UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2017/2018

COURSE NAME	:	QUALITY MANAGEMENT
COURSE CODE	:	BPB 44002
PROGRAMME CODE	:	BPB
EXAMINATION DATE	:	DECEMBER 2017 / JANUARY 2018
DURATION	:	2 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

Q1   (a)   List **FIVE (5)** steps of Kaizen activities in quality improvement.

(5 marks)

(b)   GTB produces television and exports to Japan. However, GTB company recently has received many complaints from their customers. The company has identified the problem of rejected unit as presented in **Table Q1(b).**

Table Q1(b): Problem of rejected unit

No	Problem	Quantity
1	Scratching	48
2	Capacitor damage	33
3	Plastic deform	4
4	Panel bending	3
5	Workmiss amongst employees	3
6	SOP problem	3
7	Missing remote	2
8	Adjustment	2
9	Cabinet color problem	1
10	Button not function	1

(i)   Draw Pareto chart based on data from **Table Q1(b)**.

(5 marks)

(ii)   Determine the root cause of scratching based on five why analysis.

(5 marks)

(c)   ALFA company has to select an improvement between four machines for improving their process based on three selection criteria as **Table Q2(c)**. Rank 1 is the most importance and rank 5 is the least importance.

Table Q2(c): Decision Criteria and Rank

Decision Criteria	Importance
Cost	0.3
Easy to implement	0.2
Benefit	0.5

Decision Criteria (Cost)	Importance
Machine A	1
Machine B	2
Machine C	3
Machine D	4

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Table Q2(Continued)

Decision Criteria (Easy to implement)	Importance
Machine A	3
Machine B	2
Machine C	4
Machine D	1

Decision Criteria (Benefit)	Importance
Machine A	4
Machine B	2
Machine C	1
Machine D	3

(i)   Calculate the score of each machine based on decision criteria and final rankings.

(8 marks)

(ii)   Determine the best machine for improvement.

(2 marks)

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Q2   (a)   Explain **THREE (3)** categories of variation in production process.

(6 marks)

(b)   Compare **THREE (3)** differences between random variation and non random variation.

(6 marks)

(c)   Differentiate between type error I and type error II in sampling process.

(4 marks)

(d)   The weight of part K is specified between 5.95 and 6.05 kg. 200 sample have been measured with resulting mean of 6.03 kg and standard deviation of 0.01.

Calculate the followings:

(i) Cp_u

(3 marks)

(ii) Cp_l

(3 marks)

(iii) Cp_k

(3 marks)

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Q3   (a)   (i)   State **FOUR (4)** aims of ISO 9001.

(4 marks)

(ii)   Discuss **THREE (3)** main sections in Quality Management System: ISO 9001.

(9 marks)

(b)   Elaborate **SIX (6)** steps in improving quality in production through benchmarking.

(12 marks)

Q4   (a)   SYM Sdn. Bhd. has decided to improve their quality level to 5 ppm. Their current quality level of the company is 17,054 ppm. They want to implement Six Sigma approach to reduce the defects.

(i)   Calculate value in percentage for 17,054 ppm.

(3 marks)

(ii)   State **FOUR (4)** key players in implementing Six Sigma.

(4 marks)

(iii)   Explain **ONE (1)** reason why basic quality tools is not suitable for achieving 2 ppm.

(3 marks)

(b)   Discuss **FIVE (5)** DMAIC process in improving variation in the process.

(15 marks)

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-END OF QUESTIONS-