

**UNIVERSITI KUALA LUMPUR  
MALAYSIAN INSTITUTE OF INDUSTRIAL TECHNOLOGY**

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**FINAL EXAMINATION  
JANUARY 2016 SEMESTER**

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**COURSE CODE : JQB 30403**  
**COURSE TITLE : COST OF QUALITY**  
**PROGRAMME LEVEL : BACHELOR**  
**DATE : 29 MAY 2016**  
**TIME : 2.30 PM – 5.30 PM**  
**DURATION : 3 HOURS**

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**INSTRUCTIONS TO CANDIDATES**

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1. Please read the instructions given in the question paper CAREFULLY.
  2. This question paper is printed on both sides of the paper.
  3. This question paper consists of ONE (1) section, Section A.
  4. Answer FOUR (4) questions from FIVE (5) questions.
  5. Please write your answers on the answer booklet provided.
  6. Please answer all questions in English only.
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**THERE ARE 5 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.**

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SECTION A (TOTAL: 100 marks)

**INSTRUCTION: Answer FOUR (4) questions only.**

**Please use the answer booklet provided.**

**Question 1**

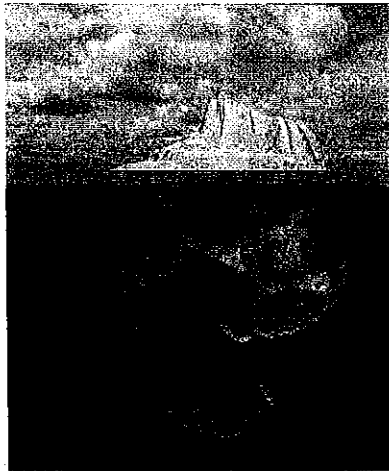


Figure 1: illustration of iceberg

You are a Quality Manager at Kia Motor Company and needed to prepare presentation regarding the Iceberg Model for the top management. Your content should be included:

(a) Explain the concept of the Iceberg.

(5 marks)

(b) Sketch the model of Iceberg with **THREE (3)** example of visible and hidden cost.

(10 marks)

(c) The advantages and disadvantages of Iceberg model.

(10 marks)

Question 2



Figure 2: Quality Guru's

- (a) Explain the definition of cost of quality based on Gurus of Quality definition. (5 marks)
  
- (b) Cost of quality divide by cost of non-conformance and cost of conformance. Explain the cost of conformance with the example. (5 marks)
  
- (c) Compare the internal failure and external failure cost. (5 marks)
  
- (d) Classify the following quality costs as cost of conformance (COC) or cost of non-conformance (CNC) and decided the category of cost of quality. (Prevention, Appraisal, Internal failure or External failure costs);
  - i. Redesigning a product to eliminate the need to use an outside component with a high defect rate.
  - ii. Discount allowed to customer because product failed to meet customer specification
  - iii. Stopping work to correct process malfunction (discovered using statistical process control procedures)
  - iv. Sampling a batch of goods to determine if batch has an acceptance defect rate. (10 marks)

Question 3



Figure 3: PERMANIS SDN BHD

At the end of 2015, PERMANIS SDN BHD (Company No: 15978-V) began to implement an environment quality management program. As a first step, it identified the following costs in its accounting records as environmentally related for the year just ended:

Table 1: Cost of quality

Item	2014
Developing KPI	RM 60, 000
Recycling products	RM 75, 000
Evaluating and selecting supplier	RM 120, 000
Licensing facilities for producing contaminants	RM 360, 000
Settling personal injury claims	RM 1,200, 000
Treating and disposing of toxic waste	RM 4,800, 000
Cleanup of chemically contaminated soil	RM 1,800, 000
Inspecting products and processes	RM 600, 000
Operating pollution control equipment	RM 840, 000

(a) Prepare a cost of quality report by category. Assume that total operating costs are RM 50,000,000.

(15 marks)

(b) Create pie chart to illustrate the relative distribution percentages for each cost of quality category.

(10 marks)

## Question 4

- (a) Thomson Company, a manufacturing firm, has supplied the following information from its accounting records for the last calendar year. Calculate;

Table 2: Total Cost

Salary of the factory receptionist	RM 28, 000
Depreciation on factory equipment	RM 9, 000
Factory rent	RM 24, 000
Direct labor	RM 120, 000
Direct material	RM 216, 000
Factory utilities	RM 63, 000
Indirect labor in factory	RM 30, 000
Supervision labor in factory	RM 50, 000

- i. Direct material (2 marks)
  - ii. Direct labor (2 marks)
  - iii. Overhead (7 marks)
  - iv. Prime cost (2 marks)
  - v. Conversion cost (2 marks)
  - vi. Total product cost (2 marks)
- (b) Discuss any **TWO (2)** categories of non-production costs. (8 marks)

Question 5

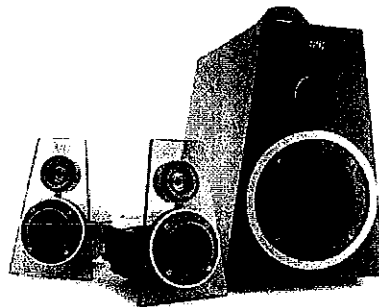


Figure 4: Altec-1 Speaker

Armageddon Company produces high-end audio system which has two models which is Model Altec-1 and model Arma-2 and they are concerned about these product quality. The company has identified the following quality activities and costs associated with the two products;

Table 3: Cost associated

Item	Altec-1	Arma-2
Units produces	250, 000	150, 000
Warranty work (units)	1500	1000
Scrapped units (number)	2000	3000
Inspection (hours)	3000	1500
Quality training (hours)	70	50

Table 4: Activities rates

Activities	RM Per unit
Performing warranty work	RM 150 per unit
Scrapping units	RM 50 per unit
Inspecting	RM 25 per unit
Quality training	RM 600 per unit

(a) Calculate the quality cost for each machine, and break this unit cost into quality cost categories.

(22 marks)

(b) Based your answer in (a), decide which model has the lowest quality?

(3 marks)

END OF QUESTIONS PAPER