Assignment 1

APPLICATION OF MANAGEMENT ACCOUNTING TECHNIQUES

MAC3701

Semester 1

Department of Management Accounting

BAR CODE

COMPULSORY ASSIGNMENT 1/2016 FIRST SEMESTER

IF YOU ARE REGISTERED FOR THE FIRST SEMESTER, YOU MUST COMPLETE THIS ASSIGNMENT.

THE MARK YOU EARN FOR COMPULSORY ASSIGNMENT 1 WILL CONTRIBUTE 25% TOWARDS YOUR SEMESTER MARK, WHICH WEIGHS 20% IN THE CALCULATION OF YOUR FINAL MARK.

This assignment must be completed on the mark-reading sheet supplied. Mark-reading sheets may be submitted either by post or electronically via myUnisa. Please refer to the *myStudies@Unisa* brochure on how to use and complete a mark-reading sheet. For information on how to submit an assignment through myUnisa refer to paragraph 6.6 of Tutorial Letter 101/2016.

Please remember to enter the **correct** unique number of the assignment on the mark-reading sheet.

DUE DATE: SEMESTER 1: 9 March 2016

UNIQUE NUMBER: 882474

Assignment 1/2016 FIRST SEMESTER

This assignment consists of 20 multiple-choice questions. Each question must be considered independently, unless specific reference is made to information in another question. Each question has only one correct answer.

The assignment will start with revision from MAC2601. It is important to remember that MAC2601 is a prerequisite for MAC3701 and we assume in MAC3701 that you are familiar with all the prescribed MAC2601 work. MAC2601 forms an important foundation on which MAC3701 builds.

The following information must be used for purposes of answering questions 1 and 2.

XYZ Ltd manufactures a single product. The following information is available for the month of January 2016:

	Units
Opening inventory	0
Units manufactured	56 250
Units sold	45 000
Selling price per unit	R90

Selling and administrative cost:	**R**
Variable selling cost per unit	15
Fixed selling cost	150 000
Fixed administration cost	37 500

Manufacturing cost:
In the past 6 months, these costs changed, but not in direct proportion to the volume.

Period	No of units produced	Historical cost R
July 2015	60 500	1 894 000
August 2015	56 800	1 872 100
September 2015	63 540	1 960 380
October 2015	54 975	1 780 000
November 2015	52 490	1 758 280
December 2015	45 900	1 572 300

QUESTION 1

Assume that XYZ Ltd makes use of a direct costing system.

The contribution of XYZ Ltd for the month ending 31 January 2016 is:

(1) R1 635 000.
(2) R1 747 500.
(3) R2 385 000.
(4) R2 610 000.
(5) None of the above options.

QUESTION 2

Assume that XYZ Ltd makes use of an absorption costing system.

The net profit before tax for XYZ Ltd for the month ending January 2016 is:

(1) R2 385 000.
(2) R2 610 000.
(3) R1 635 000.
(4) R1 747 500.
(5) None of the above options.

The following information must be used for purposes of answering questions 3 and 4.

Wimbledon Warehouse Ltd buys and sells tennis racquets. The sales director estimates the monthly demand for the tennis racquets to be 1 500 racquets for 2016. The company operates for 25 working days each month and sales are expected to take place evenly throughout the year. Wimbledon Warehouse operates for 12 months in a year.

The price at which Wimbledon Warehouse Ltd bought these tennis racquets in 2015 was R800 per racquet. The warehouse manager informed you that orders usually get filled within two working days and that safety inventory should cover the demand for only one working day as the supplier has been reliable in the past and has not missed any orders. The risk of the company running out of inventory is not regarded as significant.

The following cost information was applicable in 2015:

Ordering cost:	R120 per order
Direct inventory holding cost:	R20 per racquet per annum
Insurance cost:	10% of direct inventory holding cost per racquet per annum

The expected after tax cost of capital of Wimbledon Warehouse Ltd for 2016 is 12% and inflation is estimated to be 7% per annum.

The warehouse manager expects that the purchase price of the tennis racquets, the ordering cost and the holding cost of the racquets will increase in 2016 with the estimated inflation rate.

QUESTION 3

The total annual inventory holding costs of Wimbledon Warehouse Ltd for 2016 for the tennis racquets are:

(1) R12 120,96.
(2) R19 696,56.
(3) R31 817,52.
(4) R18 408,00.
(5) None of the above options.

QUESTION 4

The re-order point of Wimbledon Warehouse Ltd if the safety inventory is maintained is:

(1) 120 tennis racquets.
(2) 180 tennis racquets.
(3) 660 tennis racquets.
(4) 150 tennis racquets.
(5) None of the above options.

The following information must be used for purposes of answering questions 5 to 8.

Space Ltd manufactures three different types of specialised electronic toys for space fanatics, Venus, Saturn and Earth. Space Ltd currently makes use of the traditional absorption costing system whereby they allocate their manufacturing overheads based on **machine hours**. Management recently investigated the possibility of rather making use of an activity-based costing (ABC) system to assign the manufacturing overheads as they believe it could provide quality information in order to make better decisions.

A further analysis of the manufacturing overheads revealed the following activities and cost driver information:

Activity	**Cost driver**	**Manufacturing overhead costs R**
Machining	Machine hours	650 500
Set up	Number of set ups	250 750
Quality inspections	Number of technical inspections	250 000
Material handling	Number of orders	140 500
Stores receiving	Number of deliveries	195 000
		R1 486 750

Sales and costing information extracted from the 2016 budget of Space Ltd:

Product type	**Venus**	**Saturn**	**Earth**	**Total**
	R	**R**	**R**	**R**
Sales	1 575 000	2 685 000	1 490 000	5 750 000
Direct material cost	876 400	964 200	587 330	2 427 930
Direct labour cost	400 000	660 000	340 000	1 400 000
Contribution	298 600	1 060 800	562 670	1 922 070
Manufacturing overheads				1 486 750

The budget for the 2016 year also contains the following total production information:

Product type	**Venus**	**Saturn**	**Earth**
Production/Sales volume (units)	2 500	4 500	4 000
Toys (units) per production run*	50	250	250
Number of technical inspections	10	30	45
Machine hours per toy	20	15	24
Number of requisitions raised	450	200	800
Number of orders	25	50	400

*The machines are set up once for each new production run.

Hint: Usually with activity-based costing, an activity rate is calculated. The activity rate can be calculated by dividing the activity cost by the cost driver volume (for example number of technical inspections). Multiplying the activity rate by the cost driver volume calculates the allocated amount. For purposes of this question, do not round your activity rate to two decimals. This will result in the incorrect answer. **Round your activity rate to four decimals** or simply use the numbers as they are on your calculator without rounding and choose the alternative closest to your answer. **Only the final allocated amounts should be rounded to two decimals.**

QUESTION 5

The total budgeted manufacturing overhead costs allocated to product Earth based on the traditional absorption costing system are:

(1) R470 049,75.
(2) R604 779,66.
(3) R668 515,20.
(4) R377 987,29.
(5) None of the above options.

QUESTION 6

The total budgeted manufacturing overhead costs allocated to product Earth based on the activity-based costing system are:

(1) R698 509,68.
(2) R389 312,48
(3) R670 627,01.
(4) R349 034,82.
(5) None of the above options.

QUESTION 7

The total budgeted profit for product Saturn based on the traditional absorption costing system is:

(1) R590 750,25.
(2) R671 487,52.
(3) R682 812,71.
(4) R435 328,12.
(5) None of the above options.

QUESTION 8

The total budgeted profit for product Saturn based on the activity-based costing costing system is:

(1) R590 750,25.
(2) R435 328,12.
(3) R682 812,71.
(4) R671 487,52.
(5) None of the above options.

The following information must be used for purposes of answering questions 9 and 10.

The owner of Handcrafts Ltd recently started making specialised handcrafted wooden toys. The owner needs your advice to help him plan his expected working time to fill a special order. The first wooden toy took the owner 16 hours to craft. The total time to complete the first two wooden toys was 31,36 hours. These two toys will be kept in the display window of his shop. The owner expects that a learning curve will be applicable for the manufacturing of the first 8 handcrafted wooden toys. He has received a special order for 6 handcrafted wooden toys.

Hint: The learning curve applies to every doubling of handcrafted wooden toys manufactured. In all your calculations, round your figures to two decimals and if your final answer differs from the options below with only a few decimal places, select the option closest to your answer.

We suggest that you make use of the table method for your calculations. If you however want to test your answer by using the formula-method, please round figures in all your calculations to 4 decimal places and if your final answer differs from the options below with only a few decimal places, select the option closest to your answer.

QUESTION 9

The learning curve to manufacture the handcrafted wooden toys is:

(1) 90%.
(2) 98%.
(3) 96%.
(4) 97%.
(5) None of the above options.

QUESTION 10

The total time taken for the manufacturing of the special order of wooden handcrafted toys is:

Hint: You need to calculate the total time that it will take to manufacture wooden handcrafted toy number 3 to 8 for the special order of 6 toys as the first 2 toys will be kept in the shop's display window.

(1) 15,06 hours.
(2) 120,48 hours.
(3) 89,12 hours.
(4) 61,48 hours.
(5) None of the above options.

The following information must be used for purposes of answering question 11.

Loadshedding Ltd supplies uninterruptable power that is connected to electronic metres that measures the power used by its customers. The total cost of the uninterruptable power to Loadshedding Ltd's customers varies with the number of times that loadshedding occurs every month.

You have been given the following information:

Month	Number of loadshedding occurences per month	Cost of uninterruptable power supply R
June	20	1 600
July	25	2 400
August	18	1 580
September	12	950
October	10	760
November	8	600
December	2	140
January	1	60

QUESTION 11

The correlation coefficient of Loadshedding Ltd for the 8 months period is:

Round your figures to 2 decimals in all your workings.

(1) 0,98.
(2) 0,99.
(3) 0,96.
(4) 1,00.
(5) None of the above options.

The following information must be used for purposes of answering questions 12.

Assume the correlation coefficient of Loadshedding Ltd for the 8 months period is 0,95.

QUESTION 12

The coefficient of determination of Loadshedding Ltd for the 8 months period, if we assume the correlation coefficient is 0,95 is:

Round your figures to 2 decimals in all your workings.

(1) 0,90.
(2) 0,99.
(3) 0,96.
(4) 1,00.
(5) None of the above options.

The following information must be used for purposes of answering questions 13 to 16.

VitaChews Ltd manufactures a single product by means of a single manufacturing process and uses a process costing system.

The following information is available for March 2016:

Work-in-process	- 1 March 2016	20 000 units
• material	- 100% complete	R88 570
• conversion cost	- 45% complete	R56 450

180 000 units were put into production during March 2016:

• material	R797 130
• conversion costs	R528 140

Units completed and transferred: 155 000 units

Work-in-process	- 31 March 2016	16 000 units
• material	- 100% complete	
• conversion cost	- 80% complete	

Additional information:

1. Normal losses are estimated at **10%** of the input that reaches the point of loss (wastage point).
2. Losses occur when the process is **50%** complete.
3. VitaChews Ltd values their inventory according to the **weighted average method**.
4. Material is added at the beginning of the process.
5. Conversion costs are incurred evenly throughout the process.

QUESTION 13

The equivalent conversion cost per unit for VitaChews Ltd for the month of March 2016 is as follows:

Round your answer to the nearest cent.

(Note: You have to use the short-cut method if all the requirements for its usage are met.)

(1) R4,92 per unit.
(2) R3,39 per unit.
(3) R3,21 per unit.
(4) R4,43 per unit.
(5) None of the above options.

QUESTION 14

The total rand value assigned to the completed and transferred units of VitaChews Ltd for the month of March 2016 in the cost allocation statement would be as follows:

Round all amounts to the nearest cent.

(Note: You have to use the short-cut method if all the requirements for its usage are met.)

(1) R 762 600.
(2) R 122 112.
(3) R 59 535.
(4) R1 288 050.
(5) None of the above.

QUESTION 15

If losses no longer occur when the process is 50% completed, but at the end of the process and VitaChews Ltd now values their inventory according to the first-in-first-out (FIFO) method, the equivalent units in terms of conversion will be:

(1) 170 300 units.
(2) 182 000 units.
(3) 188 700 units.
(4) 163 600 units.
(5) None of the above.

QUESTION 16

If losses no longer occur when the process is 50% completed, but at the end of the process and VitaChews Ltd now values their inventory according to the first-in-first-out (FIFO) method, the equivalent units in terms of material will be:

(1) 170 300 units.
(2) 182 000 units.
(3) 188 700 units.
(4) 163 600 units.
(5) None of the above.

QUESTION 17

State which of the following statements are true:

(a) Joint products are products arising from the joint process which have significant value.

(b) By-products are those products that result incidentally from the main joint product.

(c) The split-off point is the point in the production process where the separate joint products can be identified for the first time.

(d) According to the net realisable value (NRV) at split-off point method, the market value of the final product is taken and reduced by any costs incurred for processing of the product beyond the split-off point and by any selling and distribution costs incurred to sell the final product. These NRV values are then used to establish the ratio in which the joint costs are to be apportioned. In this way an estimated market value (net of all further costs) for the products at the split-off point is achieved.

The following statements are **true**:

(1) a, b, c and d.
(2) a, b and c.
(3) a, c and d.
(4) a, b and d.
(5) None of the above options.

QUESTION 18

State which of the following statements are false:

(a) Further processing costs are costs incurred to further process the separated joint products into final products after the split-off point.

(b) In deciding whether to process the output from a joint process further or simply to sell it after split-off, joint cost allocations are always relevant for decision-making.

(c) The NRV from a by-product is normally used to reduce the joint cost of the joint products, because the assumption is that a regular market exists for the by-product.

(d) According to the physical standard method, joint costs are allocated to joint and by-products in proportion to the physical quantity of each product produced.

The following statements are **false**:

(1) a, b and d.
(2) b and d.
(3) b, c and d.
(4) b only.
(5) None of the above options.

The following information must be used for purposes of answering questions 19 and 20.

Rose Extract Ltd manufactures two types of joint products, Rose-X and Rose-Z, in a joint process. Each product is then processed further to completion, before being marketed. The joint costs amount to R500 000 per month and 3 200 units of Rose-X and 1 800 units of Rose-Z are manufactured and sold per month.

Additional information:

	Rose-X **R**	**Rose-Z** **R**
Selling price of completed (final) unit	250	360
Further cost to complete a unit after split-off point	10	15
Further selling and distribution costs per unit	48	82

QUESTION 19

The total profit per month for each joint product if sold after further processing and joint costs are allocated according to the physical standard (units) method is:

(1) Rose-X is R331 995,15; Rose-Y is R255 804,85.
(2) Rose-X is R614 400,00; Rose-Y is R473 400,00.
(3) Rose-X is R448 000,00; Rose-Y is R441 000,00.
(4) Rose-X is R294 400,00; Rose-Y is R293 400,00.
(5) None of the above options.

QUESTION 20

The total profit per month for each joint product if sold after further processing and joint costs are allocated according to realisable market value at split-off point (NRV) method is:

Round the proportion of the estimated market value at split-off point of each product in relation to the total estimated market value at split-off point in total to two decimals, example xx,xx%.

(1) Rose-X is R267 000; Rose-Y is R223 000.
(2) Rose-X is R614 400; Rose-Y is R473 400.
(3) Rose-X is R448 000; Rose-Y is R441 000.
(4) Rose-X is R332 000; Rose-Y is R255 800.
(5) None of the above options.