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Monash University

Sample Examination

Faculty of Business and Economics Department of Accounting

EXAM CODES: ACC-ACF3200

TITLE OF PAPER: MANAGEMENT ACCOUNTING

EXAM DURATION: 2 hours and 10 minutes

WARNING.... Read on!

Students in the past relied on the sample/ practice exam and **FAILED**. This is what they did: looked through the tute questions+ solutions, then the sample exam+ solutions and then appeared at the exam hoping that the questions there would be in some combinations from the two resources listed above. The reality is that the exam comprises brand new questions- not copy-pasted from past resources (your moodle/ previous years' ones) or the textbook.

The following is what you should do:

1. Read the relevant text sections, make sure you are conceptually clear and able to apply the knowledge (a lot of students skip this step and go directly to the revision of the tute questions). Being conceptually clear is your best bet in the exam.
2. You don't have time and you want an alternative to step 1 above. What to do? Go through the lecture slides and your notes (I am assuming you attended or listened to the lectures regularly and hence confident in your notes, which would have captured the concepts well).
3. Go through the lecture examples (but remember they are at the basic level); tute questions (they have good varieties; but don't waste time on things that you already know well- move on); solve the sample exam without looking at the solution.
4. This last step is crucial and best done in group studies. If you want to avoid panic in the exam, you need to win over the 'fear of the unknown'. Because exam is 'unknown' to you, it may trigger some tension. The way to handle this is to attempt many 'unknown' questions from various sources (e.g., your textbook's end of chapter questions that were not picked up for the tutes and where you don't have the 'subliminal' comfort of resorting to a handy solution). Check answers with each other in the group and discuss.

Your exam will be out of 100 with five multipart questions. But unlike the sample/practice questions below (each worth 20 marks), they are worth different marks but still total up to 100.

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ACC-ACF 3200 MANAGEMENT ACCOUNTING**Question 1**

O'Leary Enterprises manufactures ultra-light aircraft using a typical production line manufacturing process. The company has recently hired a new purchasing manager, Susan, who is reviewing the manner in which inventory is purchased. In regards to the engines for the ultra- light aircraft Susan has noted that for the past few years O'Leary Enterprises has been placing orders for 125 engines at a time based on the recommendation of the supplier's salesperson. Susan is not convinced that this is the most economical approach and believes that O'Leary Enterprises should start using the economic order quantity (EOQ) method to determine the amount and frequency of orders. Susan has gathered the following information:

Annual demand in units	250
Working days per year	250
Lead time, in days	10
Ordering costs	\$1,000 per order
Annual unit carrying costs	\$ 200 per unit

Required:

- a. Use the EOQ formula to determine the optimal order quantity.
- b. Based on your answer to requirement (a), how many orders will be placed per year?
- c. Determine the reorder point.
- d. What is the total annual cost of ordering and storing the engines?
- e. Susan believes that the carrying cost for the engines is actually far greater than \$200. Susan suspects that a lot of overhead costs associated with the engines' special handling and storage requirements are currently not assigned in calculating the carrying costs. Susan's quick calculation leads her to believe that the actual unit carrying cost is more likely to be \$500. Susan further believes that with the implementation of a B2B (business-to-business) system with the supplier, ordering costs could be reduced to \$200. Based on this new information calculate:
 - i. The optimal order quantity.
 - ii. The number of orders placed per year.
 - iii. The total annual cost of ordering and storing engines.
- f. Given the new figures calculated in requirement (e) Susan is considering whether O'Leary Enterprises should move towards a just in time (JIT) production process. What are the non-financial factors that Susan needs to consider prior to suggesting that O'Leary enterprises moves to a JIT system?

(2 + 1 + 2 + 2 + 5 + 8 = 20 Marks)

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ACC-ACF 3200 MANAGEMENT ACCOUNTING

Question 2

The Department of Social Security performs many functions relating to the payment of benefits to members of society in need. Described below is a fictional depiction of the process associated with receiving and processing applications for support payments in the Melbourne office.

Area A receives the forms lodged in-person by applicants, stamps the forms as being received, and issues a confirmation of receipt letter to the applicant. This is all done while the applicant waits at the desk and can take between 10 and 15 minutes. The completed forms are then filed in an "In tray" within area A. Once every hour a clerk comes by and collects all the completed forms and files them in a storage area. This storage area is then cleared at the end of each day and all the forms are sent to Area B. Area A has 10 employees and processes 300 forms per day.

Area B receives the forms at the end of each day and then sends them immediately to Area D for storage as they have no space within their area and are always swamped with work. When forms are required they send a junior clerk over to Area D to collect the forms. Sometimes forms get lost in this process, but no one is aware of this until the applicant rings up to enquire what is happening with their application and no record of it being processed can be found. As the form is lost the applicant has to come into the Social Security Office again and complete a new application, which is then processed as if it was a new application. This often results in applicants getting very annoyed at Area A staff.

Area B runs a verification check on the individual by accessing tax records, social security records, bank records, etc. to check that the applicant meets the financial requirements to receive support payments (that is the checks establish whether applicants are receiving income from other sources and their levels of assets). If Area B deems that the person is in fact eligible for the form of assistance they have applied for then the Forms are sent to Area C. If the person is not eligible for support the form is sent to Area D with a note indicating why the application has been rejected. Area B has 10 staff and the capacity to processes 200 forms per day, of which on average 10% are rejected.

Area C checks that the forms were correctly completed by the applicants (i.e., that all questions were completed and that all required information has been supplied). If the forms were correctly completed they are sent to Area D with a note indicating that the applicant has been approved for support and that the form is correctly completed. If there is a mistake in the application, which occurs in 20% of applications, it is still sent to Area D but with a note indicating "incomplete form, new application required". In these instances the applicant has to start the whole process again and the new application is treated as a new application. Area C has 5 staff and the capability to process up to 250 forms a day.

Area D inputs all required data and mails out the letters to applicants indicating either: a) application approved and that they will start receiving payments; b) application rejected with the reason provided; or c) incomplete information and a new submission required. Area D has 20 staff and can process up to 500 forms per day.

Recently a talk-back radio commentator launched a stinging attack on The Department for Social Security highlighting what he called inefficient processes, a lack of customer focus, lost

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applications, and delays of weeks after which applicants find out that they need to submit a new form due to one tiny mistake or omission. The radio stations' phone lines were inundated with angry callers all with stories of bad experiences. National newspapers have since been inundated with letters to the editor all highlighting bad experiences with the Department of Social Security.

In a hurried response to quell the bad media publicity the General Manager of the Department of Social Security has announced that they will be retraining staff in Area A to be more customer focused (as they are the face of the organisation) and also on techniques to process applications quicker. The General Manager also announced that Social Security has decided to increase the number of staff in Area A to 15 people, which will result in "service with a smile and ensuring all 300 applications are processed each day, every day!". Ultimately, Social Security hopes this will translate to a better customer experience. It hopes that as a result of these measures applicants will be happy given that they will have to spend less time in a Social Security Office waiting to submit their forms and when they do submit their forms they will be served by a smiling employee who is customer focused.

You are the Senior Accountant within the Department of Social Security and you have been asked to assess the benefits of the proposals announced by the General Manager. You have recently attended a training course on the Theory of Constraints.

Required

- a. Draw a diagram of the current service process.
- b. How many applications are processed each day by the Melbourne office?
- c. Identify the bottleneck activity(ies) that would need to be removed to meet the announced target of 300 applications processed per day.
- d. Identify the non-value activities.
- e. Suggest ways in which the process could be re-engineered to meet the 300 target. As part of your suggestions state the number of staff that would be required in each area.

(3 + 1 + 2 + 4 + 10 = 20 Marks)

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ACC-ACF 3200 MANAGEMENT ACCOUNTING**Question 3**

Van and Mourik (known as VAM) are a manufacturer of designer up-market business shirts. To maintain the exclusivity of their brand name VAM only sell their shirts to four retail stores located in Carlton, Chadstone, Toorak, and South Yarra. The list selling price per business shirt is \$200 and the average cost per business shirt is \$110. VAM has recently appointed a new accountant, Greg, who decided that it would be a good idea to evaluate the profitability of each of VAM's four customers. Greg has collected the following information for 2016:

Activity	Cost driver	Rate
Order processing	Number of purchase orders	\$250 per order
Sales visits	Number of customer visits	\$1,000 per visit
Delivery – regular	Number of regular deliveries	\$300 per delivery
Delivery – rush orders	Number of rushed deliveries	\$2,000 per delivery

	Carlton	Chadstone	Toorak	South Yarra
Total number of orders	40	60	200	250
Total number of sales visits	10	10	20	20
Regular deliveries	30	50	120	150
Rushed deliveries	10	10	80	100
Average number of shirts per order	400	200	20	25
Average selling price per shirt	\$150	\$180	\$170	\$160

Required

- Calculate the profitability for each of VAM's four customers.
- What factors should VAM consider in deciding whether to drop unprofitable customers?
- Based on your analysis in requirement (a), make some recommendations as to how VAM could increase its operating income.

(12 + 4 + 4 = 20 marks)

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Question 4 *[Calculations in this question are too easy! The rest are fine. Chk out the bonus question]*

Prabanga Metal Works (PMW) manufactures garage roller-doors. The manufacture of a roller-door requires the following:

Direct materials standard	10 square meters of sheet metal at \$5 per metre
Direct labour standard	5 hours at \$10

During June PMW made 1,500 roller-doors. The purchasing manager through buying from a new supplier was able to purchase 16,000 square metres of sheet metal for \$78,400. All 16,000 square metres were used in June's production. Direct labour totalled 7,600 hours for \$79,800.

Required

- a. Calculate the following variances for June and indicated whether they are favourable or unfavourable:
 - i. Direct material price variance,
 - ii. Direct material quantity variance,
 - iii. Direct labour rate variance,
 - iv. Direct labour efficiency variance,
- b. For each of the above four variances separately describe possible events that may have caused the variance.
- c. Comment on any possible interactions among the variances.
- d. In this instance, comment on who you believe should be held to account for the direct material quantity variance and the direct labour variances.
- e. Based on your above analysis of variances was the purchasing managers' decision to change suppliers a good decision.

(6 + 4 + 3 + 4 + 3 = 20 marks)

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Question 5

Cornick Cellular Technologies (CCT), which manufactures mobile phones, has two divisions Assembly and Finishing. The Assembly division completes all the electrical and technical aspects of the manufacturing process, while Finishing places the casing on the mobile phones. Both divisions have the capacity to produce 1 million phones per annum, though they are currently operating at 60% of capacity.

Assembly is required to transfer the nearly complete mobile phones to Finishing at a predetermined transfer price of \$100. Assembly's standard variable cost per unit is \$90, with fixed costs of \$10 per unit (based on budgeted production of 600,000). If it was allowed by head office, Assembly would be able to sell its nearly complete mobile phones to outside buyers at \$120 per unit.

In placing the casings on the mobile phones, Finishing incurs costs of \$30 per mobile (\$10 of which are fixed costs – calculated on budgeted production of 600,000 phones). Finishing sells all manufactured mobile phones to retailers for \$160 per phone.

Assembly has repeatedly brought to CCT head office attention the fact that if it was allowed it would be able to increase production to 1 million units a year (i.e., to full capacity) and sell all these units at \$120 each to outside buyers. Consequently, CCT head office is considering making the two divisions fully autonomous and consequently allowing the managers of the two divisions to decide on a transfer price and how many, if any, units are transferred between divisions. The manager of the finishing department is arguing against this stating this would not be in the best interests of CCT.

Required

- Based on the current transfer pricing arrangements, calculate the contribution margin and profit for Assembly and Finishing.
- Assuming spare capacity, if Assembly and Finishing were free to negotiate their own transfer price, what is the range in which we would observe the transfer price (i.e., provide the minimum and maximum transfer prices under which a transfer would occur between divisions)?
- How would your answer to requirement (b) alter in Assembly had no spare capacity?
- What transfer price would you recommend if there was no outside market for the Assembly's nearly complete mobile phones and the Assembly had spare capacity?
- Why is the manager of Finishing arguing against the proposal by CCT head office to allow the two divisions to negotiate their own transfer price? Is the manager of Finishing correct that such a proposal is not in the best interests of CCT?

(8 + 2 + 2 + 2 + 6 = 20 marks)

Total = 100 marks

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Bonus practice question 1

Henry Ltd has two divisions – the Widget Division and the Gadget Division. The Widget Division manufactures widgets, which are then transferred to the Gadget Division for further processing into gadgets. The standard cost of a gadget is as follows:

	Widget Division	Gadget Division
Direct material	\$25.00	\$40.00**
Direct labour	\$30.00	\$20.00
Variable overhead	\$10.00	\$35.00
Fixed overhead*	<u>\$15.00</u>	<u>\$10.00</u>
Standard cost	\$80.00	\$105.00

* This rate was obtained as 50% of direct labour cost.

** Excludes the transfer price for the widget.

The Widget Division is also able to sell widgets to external companies for \$90 per unit. The Gadget Division sells gadgets for \$125 per unit. The markets for both widgets and gadgets are very competitive and comprise of multiple sellers and buyers. The Widget Division and the Gadget Division both currently have excess capacity.

Required

- Comment on the use of standard costs, as opposed to actual costs, as a basis for setting transfer prices. Comment on the use of absorption cost as a basis for setting transfer prices.
- Assume that the transfer price for a widget is based on standard absorption cost plus a 25% mark-up. Assume also the Gadget Division has received a special order for 500 gadgets at a price of \$180 each. Would an autonomous Gadget Division manager be motivated to make a decision regarding the special order that is in the best interests of the organisation as a whole? Provide calculations to support your answer.
- Using the transfer pricing general rule, calculate the transfer price for widgets. Is this price likely to lead to the Gadget Division pursuing a goal-congruent outcome?

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Bonus practice question 2

Cats4Life manufactures the super-absorbent cat litter called "AbsorbMax". The company uses a standard costing system to account for manufacturing costs. The standard cost per bag of AbsorbMax is as follows:

Direct materials: 5 kg at \$2 per kg	\$10.00
Direct manufacturing labour: 0.25 DLHs at \$20 per hour	5.00
Variable manufacturing overhead: 0.1 machine hours (MHs) at \$40 per hour	4.00
Fixed manufacturing overhead: 0.25 DLHs at \$5 per hour	<u>1.25</u>
	\$20.25

The following information was extracted from Cats4Life's records for the month of March:

	Debit	Credit
Sales		\$57,123
Direct materials	\$29,040	???
Direct materials price variance*	\$4,840	
Direct materials quantity variance	\$1,050	
Direct manufacturing labour rate variance	\$486	
Direct manufacturing labour efficiency variance		\$788
Variable manufacturing overhead	\$9,000	
Fixed manufacturing overhead	\$2,000	
Applied fixed manufacturing overhead		\$2,625

* This amount applies to materials purchased during March.

There were no beginning inventories at the start of March. Budgeted production for the year was 24,000 bags — that is 2,000 bags per month — and this was used to determine the fixed manufacturing overhead rate (based on DLHs) and the variable manufacturing overhead rate (based on MHs). Actual production in March was 2,100 bags of AbsorbMax and actual sales were 1,900 bags. During March, 200 MHs were employed in production.

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Required

Compute each of the following items for Cats4Life for the month of March. Show your calculations.

- a. Actual direct manufacturing labour hours worked.
- b. Actual direct manufacturing labour wage rate.
- c. Actual quantity of direct materials used.
- d. Actual quantity of direct material purchased.
- e. Actual direct materials price per kilogram.