Private & Confidential



FACULTY OF BUSINESS

FINAL EXAMINATION

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Lecturer/Examiner	:	JAM	ES LIC)W								
Duration	:	3 Ho	ours									

: 3 Hours

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 into the Examination Hall. Electronic dictionaries are strictly prohibited.
- 3. This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.
- 4. Only ballpoint pens are allowed to be used in answering the questions, with the exception of multiple choice questions, where 2B pencils are to be used.
- 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.

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.

QUESTION 1

A company, Mega Ltd started a quality improvement programme in July 2019. At the end of first quarter of 2020 management of the company desires to compare the results with the first quarter of previous year to assess the financial impact of quality improvement programme. Statistics for 1st quarters of both years are as under:

		2019		2020			
Cost	July \$'000	August \$'000	September \$'000	July \$'000	August \$'000	September \$'000	
Process engineering	66	74	83	116	146	183	
Training	393	431	477	633	765	911	
Sales lost	1,476	1,209	993	734	632	576	
Sales return	807	632	491	339	285	252	
Inspection	42	47	53	72	89	110	
Rework	474	380	300	218	185	167	
Quality assurance	186	195	206	239	263	288	
Scrap	528	435	357	267	231	210	
Testing	48	51	56	68	78	90	
Customer complaint	117	104	90	75	68	65	

Mega Ltd has classified the following cost of quality:

Type of Costs	Description
Prevention	 Carry out quality control assurance before, during, and after production to ensure consistency in product quality. Prepare and conduct quality-related training programme to ensure workers are competent in their areas of work. Enhancement of manufacturing process engineering to increase efficiency in operations.
Appraisal	- Equipment testing and inspection to ensure all equipment and machineries are working efficiently with zero breakdown.
Internal failure	 Unproductive down time due to equipment breakdown has resulted in manufacturing scrap. Manufacture rework that fails to meet certain standard.
External failure	 Product failures that have resulted sales return after the products have been sold. Lost of market shares due to perception of poor quality from customers. Poor handling of customers' complaint due to dissatisfaction of products.

Total sales recorded for the quarter of 2019 is \$6 million and \$8 million for 2020.

Required

- a) Produce a Cost of Quality (COQ) Report for 1st quarter of the monthly results of two years showing the total costs of each four recognised quality and total quality costs. (13 marks)
- b) Compute the following on quarterly basis of two years:
 - (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

(6 marks)

 c) Comment how the relationship between conformance and non-conformance costs would support the development of a TQM culture at Mega Ltd and comment on how the conformance costs would have the impact on the revenue.
 (6 marks)

[Total 25 marks]

QUESTION 2

AST is a grocery and general merchandise retail group. AST has supermarkets located in most towns and cities in its home country. Over the last few years, profits have fallen and AST has recognised that it has paid insufficient attention to customer care. AST has now realised the importance of the customer experience at its supermarkets. In an attempt to earn the loyalty of its customers, AST has introduced a loyalty card scheme that rewards customers with discount vouchers based on their spend and buying patterns at supermarkets.

The management of AST is considering the introduction of a balanced scorecard approach to manage the performance of its stores.

Required

- a) Discuss how the balanced scorecard differs from the traditional financial performance measurement. (4 marks)
- b) Recommend an objective and a suitable performance measure for each of three non-financial perspectives of a balanced scorecard that AST could use to support its new strategy of improving the customer experience.

Note: in your answer you should state three perspectives and then recommend with reasons an objective and a performance measure for each one of your three perspectives. (15 marks)

c) Discuss the cause and effect relationship between the financial perspective and the other three perspective. Provide an example on how the three non-financial perspectives could lead to the financial perspective.
 (6 marks)

QUESTION 3

The Polyolefin Company (TPC) is the first major polyolefin manufacturer in Southeast Asia and has been in operations since February 2019. A plant expansion has enabled TPC to become one of the largest and most successful polyolefin producers in the region.

The new expansion will have the three machines manufacturing three different products. The projected machine utilisation in minutes for each of the three products are as follows:

Draduat	11	Machine 1	Machine 2	Machine 3	
Product	Units	Minutes per unit	Minutes per unit	Minutes per unit	
Α	600	5	4	3	
В	500	4	5	6	
С	400	3	3	3	

However, the maximum capacity of the three machines are as follows:

Machine 1	Machine 2	Machine 3	
Minutes	Minutes	Minutes	
7,000	6,200	5,800	

The selling price and direct material costs for each product are shown below:

Product	Selling price (\$)	Direct material (\$)
Α	200	100
В	300	180
С	280	200

Total factory costs, which include the cost of labour and all factory overheads amounting to \$125,000

Required:

a) Identify which machine has the bottleneck in minutes and support your answer with calculation.

(5 marks)

- b) Calculate the total cost per factory minutes (round to 2 decimal places). (3 marks)
- c) Calculate the throughput accounting ratio for the three products and explain what do the ratio indicate about the three products (round to 2 decimal places).
 (9 marks)
- d) Prepare the optimum production units given the bottleneck minutes and calculate the maximum profit of PV Solar.
 (8 marks)

[Total 25 marks]

QUESTION 4

Kiah Ltd is company that produces soft drinks. The company has two divisions: Division A and Division B. Division A manufactures metal cans that are sold to external customers and also to Division B if there is available capacity. Division B produces soft drinks and sells them to external customers in the cans that it obtains from Division A.

The following data are for the latest year of operations of a Kiah Ltd which has two divisions:

	Division A (\$)	Division B (\$)
Sales	10,890,000	12,350,000
Net operating profit	750,000	540,000
Investment	3,000,000	2,000,000

The company's minimum required rate of return 16%

Required

- a) Calculate the following for both the divisions of Kiah Ltd:
 - (i) Return on investment (ROI)
 - (ii) Residual income

(4 marks)

- b) In each of the performance measures calculated in part (a), indicate which division perform better and discuss the performance of the two divisions for the year. (6 marks)
- c) Explain the impact the difference in ROI and residual income could have on the behaviour of the manager of the worst performing division. (4 marks)

This year's manufacturing information of Division A and Division B is as follows:

	Division A (\$ per can)	Division B (\$ per can)
Selling price	18.00	25.00
Less:		
Variable costs	9.00	17.00
Packing costs	1.00	-
	Units	Units
Production	27,000	3,000

Required

d) Prepare this year's profit or loss statement showing for each of the divisions and for Kiah Ltd as a whole based on the above information.
 (2 marks)

Kiah Ltd has requested Division A to supply 3,000 units metal cans this year to use in the production of soft drinks. Division B has received a bid from an outside supplier for the metal cans at the price of \$17.00 per can.

Division A has the capacity to produce 30,000 units metal cans per year. Division A expects to sell 27,000 units of the metal cans to outside customers this year at a price of \$18.00 per can.

As Division A has spare capacity to produce 3,000 metal cans for Division B, the manager of Division A is unsure of the selling of metal cans to be to be charged to Division B. Hence, the management of Kiah Ltd will decide on the selling price of metal cans to Division B.

The cost of packing and shipping the metal cans for outside customers is \$1.00 per can. These packing and shipping costs would not be incurred on sales of the metal cans to Division B.

Required

e) Calculate the minimum transfer price which would be acceptable to Division A and identify the maximum transfer prices which would be acceptable to Division B for the supply of the metal cans.

(3 marks)

 f) Prepare the profit or loss statement showing for each of the divisions and for Kiah Ltd as a whole if the minimum transfer price is agreed.
 (3 marks)

Assuming Division A has the same capacity to produce 3,000 metal cans and expects to sell 27,000 metal cans to outside customers this year. To fill the order from Division B of 6,000 metal cans, Division A would have to cut back its sales to outside customers.

Required

g) Calculate how many metal cans that Division A needs to cut down to outside customers to fill the order from Division B.
 (3 marks)

[Total 25 marks]

END OF QUESTION PAPER