



COLLEGE OF BUSINESS, PEACE, LEADERSHIP AND GOVERNANCE

MAC 201 COST ACCOUNTING

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER 2019 (1)

LECTURER: I. RARAMI

DURATION: (3 HRS)

CONVENTIONAL

INSTRUCTIONS

Answer **ALL** questions in Section A and **ANY** 3 from Section B

Start each question on a new page in your answer booklet.

The marks allocated to each question are shown at the end of the question

Show all your workings

Credit will be given for presentations that are neat, logical and grammatically well constructed.

SECTION A: COMPULSORY [40 MARKS]

1. A process produces two joint products A and B in equal physical quantities. A and B are sold at split off point for \$5 per kg and \$8 per kg respectively. There are no further costs after the split off point.

If joint costs are apportioned on a relative sales value basis, which of the following statements is true?

- A Both products will have the same return on sales ratio (operating margin)
- B Product A will have the higher return on sales ratio (operating margin)
- C The cost per kg will be the same for both products
- D The cost per kg of product A will be higher than that of product B

2. Which of the following statements is not correct?

- A. Financial accounting information can be used for internal reporting purposes
- B. Cost accounting can also be used to provide inventory valuations for external reporting
- C. There is no legal requirement to prepare management accounts
- D. Management accounts detail the state of affairs of an organisation at the end of that period

3. Which of the following is a characteristic of an investment centre?

- A. Managers can purchase capital assets
- B. Managers have control only over marketing
- C. Managers are accountable for revenues only
- D. Managers are accountable for costs only

4. The following production and total cost information relates to a single product organisation for the last three months:

Month	Production units	Total cost \$
1	1,200	66,600
2	900	58,200
3	1,400	68,200

The variable cost per unit is constant up to a production level of 2,000 units per month but a step up of \$6,000 in the monthly total fixed cost occurs when production reaches 1,100 units per month. What is the total cost for a month when 1,000 units are produced?

- A \$54,200 B \$55,000 C \$59,000 D \$60,200

5. A company has the following data for a semi-variable cost:

Output 20,000 units 60,000 units

Total cost \$85,000 \$253,000

The fixed element of total cost increases by \$8,000 at output levels in excess of 30,000 units. What is the variable cost per unit?

- A \$4.00 B \$4.20 C \$4.22 D \$4.25

6. A product has the following costs per unit:

	\$
Direct material	4.00
Direct labour	3.00
Direct expenses	1.50
Variable overhead	5.00
Fixed overhead	6.00

What is the prime cost per unit of the product?

- A \$4.00 B \$7.00 C \$8.50 D \$13.50

7. The following statements refer to situations occurring in Process Q of an organisation which operates a series of consecutive processes:

- (1) Direct labour is working at below the agreed productivity level
- (2) A machine breakdown has occurred
- (3) Direct labour is waiting for work to be completed in a previous process.

Which of these situations could give rise to idle time?

- A 1 and 2 only B 1 and 3 only C 2 and 3 only D 1, 2 and 3

8. The following observations have been made of total overhead cost:

Output level (units)	5,000	10,000
Total overhead cost (\$)	14,000	27,000

The variable element of total overhead cost is known to increase by \$1 per unit at output levels above 7,000 units.

What is the variable element of total overhead cost at an output level of 5,000 units?

- A \$2.00 per unit B \$2.60 per unit C \$3.20 per unit D \$3.60 per unit

9. A company operates a premium bonus system by which employees receive a bonus of 75% of the time saved compared with a standard time allowance (at the normal hourly rate).

Details relating to employee X are as follows:

Actual hours worked	42
Hourly rate of pay	\$10
Output achieved	400 units of product Y

Standard time allowed (per unit of Y) 7 minutes
What is the bonus payable to employee X (to the nearest \$)?

- A \$35 B \$47 C \$70 D \$77

10. A company operates a differential piece-rate system and the following weekly rates have been set:

1 – 500 units \$0.20 per unit in this band
501 – 600 units \$0.25 per unit in this band
601 units and above \$0.55 per unit in this band
Employee A has produced 800 units in 45 hours worked

There is a guaranteed minimum wage of \$5 per hour for a 40-hour week paid to all employees.

What is the amount payable to employee A?

- A \$200 B \$235 C \$435 D \$440

11. The demand for a product is 12,500 units for a three month period. Each unit of product has a purchase price of \$15 and ordering costs are \$20 per order placed. The annual holding cost of one unit of product is 10% of its purchase price.

What is the Economic Order Quantity (to the nearest unit)?

- A 577 B 816 C 866 D 1,155

12. A company determines its order quantity for a raw material by using the Economic Order Quantity (EOQ) model.

What would be the effects on the EOQ and the total annual holding cost of a decrease in the cost of ordering a batch of raw material?

	EOQ	Total annual holding cost
A	Higher	Lower
B	Higher	Higher
C	Lower	Higher
D	Lower	Lower

13. A company uses 9,000 units of a component a year. The component has a purchase price of \$40 per unit and the cost of placing an order is \$160. The annual holding cost of one component is equal to 8% of its purchase price.

What is the Economic Order Quantity (to the nearest unit) of the component?

- A 530 B 671 C 949 D 1,342

14. The purchase price of an item of inventory is \$25 per unit. In each three-month period the usage of the item is 20,000 units. The annual holding costs associated with

one unit equate to 6% of its purchase price. The cost of placing an order for the item is \$20.

What is the Economic Order Quantity (EOQ) for the inventory item to the nearest whole unit?

- A 730 B 894 C 1,461 D 1,633

15. A company uses an overhead absorption rate of \$3.50 per machine hour, based on 32,000 budgeted machine hours for the period. During the same period the actual total overhead expenditure amounted to \$108,875 and 30,000 machine hours were recorded on actual production.

By how much was the total overhead under or over absorbed for the period?

- A Under absorbed by \$3,875
B Under absorbed by \$7,000
C Over absorbed by \$3,875
D Over absorbed by \$7,000

16. A cost centre has an overhead absorption rate of \$4.25 per machine hour, based on a budgeted activity level of 12,400 machine hours.
In the period covered by the budget, actual machine hours worked were 2% more than the budgeted hours and the actual overhead expenditure incurred in the cost centre was \$56,389.

What was the total over or under absorption of overheads in the cost centre for the period?

- A \$1,054 over absorbed
B \$2,635 under absorbed
C \$3,689 over absorbed
D \$3,689 under absorbed

17. A factory consists of two production cost centres (P and Q) and two service cost centres (X and Y). The total allocated and apportioned overhead for each is as follows:

P	Q	X	Y
\$95,000	\$82,000	\$46,000	\$30,000

It has been estimated that each service cost centre does work for the other cost centres in the following proportions:

	P	Q	X	Y
Percentage of service cost centre X to	40	40	—	20
Percentage of service cost centre Y to	30	60	10	—

After the reapportionment of service cost centre costs has been carried out using a method that fully recognises the reciprocal service arrangements in the factory, what is the total overhead for production cost centre P?

A \$122,400 B \$124,716 C \$126,000 D \$127,000

18. Two products G and H are created from a joint process. G can be sold immediately after split-off. H requires further processing before it is in a saleable condition. There is no opening inventory and no work in progress. The following data are available for last period:

			\$
Total joint production costs			384,000
Further processing costs (product H)			159,600
Product	Selling price	Sales	Production
	per unit	units	units
G	\$0.84	400,000	412,000
H	\$1.82	200,000	228,000

Using the physical unit method for apportioning joint production costs, what was the cost value of the closing inventory of product H for last period?

A \$36,400 B \$37,520 C \$40,264 D \$45,181

19. Two joint products A and B are produced in a process. Data for the process for the last period are as follows:

	A	B
	Tonnes	Tonnes
Sales	480	320
Production	600	400

Common production costs in the period were \$12,000. There was no opening inventory. Both products had a gross profit margin of 40%. Common production costs were apportioned on a physical basis.

What was the gross profit for product A in the period?

A \$2,304 B \$2,880 C \$3,840 D \$4,800

20. Normally no losses are expected from a process. Any abnormal losses are sold for scrap. Which of the following calculates the net cost to the company of one unit of abnormal loss?

- A Total input cost ÷ actual output units
- B Total input cost ÷ expected output units
- C (Total input cost – total scrap value) ÷ expected output units
- D (Total input cost ÷ expected output) – scrap value per unit

SECTION B [60 MARKS] ANSWER ANY THREE QUESTIONS

QUESTION ONE [20 MARKS]

a).Divha Manufacturers (Pvt) Ltd has three production departments: A and B and C and two production service departments X and Y. Overhead costs have been attributed to these departments as follows:

Department	\$'000'
A	120
B	80
C	65
X	24
Y	15

An analysis of the services provided by each service department shows the following percentages of total time spent for the benefit of each department:

Service Dept	Production/Service Departments				
	A	B	C	X	Y
X	30%	30%	20	----	20%
Y	50%	10%	30%	10%	----

Show the apportionment of production service department costs to production departments using the Repeated distribution Method and the Step Down Method. **[16 marks]**

b). State and explain the other two methods that may be used to reapportion the service cost centres. **[4 marks]**

QUESTION TWO [20 MARKS]

a) Handizivi has provided you with the following information, concerning his costs and revenue.

Sales revenue	\$200000
Variable costs	\$100000
Fixed costs	\$ 20000

He asked you Vanoziva to calculate the following for him:

- Break-even sales in value **[2 marks]**
- Break-even sales in volume **[2 marks]**
- The contribution sales ratio **[2 marks]**
- The margin of safety in value **[2 marks]**
- The margin of safety ratio **[2 marks]**
- The sales volume required to increase profits to \$120000 **[2 marks]**

b). What are the underlying essential assumptions to take into account when using the CVP analysis? **[6 marks]**

c). Define margin of safety and why is it important? **[2 marks]**

QUESTION THREE [20 MARKS]

The following is the data for Rugare Rugare Productions for the six months to 31 December 2018 that relates to the production output and associated production overhead cost.

Month	Units	Production Costs
July	340	2240
August	300	2160
September	380	2320
October	420	2400
November	400	2360
December	360	2280

Required:

- a). Calculate using the High –Low method
 - i). The variable production overhead cost per unite **[2 marks]**
 - ii). The total fixed costs **[2 marks]**
 - iii). The total cost for producing 10000 units **[2 marks]**
- b). Key Key manufacturers has the following total costs at two activity levels.

Activity level (units)	17000	22000
Total costs	140000	170000

Variable cost per unit is constant in this range of activity and there is a step up of \$5000 in the total fixed costs when activity exceeds 18000 units.

Required

What is the total cost at an activity level of 20000units **[6 marks]**

- c). A.B.C Limited uses between 75 and 90 litres of oil per day. Delivery times vary between 2-3 days. It has set its re-order level at 270 litres, and orders 500 litres each time.

You are required to calculate:

- i). The minimum level **[2 marks]**
- ii). The maximum level **[2 marks]**
- iii). The re-order level **[2 marks]**
- iv). The average stock level **[2 marks]**

QUESTION FOUR [20 MARKS]

a). The following data relate to department A for the latest period of Nice Juice Products Ltd, the producers of Mauyu Ice Lolo Juice.

Budgeted overheads	\$349780
Budgeted machine hours	87445
Actual overheads	\$437225
Actual machine hours	72785

Calculate:

- i). The predetermined overhead absorption rate [2 marks]
- ii). The overhead absorbed by actual activity [2 marks]
- iii). The under/over absorbed overheads [2 marks]

b). Mr Economist is facing storage and ordering problems at his warehouse. As a cost accountant he gave you the following management data material FGH:

Annual demand	1800 units
Cost of placing an order	\$2 per order
Annual holding cost	\$0.32 per unit

Required:

- i). Calculate the most economic order quantity for material FGH. [4 marks]
- ii). The total ordering costs [1 marks]
- iii). The sum of the ordering and stock holding costs. [1 marks]
- c). State four advantages and four disadvantages of JIT [8 marks]

END OF PAPER