

MAC2601

FASSET CLASS 2

PRETORIA

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MAC 2601

**RENDANI
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Any changes in lecturers' details will be communicated via myUnisa.				

MAC2601 Lecturers

Objective of the lecture

- To give a very short overview
- of certain sections
- of selected study units
- of topics 5-8
- that are crucial to an overall understanding of the module
- and/or often enquired about by students,
- by doing questions
- from the study guide/past assignments
- and especially past papers
- **together** with students
- so that they will understand principles better/more easily
- when they continue studying on their own.
- Questions?
- NOT to give an exam scope! Everything is examinable!

Programme

- Welcome & introduction; objective
- Production cost: overview
- Job costing
- ABC
- Process costing
- Joint and by-products

I'm sorry to break it to you, but your students are not going to remember 90 per cent, possibly 99 per cent, of what you teach them unless it's conceptual



Source: Andy Bunday

Production cost

Direct materials

Direct labour

Variable manufacturing overheads

+ Applied fixed manufacturing overheads

= Production cost

How do the various topics fit in with this?

Production cost: Job

Opening WIP (Job)

- + Direct materials
- + Direct labour
- + Variable manufacturing overheads
- + Applied fixed manufacturing overheads
- = Production cost/**Closing WIP/Finished goods**

Job costing

- “Table” format
- General ledger accounts (T-accounts)
- Cost ledger
- Journals
- See “Additional guidance on direct and absorption costing...” on myUnisa.

Job costing

	Job 1	Job 2	Job 3	Total
Sales				
Less: CoS				
O/WIP				
+ Current production				
DM				
DL				
VMOH				
Applied FMOH				
- C/WIP				
= GP unadjusted				
+/- Over/(under) applied FMOH				
= GP adjusted				

Job costing

- Let's do some questions!

Remember:

- $\text{Over/under applied OH} = \text{Actual} - \text{Applied}$
- $\text{Applied OH} = \text{OH rate} \times \text{actual base}$
- $\text{OH rate} = \text{Budgeted OH} / \text{Budgeted base}$
- If applied > actual, overapplied
- If applied < actual, underapplied

Job costing

MAC2601
OCTOBER/NOVEMBER 2014

QUESTION 3

(24 minutes / 20 marks)

XYZ Limited manufactures different products for their clients according to their specifications. The following information was obtained for the month of July

- Opening inventory amounted at R45 000 at the beginning of the month. Additional material amounting at R165 000 was purchased during the month.
- There was no opening work in process (WIP) at the beginning of the month.
- Material was requested as follows

	R
Job 1	55 000
Job 2	83 000
Job 3	41 500
Total	179 500

- The wages paid were as follows

	R
Job 1 (500 hours)	60 000
Job 2 (800 hours)	95 000
Job 3 (350 hours)	55 000
Indirect labour	35 000
Total	245 000

Job costing

- Other manufacturing overheads for July were as follows

	R
Factory Rental	12 000
Electricity and water	18 000
Depreciation	25 000
Total	55 000

- Overheads are allocated to jobs on the basis of direct labour hours. The budgeted manufacturing overheads amounted to R100 000 per annum and the estimated average normal capacity is 2 000 direct labour hours per annum.
- Jobs 1 and 2 were completed during the month and invoiced to the clients at R150 000 and R250 000 respectively.

REQUIRED

- Calculate profit/(loss) for July for each job and for XYZ Limited as a whole (15)
- Give the value of the closing inventory and WIP at the end of the month (2)
- Calculate the over or under recovery of production overheads for the month (3)

Activity-based costing

- What for? (Bigger picture: product costing)
- Versus traditional method
- Don't forget the theory
- Can be incorporated as in O/N 2016
- When used (guide 1 page 186) – optimal
- Advantages/disadvantages (page 189)
- Transaction/duration drivers (page 192-3)
- Steps (guide 1 page 191)

Activity-based costing: Product cost?

- What is asked?
- Overhead cost or production cost? (How to treat direct material; direct labour?)
- Individual unit or product type?
- Do example in class: O/N 2016 question.

Production cost: ABC

Direct materials

Direct labour

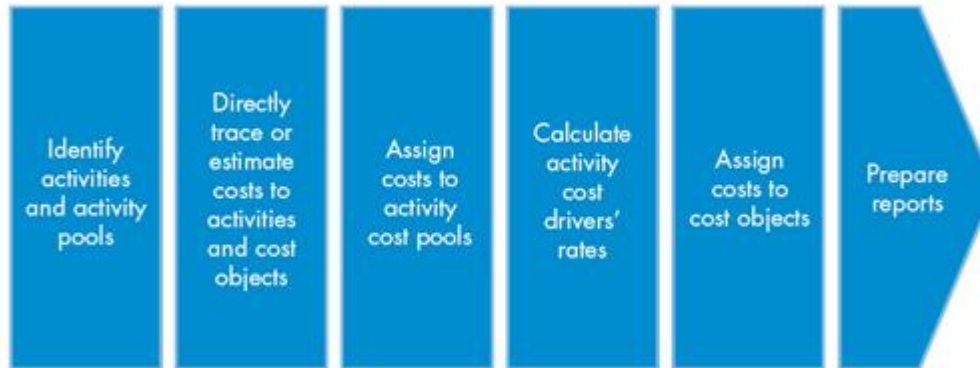
Variable manufacturing overheads

+ Applied Fixed Manufacturing Overheads

= Production cost

- The focus is on applied overheads.
- Blanket rate replaced by activity rates for company.

Activity-based costing: Steps



Activity-based costing: Steps

1. Identify **activities**.
2. Identify and match **cost drivers**.
 - Calculate the total for each cost driver (COMPANY AS A WHOLE!).
3. Create **cost pools** for each activity.
4. Trace activities to cost object.
 - First the activity **rate** (overall company).
 - Then apply to individual **product types**.

Activity-based costing: O/N 2016

QUESTION 2

30 Marks

Luvhola (Pty) Ltd is an apparel manufacturing company specialising in Generation X clothing items. The company currently manufactures and sells two very popular brands, namely Luli Jeans and Oikie Active Track Tops. Automated cutting machines are used in the factory to cut the pieces. In the year ended 31 March 2016, Luvhola (Pty) Ltd sold 30 000 units of Luli Jeans and 65 000 units of Oikie Active Track Tops.

Additional information

1. Sales and production report

	Luli	Oikie
Sales	R10 500 000	R11 375 000
Opening inventory	0	0
Closing inventory	20 000	15 000
Direct labour cost per unit	R40	R25
Direct material cost per unit	R120	R100

No inventory of raw materials or work-in-progress are held. Each unit that is produced, is also packaged.

2. Luvhola (Pty) Ltd's management accountant has worked out that total fixed manufacturing overhead costs amount to R1 400 000.

Activity-based costing: O/N 2016

3. Management of Luvhola (Pty) Ltd would like to improve the costing accuracy of the products manufactured. The management accountant can trace fixed manufacturing overhead costs to material purchasing, machine set-up, products packaging and machine maintenance activities.

Activity	Cost driver	Cost R
Material purchasing	Purchase orders	280 000
Machine set-up	Machine set-ups	345 000
Packaging	Packaged products	286 000
Machine maintenance	Number of runs	489 000
Total		<u>1 400 000</u>

The **actual** data regarding the production of the two products for the year ended 31 March 2016 are presented below:

	Luli	Oikie
Number of purchases orders	35	65
Number of machine set-ups	100	200
Packaged products	?	?
Number of runs	40	110

Activity-based costing: O/N 2016



REQUIRED

(a)	Using Activity Based Costing (ABC) , calculate the actual manufacturing overhead cost to be allocated to Lulie and Oikie for the year ended 31 March 2016.	(16)
(b)	Explain (using appropriate calculations to support your answer) to Luvhola (Pty) Ltd management the impact of the ABC approach on the fixed manufacturing overheads allocated to each unit of the individual products compared to the traditional costing method. Assume units produced as basis for the traditional costing method.	(9)
(c)	Calculate Luvhola (Pty) Ltd total profit or loss for the year ended 31 March 2016.	(5)
TOTAL		30

Activity-based costing: O/N 2016

The traditional costing method allocates overheads based on **production units**, which results in product **LULI** being allocated **more** overhead cost per unit than it actually should and product **OIKIE** being allocated **less** overhead cost per unit than it actually should. The overheads are **spread evenly** between the units of the products. However when the ABC method is used, **OIKIE** which makes **more use of the resources/activities**, is allocated a **more accurate** (higher) share of the fixed manufacturing overheads.

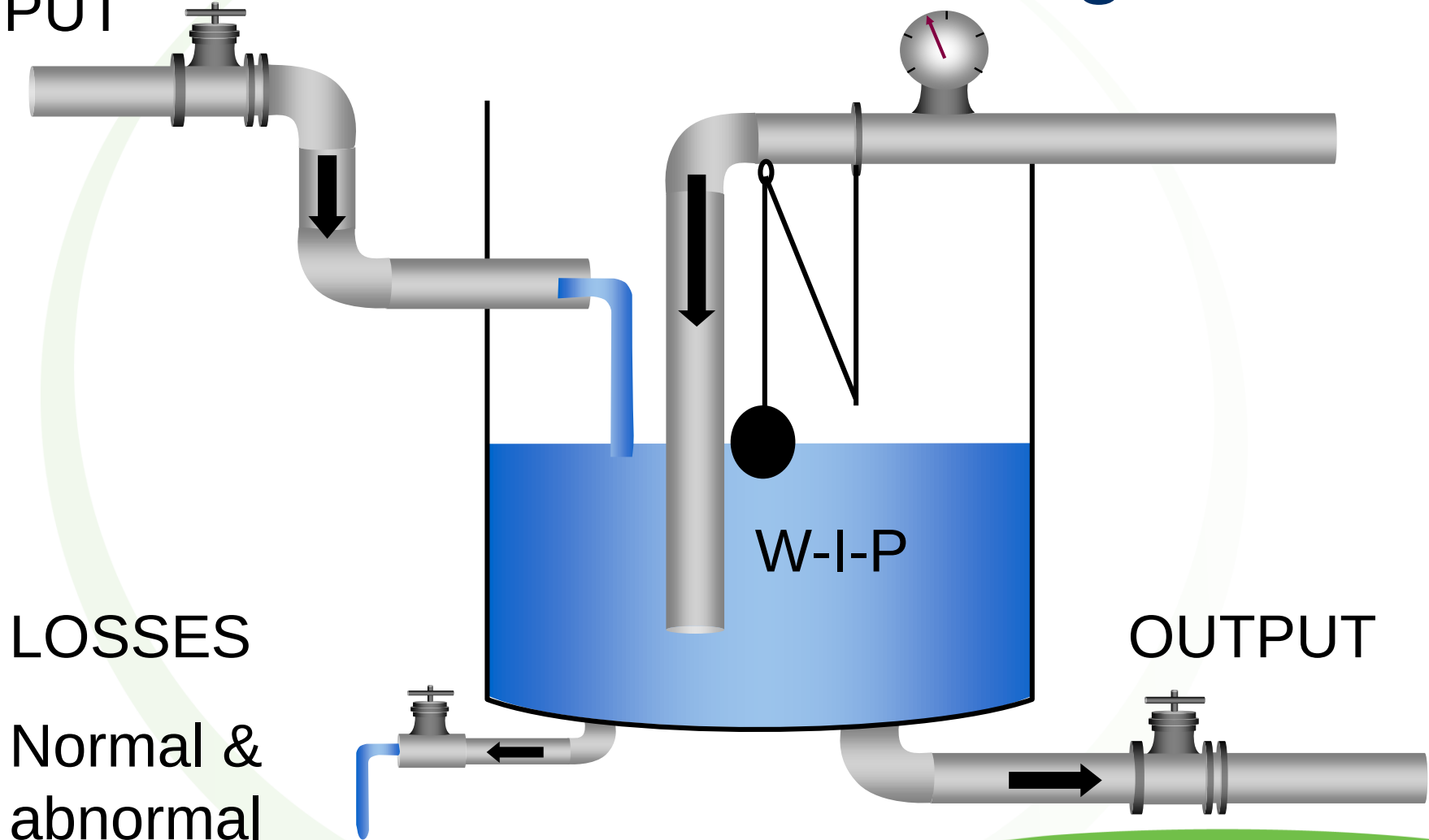
EXHIBIT 7-1

Summary of Cost distortions that tend to occur in Traditional Cost Systems

Type of Diversity	Product Type or Characteristic	Type of Cost Distortion that tends to occur in Traditional cost Systems
Production volume	Low Volume specialty	Undercost, i.e., too little overhead is allocated to these products.
	High Volume main line	Overcost, i.e., too much overhead is allocated to these products.
Product Size	Small	Undercost
	Large	Overcost
Product Complexity	Complex design	Undercost
	Simple design	Overcost
Product Materials Requirements	Requires many, or unique parts, i.e., only used on a single product.	Undercost
	Requires few, or common parts, i.e., same part used on many products.	Overcost
Product Machine Setup Requirements	Requires many, long or complex machine setups.	Undercost
	Requires few, short or simple machine setups.	Overcost

Process costing

INPUT



LOSSES

Normal &
abnormal

OUTPUT

Production cost: Process costing

Opening WIP

+ Direct materials

+ Direct labour

+ VMOH

+ Applied FMOH

Usually combined
into conversion
costs

+ **Normal loss allocated if applicable**

= Production cost/C+T and Closing WIP

AL = period cost & includes portion of NL

Process Costing

- Quantity statement (production statement)
- Production cost statement
- Cost allocation statement
 - Including calculation and allocation of normal loss in Rand

Process Costing: Quantity Statements

- Work with units (no Rand values!).
- Input = output
- Earn easy marks first.
- FIFO vs WAM.
- Position of Opening and Closing WIP relative to WP.
- Comprehensive question in TL203/2015 (page 28; 37).
- Calculation of normal losses in A – D.
- Then we will look at Parts B and F as comprehensive examples.

Process Costing: Production Cost Statements

- Use the correct method!
- FIFO: Only current production costs
- WAM: Total of O/WIP and CP
- Examples

Process Costing: Cost Allocation Statements

1. First calculate the NL in rand.
2. Then allocate the NL:
 - Separately for materials and conversion.
 - To C+T, AL and C/WIP as applicable (where these units have passed the WP in the current period).

Process Costing: Cost Allocation Statements

3. Then prepare the statement as such.

- WAM sections for:
 - C+T
 - AL
 - C/WIP
- WAM sections for:
 - O/WIP
 - Current production
 - AL
 - C/WIP

NO separate sections for normal loss!

What to look for in a process costing question

- Opening WIP % of completion
- Closing WIP % of completion
- Wastage point
(WHERE versus HOW MUCH)
- Inventory valuation method

How to calculate equivalent units

Details	Material	Conversion
Completed from opening WIP (FIFO only)	0%	100% - Opening WIP %
Current production (FIFO) / C+T (WA)	100%	100%
Normal loss	100%	WP
Abnormal loss (if at same place as NL)	100%	WP
Closing WIP	100%	Closing WIP % of completion

Process costing: Normal losses

Do not confuse the “how much” with the “where”.

“WHERE” = The point in the process where losses occur

“HOW MUCH” = % of units that will go to waste when the units reach/pass the wastage point.

Calculation of NL and AL in units

Normal loss in units

- Start with total of input or output column
- Apply both "rules" regarding normal loss
- If Opening WIP $\geq$ WP, EXCL.
- If Closing WIP $<$ WP, EXCL.
- Then apply HOW MUCH

Abnormal loss in units

- Balancing figure

Process costing

Applicable to PARTS A – H (scenarios 1 – 8)

Practice Company (Pty) Ltd manufactures a single product and uses a process costing system. Materials are added at the beginning of the process and conversion takes place evenly throughout the process.

May 20x5

Opening WIP (20% complete)	80 000 units	Material R320 000	CC R128 000
Put into production	140 000 units	Material R588 000	CC R1 663 000
Completed and transferred	180 000 units		
Closing WIP	20 000 units		

Normal wastage amounts to 5% of the inputs that reach the wastage point.

“CC” refers to conversion costs in this question.

Process costing

PART A – Scenario 1 (26 marks) (31 minutes)

Additional information:

- Wastage occurs when the process is 20% complete.
- The company uses the weighted average method of inventory valuation.
- Closing WIP is 90% complete.

PART B – Scenario 2 (26 marks) (31 minutes)

Additional information:

- Wastage occurs when the process is 60% complete.
- The company uses the weighted average method of inventory valuation.
- Closing WIP is 90% complete.

Process costing

PART C – Scenario 3 (26 marks) (31 minutes)

Additional information:

- Wastage occurs when the process is 15% complete.
- The company uses the weighted average method of inventory valuation.
- Closing WIP is 10% complete.

PART D – Scenario 4 (26 marks) (31 minutes)

Additional information:

- Wastage occurs at the end of the process.
- The company uses the weighted average method of inventory valuation.
- Closing WIP is 90% complete.

Process costing

PART F – Scenario 6 (27 marks) (32 minutes)

Additional information:

- Wastage occurs when the process is 60% complete.
- The company uses the FIFO method of inventory valuation.
- Closing WIP is 90% complete.

Production cost: Joint products

Direct materials

+ Direct labour

+ Applied Overheads

= Production cost/**Joint cost*/Cost of further processing**

* May have to be adjusted when joint products exist

Joint & by

- Joint products versus by-products

	Joint	By
Value	Significant	Insignificant
Manufacturing	Intentional	Incidental
Company dependence on it for survival	Yes	No

Joint & by

- Joint costs and further processing costs form part of cost of sales.
- Joint = before split-off
- Further = after split-off
- These can include DM, DL, VMOH and FMOH in principle and are all APPLIED based on selected method.
- Inventory of joint products can exist:
$$\text{Opening units} + \text{Current Production units} - \text{Units sold} = \text{Closing units}$$
("normal" direct and absorption costing principles apply).

Joint & by

- Methods to allocate joint costs
 - Physical standard (units produced)
 - Market value @ **split-off**
 - Sold @ split-off
 - Sold after further processing (affects sales and further processing C, but not JC allocation)
 - NRV @ split-off
 - MV **final** product – further processing C – selling & d. C
 - Reversal costing
 - Work backwards from target GP%

Joint & by

PART C

(12 Marks / 14½ Minutes)

Ngoato (Pty) Ltd operates a process which produces two joint products, Yellow and Blue. In September 2015, joint production costs amounted to R20 000. There was no opening inventory and the total production for the month was sold. All joint products were processed further.

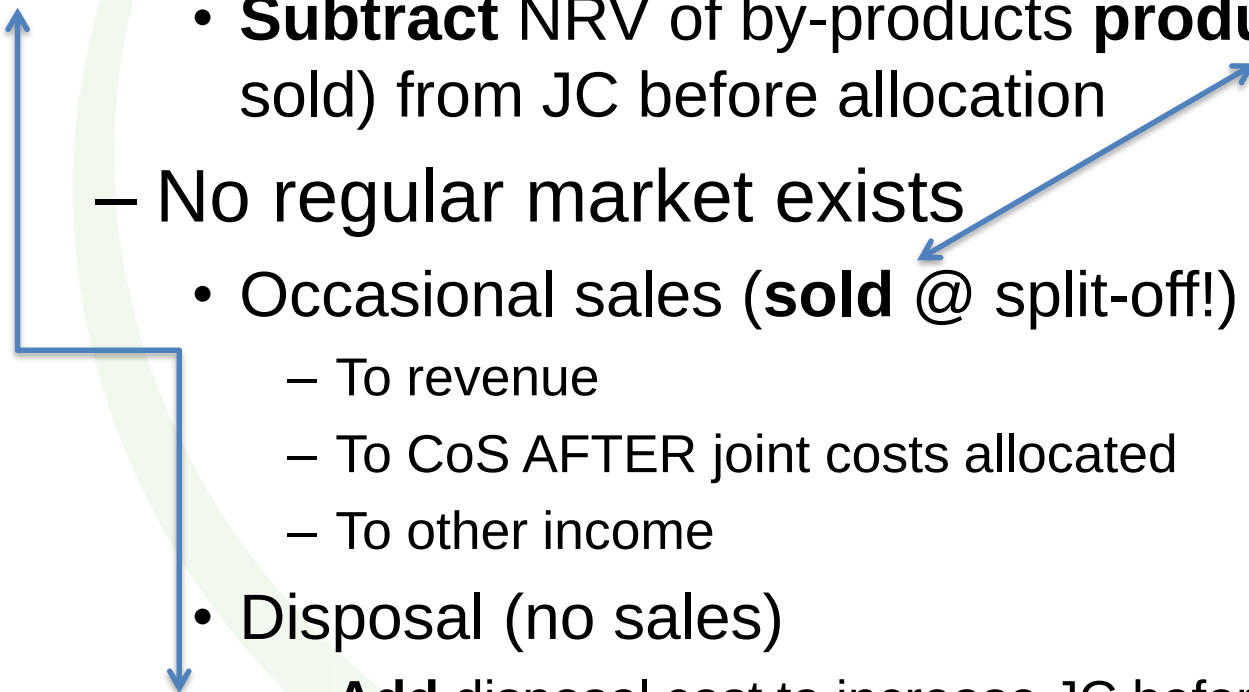
	Yellow R	Blue R
Selling price per kilogram of the final product	150	165
Total cost of further processing after the split-off point	2 500	3 150
Total selling and distribution costs of the final product	1 200	1 400
Kilograms at the split-off point and of the final product	200	300

REQUIRED

Prepare a statement of comprehensive income for the month ended 30 September 2015, assuming that joint costs are allocated according to the physical standard method. Include individual columns for Yellow and Blue as well as a Total column.

(12)

Joint & by

- Costing of by-products
 - Regular market exists
 - **Subtract** NRV of by-products **produced** (not only those sold) from JC before allocation
 - No regular market exists
 - Occasional sales (**sold** @ split-off!)
 - To revenue
 - To CoS AFTER joint costs allocated
 - To other income
 - Disposal (no sales)
 - **Add** disposal cost to increase JC before allocation
- 

QUESTIONS

- “ The most successful people in life are the ones who ask question. They’re always learning. They’re always growing. They’re always pushing.”
- Robert T. Kiyosaki, 2017

Thank **you**

Define tomorrow.

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