



## FACULTY OF BUSINESS

### FINAL EXAMINATION

Student ID (in Figures) : 

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Student ID (in Words) : \_\_\_\_\_  
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Course Code & Name : **ACC3223 STRATEGIC MANAGERIAL ACCOUNTING**  
Semester & Year : JANUARY – APRIL 2020  
Lecturer/Examiner : JAMES LIOW  
Duration : 3 Hours

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#### INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 1 part:  
**PART A (100 marks) : Answer FOUR (4) compulsory questions. Answers are to be written in the Answer Booklet provided.**
2. Candidates are not allowed to bring any unauthorized materials except writing equipment. Electronic dictionaries are strictly prohibited.
3. Only ballpoint pens are allowed to be used in answering the questions.

**WARNING:** The University Examination Board (UEB) of BERJAYA University College regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from BERJAYA University College.

**Total Number of pages = 7 (Including the cover page)**

**PART A : COMPULSORY QUESTIONS (100 MARKS)**

**INSTRUCTION (S)** : There are **FOUR (4)** compulsory questions in this section. Answer **ALL** questions. Write your answers in the Answer Booklet(s) provided.

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**QUESTION 1**

The Portable Garage Co (PGC) is a company specialising in the manufacture and sale of a range of products for motorists. It is split into two divisions: the battery division (Division B) and the adaptor division (Division A). Division B sells one product – portable battery chargers for motorists which can be attached to a car's own battery and used to start up the engine when the car's own battery fails. Division A sells adaptors which are used by customers to charge mobile devices and laptops by attaching them to the car's internal power source.

Recently, Division B has upgraded its portable battery so it can also be used to rapidly charge mobile devices and laptops. The mobile device or laptop must be attached to the battery using a special adaptor which is supplied to the customer with the battery. Division B currently buys the adaptors from Division A, which also sells them externally to other companies.

The following data is available for both divisions:

<b>Division A</b>	
Selling price per adaptor to Division B (note i)	\$7.00
Selling price per adaptor to external customers	\$15.00
Costs per adaptor:	
Materials	\$3.00
Labour costs	\$4.00
External variable costs (note ii)	
Annual fixed overheads	\$2,200,000
Current annual production capacity and sales of adaptors – both internal and external sales (units)	350,000
Maximum annual external demand for adaptors (units)	200,000

<b>Division B</b>	
Selling price for each portable battery, including adaptor	\$180.00
Costs per battery:	
Adaptor from Division A (note i)	\$7.00
Other materials from external suppliers	\$45.00
Labour costs	\$35.00
Annual fixed overheads	\$5,460,000
Annual production and sales of portable batteries (units)	150,000
Maximum annual market demand for portable batteries (units)	180,000

Additional information:

- (i) Currently, Head Office's purchasing policy only allows Division B to purchase the adaptors from Division A at the transfer price based on variable costs of \$7.00 per unit (material costs of \$3.00 plus labour costs of \$4.00).
- (ii) In addition to the materials and labour costs above, Division A incurred a variable cost of \$1.00 per adaptor for all adaptors it sells externally.
- (iii) Division A has always unhappy with the current transfer pricing policy as the performance of the division is measured based on the profitability of the division. Hence for this reason, the manager in Division A felt the current system is unfairly measured.
- (iv) After discussions with both of the divisional managers and to ensure that the managers are not demotivated, Head Office has now agreed to change the transfer pricing policy at the negotiated price of \$13.00 per adaptor, provided that it optimises or maintain the profits of the group as a whole.

**Required**

- a) Under the current transfer pricing system, prepare a profit statement showing the contribution margin and profit for each of the divisions and for PGC as a whole. *(The sales and costs figures should be split into external sales and inter-divisional transfers, where appropriate).* (8 marks)
- b) In your answer to part (a), Justify why the manager of Division A is unhappy with the current transfer pricing policy and provide any **TWO** (2) consequences if PGC is reluctant to change the current transfer pricing policy. (3 marks)
- c) Assuming that the new group purchasing policy will ensure the optimisation or maintaining of group profits, prepare a profit statement showing the contribution margin and profit for each of the divisions and for PGC as a whole. In your opinion, discuss whether this new policy will achieve goal congruence. (9 marks)
- d) Calculate and discuss what the minimum transfer price per unit would be for any additional adaptors supplied above the current level by Division A to Division B so that Division B can meet its maximum annual demand for the new portable batteries. (5 marks)

**[Total 25 marks]**

## QUESTION 2

Jamair was founded in September 2007 and is one of a growing number of low-cost airlines in the country of Shania. Jamair's strategy is to operate as a low-cost, high efficiency airline, and it does this by:

- (i) Operating mostly in secondary cities to reduce landing costs.
- (ii) Using only one type of aircraft in order to reduce maintenance and operational costs. These planes are leased rather than bought outright.
- (iii) Having only one category of seat class.
- (iv) Having no pre-allocated seats or in-flight entertainment.
- (v) Focusing on e-commerce with customers both booking tickets and checking in for flights online.

The airline was given an 'on time arrival' ranking of seventh best by the country's aviation authority, who rank all 50 of the country's airlines based on the number of flights which arrive on time at their destinations. 48 Jamair flights were cancelled in 2013 compared to 35 in 2012. This increase was due to an increase in the staff absentee rate at Jamair from 3 days per staff member per year to 4.5 days.

The average 'ground turnaround time' for airlines in Shania is 50 minutes, meaning that, on average, planes are on the ground for cleaning, refuelling, etc for 50 minutes before departing again. Customer satisfaction surveys have shown that 85% of customers are happy with the standard of cleanliness on Jamair's planes.

The number of passengers carried by the airline has grown from 300,000 passengers on a total of 3,428 flights in 2015 to 920,000 passengers on 7,650 flights in 2019. The overall growth of the airline has been helped by the limited route licensing policy of the Shanian government, which has given Jamair almost monopoly status on some of its routes. However, the government is now set to change this policy with almost immediate effect, and it has become more important than ever to monitor performance effectively.

### **Required:**

- a) Discuss how the balanced scorecard differs from the traditional financial performance measurement. (4 marks)
- b) Describe each of the four perspectives of the balanced scorecard. (12 marks)
- c) For any **ONE** (1) perspective of the balanced scorecard, identify one goal together with a corresponding performance measure which could be used by Jamair to measure the company's performance. The goals and measures should be specifically relevant to Jamair. For each pair of goals and measures, explain why you have chosen them. (9 marks)

**[Total 25 marks]**

### QUESTION 3

Solar Systems Co (S Co) makes two types of solar panels at its manufacturing plant: large panels for commercial customers and small panels for domestic customers. All panels are produced using the same materials, machinery and a skilled labour force. Production takes place for five days per week, from 7 am until 8 pm (13 hours), 50 weeks of the year. Each panel has to be cut, moulded and then assembled using a cutting machine (Machine C), a moulding machine (Machine M) and an assembly machine (Machine A).

As part of a government scheme to increase renewable energy sources, S Co has guaranteed not to increase the price of small or large panels for the next three years. It has also agreed to supply a minimum of 1,000 small panels each year to domestic customers for this three-year period.

Due to poor productivity levels, late orders and declining profits over recent years, the finance director has suggested the introduction of throughput accounting within the organisation, together with a 'Just in Time' system of production.

Material costs and selling prices for each type of panel are shown below.

	Large panels (\$)	Small panels (\$)
Selling price per unit	12,600	3,800
Material costs per unit	4,300	1,160

Total factory costs, which include the cost of labour and all factory overheads, are \$12 million each year at the plant.

Out of the 13 hours available for production each day, workers take a one hour lunch break. For the remaining 12 hours, Machine C is utilised 85% of the time and Machines M and A are utilised 90% of the time. The unproductive time arises either as a result of routine maintenance or because of staff absenteeism, as each machine needs to be manned by skilled workers in order for the machine to run. The skilled workers are currently only trained to work on one type of machine each. Maintenance work is carried out by external contractors who provide a round the clock service (that is, they are available 24 hours a day, seven days a week), should it be required.

The following information is available for Machine M, which has been identified as the bottleneck resource:

	Large panels (Hours per unit)	Small panels (Hours per unit)
Machine M	1.4	0.6

**Required**

- a) Calculate the total cost per factory hours (*round to 2 decimal places*). (3 marks)
- b) Calculate the throughput accounting ratio for large panels and for small panels and explain what they indicate to S Co about production of large and small panels (*round to 2 decimal places*). (10 marks)
- c) Assume that your calculations in part (a) have shown that large panels have a higher throughput accounting ratio than small panels. Using throughput accounting, prepare the optimum production units given the bottleneck hours and calculate the maximum profit of S Co for the next year. (6 marks)
- d) Suggest **THREE** (3) ways in which S Co could try to increase its production capacity and hence increase throughput in the next year without making any additional investment in machinery. (6 marks)

**[Total 25 marks]****QUESTION 4**

JMM is a car manufacturer. It is a relatively new company and the directors are keen to establish a reputation for high quality. The management of JMM recognises the need to establish a culture of Total Quality Management (TQM) at the company.

JMM has classified the following cost of quality:

Type of Costs	Description
Prevention	Review of suppliers' components for faulty or sub-standard parts received from suppliers.
Appraisal	Equipment testing and maintenance to ensure all equipment and machineries are working efficiently with zero breakdown.
Internal failure	<ul style="list-style-type: none"> <li>- Unproductive down time due to equipment breakdown or staff are untrained in handling the equipment.</li> <li>- Manufacture rework that fails to meet certain standard.</li> </ul>
External failure	<ul style="list-style-type: none"> <li>- Customer support to ensure customer satisfaction.</li> <li>- Warranty repair to ensure the products sold are not returned for replacement.</li> </ul>

The management accounting team at JMM has collected the following actual information for the most recent quarter of the current year:

Cost data	\$
Customer support centre cost per hour	58
Equipment testing and maintenance cost per hour	30
Manufacturing rework cost per car	380
Warranty repair cost per car	2,600

Volume and activity data	
Cars requiring manufacturing rework	800 cars
Cars requiring warranty repair	650 cars
Customer support centre time	500 hours
Production line equipment testing time	400 hours

Additional information:

- (i) JMM undertook a quality review of its existing suppliers during the quarter at a cost of \$60,000. This is to prevent any faulty products due to the quality issues of components received.
- (ii) Due to the quality issues in the quarter, the car production line experienced periods of unproductive 'down time' which cost \$375,000.
- (iii) Total sales recorded for the quarter is \$6 million.

**Required**

- a) Produce a Cost of Quality (COQ) Report for JMM showing the total costs of each four recognised quality and total quality costs using the following format and headings:

Cost Categories	Volume	Rate (\$)	Costs (\$)
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(6 marks)

- b) Compute the following:

- (i) Total cost of conformance
- (ii) Total cost of non-conformance
- (iii) Total costs of quality as a percentage of sales
- (iv) Ratio of costs of conformance to total costs of quality
- (v) Ratio of costs of non-conformance to total costs of quality
- (vi) Costs of non-conformance as a percentage of total sales

(11 marks)

- c) Explain the purpose of the COQ Report in part (a). Comment how the relationship between conformance and non-conformance costs would support the development of a TQM culture at JMM and way to improve the overall quality costs.

(8 marks)

**[Total 25 marks]**

**END OF QUESTION PAPER**