000 € Section 'Production 1' 20 000 € Section 'Production 2' 15 000 € Section 'Production 3' 26 000 € Section 'Packing' 2 000 € Selling (Distribution) Expenses: 2% on the sales of Product A, Product B and By-product S. Variable: 2€ per ton of By-product Z 250 000 € Fixed Administrative Expenses: Fixed 150 000 €

Additional Data:

There were neither opening stocks of finished products nor of products in progress.

PART II (Based on this test sheet answer the questions 6 to 15 inclusive)

SUN company produces and markets the product A, using a production process with the following characteristics:

The raw material M1 is converted in section I and the intermediate product A1 is obtained. The
material M2 is added to this intermediate product A1 and both are converted in section II. Then the
product A is obtained and stored in the finished products warehouse.

Regarding May of the year N, the following data are known:

a) Costs (in euros) and activity of the sections

	SI	SII	SIII	SIV	FPW
Direct costs	15 000	10 000	4 000	5 800	3 300
Activity	4 000 Lh	3 200 Mh	800 Lh	-	

- Section III worked 360 Lh for section I, 240 Lh for section II and 200 Lh for the FPW.
- The costs of section IV are allocated to the other manufacturing sections according to the respective direct costs;
- The finished products warehouse is allocated to the quantities produced of the product A.
- b) Stocks variation
 - b1) Raw materials

	RM M1	RM M2
Opening stocks	120 tons at 52 €/ton	-
Purchase	900 tons at 50 €/ton	700 tons at 25 €/ton
Closing stocks	180 tons	100 tons

b2) Products

	Intermediate product A1	Product A
Opening stocks	40 Units at 105 €/Unit	100 Units at 164 €/Unit
Production	600 Units	600 Units.
Sales	-	560 Units at 240 €/Unit
Consumption	?	-
Closing stocks	40 Units	140 Units

c) Monthly selling (distribution) expenses

Variable: 2.5 % on the sales value of A

Fixed: 15 000 €

SUN company uses the absorption costing system and FIFO as a valuation criterion for the stock outputs.

Course	Class		
Name		No.	

PART I (Based on this test sheet answer the questions 1 to 5 inclusive) Each correct answer is 1.2 marks

Questions	Solution
1. The joint costs to allocate to the intermediate product A1 are:	Joint Costs at the 1st Split-off Point.: Cons M1 + Prep + Prod1 = 57 640 + 10 000 + 20 000 = 87 640 €
 a) 50 000 € b) 70 000 € c) 69 700 € d) None of the previous ones 	Joint Costs of the By- product S (Profit Nil) = $(3\ 000\ x\ 6)$ – 3 000 x 6 x 0.02 = 18 000 – 360 = 17 640 € Joint Costs of the interm. product A1 = 87 640 – 17 640 =
u) None of the previous ones	$70\ 000\ €$
2. Assuming that the joint costs to allocate to the intermediate product A1 were 100 000 €, the joint costs to allocate to the main products are:	Joint Costs at the 2nd Split-off Point: 100 000 + Prod 2 = $115\ 000 \in$
 a) 97 500 € b) 110 500 € c) 112 500 € 	Joint Costs of the By-product Z (Profit Nil) = 1500 x 5 – Packing – Var. Selling (Distribution) Costs = 7 500 – 2 000 – 3 000 = 2 500 €
d) None of the previous ones	Joint Costs to allocate to the main products: 115 000 = 2 500 € =112 500 €
3. Assuming that the joint costs to allocate to the by-product Z were 5 000 €, the unit MCFP of the by-product Z was:	MCFP = Manuf. Joint Costs + Spec. Manuf. Costs = $5\ 000 + 2\ 000 = 7\ 000 \notin$ Unit MCFP = $7\ 000 \notin / 1\ 500 = 4\ 66\ (6) \notin$
 a) 3.33 €/Ton b) 4.66 €/Ton c) 6.66 €/Ton d) None of the previous ones 	

Questions	Solution
 4. Assuming that the joint cost to allocate to the co-products were 120 000 €, the Unit MCF of the 'Product A', using the Net 	Net Realizable Value (Prod A) = Potential Sales Value – Spec. Manuf. Costs – Spec. Non-manuf. Costs = 645 000 – 66 150 – 12 900 = 565 950 €
Realizable Value Method, would be:	Net Realiz. Value (Prod B) = $PSV - Spec.Manuf. Costs - Spec.Non-Manuf. Costs = 247 500 - 0 - 4 950 = 242 550$
 a) 5.005 €/Ton b) 2.8 €/Ton 	Joint Costs to allocate to the Co-product A = 565 950 / (565 950 + 242 550) x 120 000 = 0.7 x 120 000 = 84 000 €
c) 5.435 €/Tond) None of the previous ones	MCFP = Manuf. Joint Costs + Spec. Manuf. Costs = 84 000 + 66 150 = 150 150 €
	Unit MCFP = 150 150 € / 30 000 tons = 5.005 €/ton
5. Assuming that the joint costs to allocate to the co-products were 120	Joint Costs to allocate: 120 000 x 0.3 = 36 000 €
000 € and that, using the Net Realizable Value Method, 30% of	MCFP = Manuf. Joint Costs+ Spec. Manuf. Costs = $36\ 000$ + $0 = 36\ 000$ €
those costs are allocated to the 'Product B', the Gross Profit of the	
'Product B' would be:	Unit MCFP = 36 000 € / 15 000 tons = 2.4 € / ton.
 a) 141 000 € b) 217 500 € 	Gross Profit : 10 000 x (16.5 – 2.4) = 141 000 €
 c) 137 700 € d) None of the previous ones 	
d) None of the previous ones	

PART II (Based on this test sheet answer the questions 6 to 15 inclusive)

Each correct answer is 1.2 marks

Questions	Solution
 6. The work unit of SIII is: a) 6 €/Lh b) 5 €/Lh c) 5.2 €/Lh d) None of the previous ones 	WU (SIII) = (4 000 + AU S4 x 4 000) /800 Lh = (4 000 + 0.2 x 4 000)/800 Lh = 4 800/800 Lh = 6 €/Lh AU S4 = 5 800/ (15 000+10 000+4 000) = 0.2
 7. Assuming that the Work Unit of SIII is 6 €/Lh, the costs of FPW to allocate to the product A are: a) 3 300 € b) 4 500 € c) 1 200 € d) None of the previous ones 	FPW= 3 300 + 200 Lh x 6 = 4 500 €
 8. Assuming that the Work Unit of SIII is 5 €/Lh, the Work Unit of SI is: a) 4.95 €/Lh b) 4.5 € /Lh c) 4.2 € /Lh d) None of the previous ones 	WU SI= (15 000 + 5 x 360 Lh + 15 000 x 0.2)/ 4 000 Lh = (15 000 + 1 800 + 3 000)/ 4 000 Lh = 19 800/4 000 Lh = 4.95 €/Lh
 9. Assuming that the WU of SI is 4.5€/Lh, the MCFP of the intermediate product A1 is: a) 63 000 € b) 60 240 € c) 60 000 € d) None of the previous ones 	$MCFP = RM + CC = 42\ 240 + 18\ 000 = 60\ 240 \notin$ RM consumed = 120 x 52 + 720 x 50 = 42\ 240 \notin CC = 4.5 \mathcal{C} x 4 000 Lh = 18 000 \mathcal{E}

10. Assuming that the unit MCFP of A1 is 100 ϵ , the value of the consumptions of materials and of the intermediate product A1 for the product A is:Consumptions of M2 = 600 x 25 ϵ = 15 000 ϵ Consumptions of A1 = 40 x 105 ϵ + 560 x 100 ϵ = 60 200 ϵ Total of the consumptions = 15 000 + 60 200 ϵ = 75 200 ϵ b) 60 200 ϵ c) 75 000 ϵ d) None of the previous ones	C	Solution
	ssuming that the unit MCFP of $(0, 100) \in \mathbb{C}$, the value of the mptions of materials and of the mediate product A1 for the and is: 200 \notin 200 \notin 200 \notin ne of the previous ones	Consumptions of M2 = 600 x 25 € = 15 000 € Consumptions of A1 = 40 x 105 € + 560 x 100 € = 60 200 € Total of the consumptions = 15 000 + 60 200 € = 75 200 €
11. Assuming that the Work Unit of section SII is $3.95 \notin /Mh$, the total of the conversion costs to allocate to product A are:CC = SII + FPW = $3.95 \times 3\ 200\ Mh + (3\ 300 + 200\ Lh \times 12\ 640\ +4\ 500\ = 17\ 140\ €$ a) $13\ 840\ €$ b) $15\ 940\ €$ c) $17\ 140\ €$ d)d) None of the previous ones	ssuming that the Work Unit of n SII is $3.95 \notin /Mh$, the total of onversion costs to allocate to ict A are: $840 \notin$ $940 \notin$ $140 \notin$ ne of the previous ones	CC = SII + FPW = 3.95 x 3 200 Mh + (3 300 + 200 Lh x 6 €) = 12 640 +4 500 = 17 140 €
12. In the previous assumptions, if the FPW were allocated to the quantities of A sold and if the company adopted LIFO, the MCFP of A would be:MCFP = $RM + CC = 75\ 000 + 12\ 640 = 87\ 640\ \in$ Consumptions of materials and of intermediate product = $x\ 25 + 600\ x\ 100 = 15\ 000 + 60\ 000 = 75\ 000\ \in$ CC = $3.95\ x\ 3\ 200\ Mh = 12\ 640\ \in$ CC = $3.95\ x\ 3\ 200\ Mh = 12\ 640\ \in$ a) 87 640 \in b) 72 640 \in c) 77 500 \in CC = $3.95\ x\ 3\ 200\ Mh = 12\ 640\ \in$ a) None of the previous onesA sold and if the previous ones	a the previous assumptions, if FPW were allocated to the ities of A sold and if the any adopted LIFO, the MCFP vould be: $640 \in$ $640 \in$ $500 \in$ ne of the previous ones	MCFP = RM + CC = 75 000 + 12 640 = 87 640 € Consumptions of materials and of intermediate product = 600 x 25 + 600 x 100= 15 000 + 60 000 = 75 000 € CC = 3.95 x 3 200 Mh = 12 640 €

Questions	Solution
 13. If there is a RMW with a monthly cost of 3 200 € allocated to the quantities bought of M1 and M2, the value of the consumptions of M2 would be: a) 15 000 € b) 18 900 € c) 16 200 € d) None of the previous ones 	AU RMW = 3 200 / (900 + 700) = 2 €/ton Consumption of M2 = 600 x (25 + 2) = 16 200 €
 14. Assuming that the unit MCFP of A is 150 € and that the company adopts the Weighted Average Cost, the monthly Gross Profit would be: a) 49 280 € b) 50 400 € c) 48 080 € d) None of the previous ones 	Weighted Average Cost = (100 x 164 + 600 x 150)/ (100 + 600) = 152 €/unit MCPS = 560 units x 152 = 85 120 € Gross Profit = 560 x 240 - 85 120 = 49 280 €
 15. Assuming that the costs of the APA are allocated to the outputs and that the Work Unit of S3 is 6 €, the selling (distribution) costs would be: a) 22 860 € b) 19 500 € c) 18 360 € d) None of the previous ones 	Selling (distribution) expenses: $3\ 360 + 19\ 500 = 22\ 860 \notin$ Variable = 0.025 x 560 x 240 € = $3\ 360 \notin$ Fixed = FPW +15 000 = ($3\ 300 + 6\ x\ 200$) + 15 000 = 19 500 €

PART III

Now answer the following theoretical questions. Each CORRECT answer IS 1 MARK. If you make any MISTAKE, 0.25 MARKS per answer will be DISCOUNTED

Questions
6. In the direct method of calculation of the manufacturing cost, the Unit MCFP corresponds:
To the average cost of production of all units manufactured in the months; To the specific manufacturing cost of each batch or unit manufactured ; To the average manufacturing cost of the month; None of the previous ones.
7. The Uniform Cost Centres (Sections) Method aims:
Just to have the possibility to hold the managers of each section responsible for the quantities used of resources ;
To know the cost of each one of the different elementary activities that take place in a section; To hold the managers of the different cost centres responsible for their performance and, at the same time, to potentiate a better calculation of the cost of the products or services;

d) None of the previous ones

Supporting, optional tables (The data of these tables have no influence on the classification of the questions)

Table of the joint production

Products	Potential Sales Value	Specific costs		Sales Value at Split-off Point		Joint Costs
		Manuf.	Non-manuf.	€	%	

Products	Joint Costs	Spec. Manuf.Costs	MCFP	Unit MCFP		
	(1)	(2)	(3) = (1) + (2)	(4) = (3) / Qp		

Table of the Conversion Costs

Table of the Production Costs