INDUSTRY CERTIFICATE EVALUATION SYSTEM

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BORANG PENGESAHAN STATUS TESIS

JUDUL**: INDUSTRY CERTIFICATE EVALUATION SYSTEM**

SESI PENGAJIAN**: SEMESTER 2013/2014**

Saya**: AKHMAL EFFENDY BIN ASMADI**

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I hereby declare that this project report entitled

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SUPERVISOR: _____ Date: _____

(YAHYA BIN IBRAHIM)

DEDICATION

Specially dedicated this report to my beloved parents, my supervisor, Yahya Bin Ibrahim and all my course mates for the help. Thanks for the invaluable support and guidance given throughout the completion of my Project Sarjana Muda (PSM).

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ABSTRACT

‘**Industry Certificate Evaluation System**’ is a system that has been developed to facilitate the civil servants who works under the Certification Scheme of MeSTI. There are some disadvantages using the current manual evaluation form such as manual marks calculations and cannot produce a score report. The purpose of developing this system is to solve all the above problems. The users of this system is the evaluators who carry out the overall evaluation process and company owners or company representatives who register their company profile. This system development is developed by using the database Oracle. As for the programming language, this system used PL/SQL, JAVA and JSP. Lastly, Eclipse Juno is chosen as the system development platform.

ABSTRAK

‘**Industry Certificate Evaluation System’** adalah sistem yang dibangunkan untuk membantu kakitangan awam yang bekerja dibawah Skim Pensijilan MeSTI. Borang penilaian yang digunakan pada masa kini banyak kelemahan seperti markah dikira secara manual dan tidak dapat menjanakan laporan markah. Tujuan sistem ini dibangunkan adalah untuk mengatasi segala masalah yang dihadapi diatas. Bagi pengguna sistem pula telah dikenal pasti iaitu penilai yang akan melakukan segala proses penilaian dan pemilik syarikat atau wakilnya untuk mendaftarkan profil syarikat. Sistem ini dibangunkan dengan menggunakan pangkalan data Oracle dan bahasa pengaturcaraan ialah PL/SQL, JAVA dan JSP. Akhir sekali, Eclipse Juno adalah pilihan sebagai platform pembangunan sistem.

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LIST OF ABBREVIATIONS

PSM	-	Projek Sarjana Muda
ICES	-	Industry Certificate Evaluation System
MeSTI	-	Makanan Selamat Tanggungjawab Industri
JSP	-	Java Server Page
ERD	-	Entity Relationship Diagram
SQL	-	Structured Query Language
PDF	-	Portable Document Format
PL/SQL	-	Procedural Language/Structured Query Language

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CHAPTER I

INTRODUCTION

1.1 Project Background

Certification scheme of "Makanan Selamat Tanggungjawab Industri (MeSTI)" is a rebranding of scheme from the Skim Keselamatan Makanan 1Malaysia (SK1M). Certification scheme of MeSTI is also an improvement made from SK1M to facilitate the food enterprises especially for the Small and Medium Enterprises in order to meet all the requirements provided under Food Hygiene Regulations 2009. By having this certification scheme, the food operators will be guided to develop and implement the food security programme before the certification is given. The food operators is required to develop a planned practice system that needed to be documented with all the control elements records for the food security programme. The main elements in an effective food security programme are control of premises, operational control and traceability.

However, the documentation of this practice system finds a lot of problems. One of the problem is it takes a long time to only calculate the total marks or scores derived from all the elements. Due to the problems faced, this documentation of practice system need to be replaced with a more systematic system which as well can ease the responsible authority to evaluate the premises in more details.

Industry Certificate Evaluation System (ICES) is developed to assist the concerned parties for marking and recording the elements checklist correctly and quickly. Besides that, ICES can also count the total marks or scores faster and more systematically. The result or report of this total marks will be produced automatically. In consequences, it is not time consuming and can prevent or minimize the calculation errors. In addition, this system is able to keep all the records and data about the company background and profile automatically. All these data are kept orderly and systematically.

1.2 Problem Statement

I. Marking and recording the of elements checklist manually.

II. Calculation of marks is done manually. Calculation of marks involved some elements and each element has their own sub elements. This calculation become complicated and time consuming when calculating the total marks derived from all the elements.

III. Report of the score result is produced manually.

IV. All the records and data are kept manually and not systematically. Thus, the data is unsecure and can be easily lost.

1.3 Objective

I. Calculate the total marks automatically and efficiently.

The evaluator do not have to calculate the marks for every element manually anymore because this developed system will only calculate the marks for the ticked or chosen elements automatically. The calculation of total marks is faster and more systematic. Marks from each element will be summed up which produce a final score that will be written in the report. Score obtained by every company will be kept in the database according to the actual scoring aspect.

II. Provide the facility to keep all the records and data about the company background and profile automatically.

All the information is kept in the database. Information such as company profile, scores obtained, further actions should be taken and reports of all the companies are kept safely and systematically. Evaluator can find back all the data easily by using the system if they lost the data beforehand.

III. Able to determine the most corrective actions taken to companies.

Every further action taken to a company will be written or displayed in the report. Therefore, it can guide the company to take actions for improvement purpose. Furthermore, the most frequent further action taken to a company through the evaluation from time to time will also be known.

IV. Can produce the total score report faster and automatically.

A report will be prepared automatically after the evaluator in duty finish their marking and evaluating the company. This report can be printed in the PDF format. The report contents will be the scores and corrective actions need to be taken by every company. Besides, the company profile and the evaluator's name in duty will also be stated in the report.

V. Can show the total score report for the previous evaluations of the company.

Concerned evaluators can have the report of the scores obtained by the company in the previous evaluations which have been carried out regularly. This also can be printed in the PDF format.

1.4 Scope and Enviroment

This system can be used by :

i. Government officers

This system will be used by the Government Officers who in charge of the evaluation process. Act as an evaluator.

ii. Company Owner

Use this system to enroll their company in the system before the evaluation take place.

1.5 Project Significance

The ICES will be enhanced for the Ministry of Health Malaysia which to be used by government officer as an evaluator. This system obviously will give an impact as it helps evaluator to save a lot of times in marking the elements and calculating the scores. Then the data will be stored into the database and the summary of report can be done automatically.

1.6 Expected Output

This system is able to make an automatic and correct calculation. Scores obtained from the calculation will be stated in the report. Other than that, the company profile and corrective actions need to be taken by the company are displayed in the report as well. Evaluator will print out a report for the next process.

1.7 Conclusion

In conclusion, this chapter introduces and explains briefly about the project including the project background, problem statements, objectives and scope of projects. Therefore, I hope that this ICES will bring a successfully to the users after it is being launched and implemented.

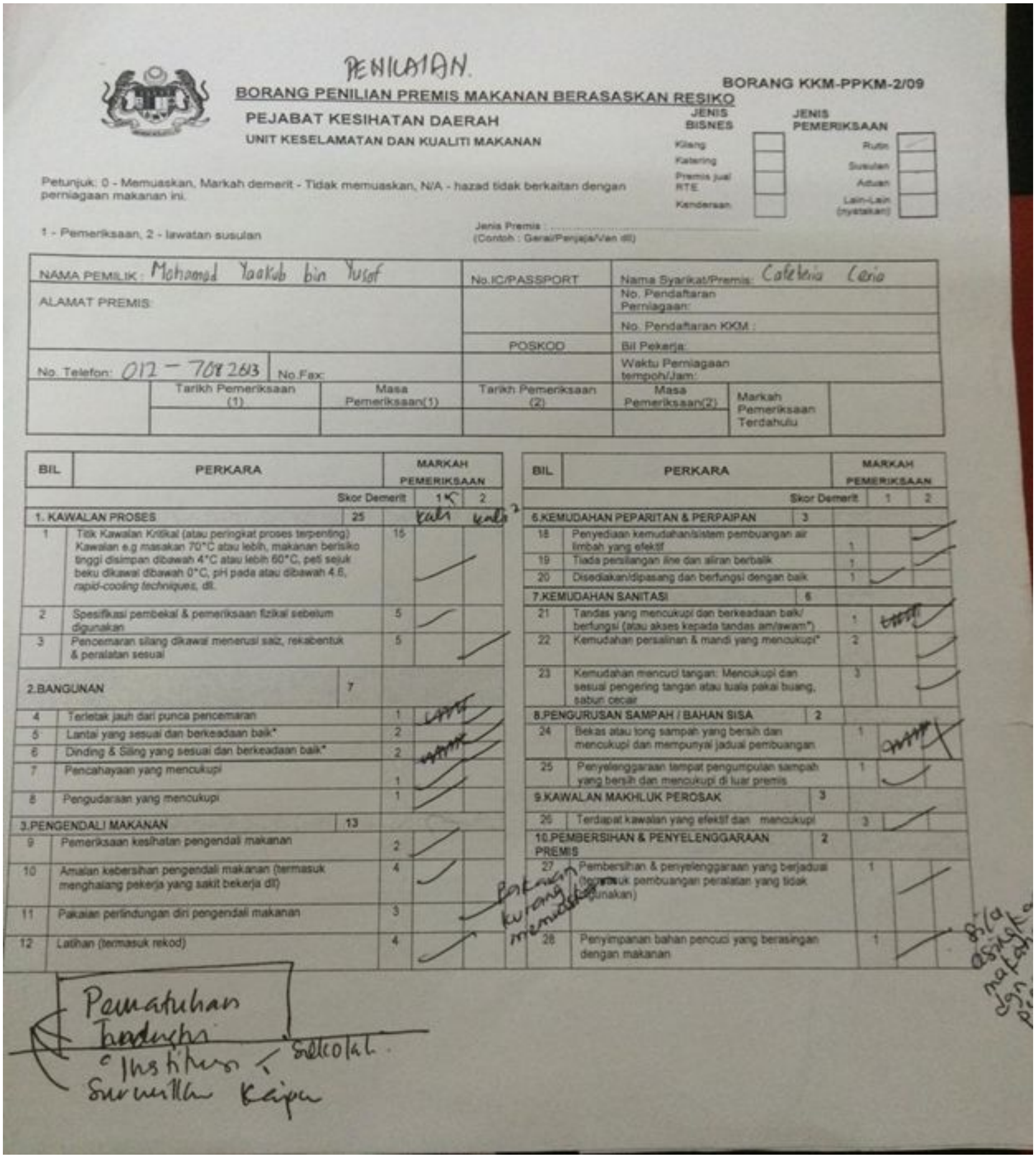
CHAPTER II

ANALYSIS

2.1 Introduction

Certification scheme of MeSTI is using documents or evaluation forms that need to be filled in manually and these documents should be preserved from damage or loss. The evaluation form issued by MeSTI is an official document which used by the evaluator in evaluating a company. This chapter is the analyzing part which is important as it helps in making decision and comparison between the problems encountered in the manual system and the system to be developed. In a nutshell, developing the ICES is an effective way for the solution. This chapter will discuss the solutions in details.

2.2 Manual System (Evaluation Forms)



PENILAIAN.

BORANG PENILIAN PREMIS MAKANAN BERASASKAN RESIKO

BORANG KKM-PPKM-2/09

PEJABAT KESIHATAN DAERAH

UNIT KESELAMATAN DAN KUALITI MAKANAN

JENIS BISNES: Kilang / Katering / Premis jual RTE / Kenderaan

JENIS PEMERIKSAAN: Rutin / Susulan / Aduan / Lain-Lain (nyatakan)

Petunjuk: 0 - Memuaskan, Markah demerit - Tidak memuaskan, N/A - hazad tidak berkaitan dengan perniagaan makanan ini.

1 - Pemeriksaan, 2 - lawatan susulan

Jenis Premis : ....
(Contoh : Gerai/Penjaja/Van dll)

NAMA PEMILIK: Mohamad Yaakub bin Yusof		No.IC/PASSPORT	Nama Syarikat/Premis: Cafeteria Ceria
ALAMAT PREMIS:			No. Pendaftaran Perniagaan:
			No. Pendaftaran KKM :
		POSKOD	Bil Pekerja:
No. Telefon: 012 - 708 2613	No.Fax:		Waktu Perniagaan tempoh/Jam:
Tarikh Pemeriksaan (1)	Masa Pemeriksaan(1)	Tarikh Pemeriksaan (2)	Masa Pemeriksaan(2)	Markah Pemeriksaan Terdahulu

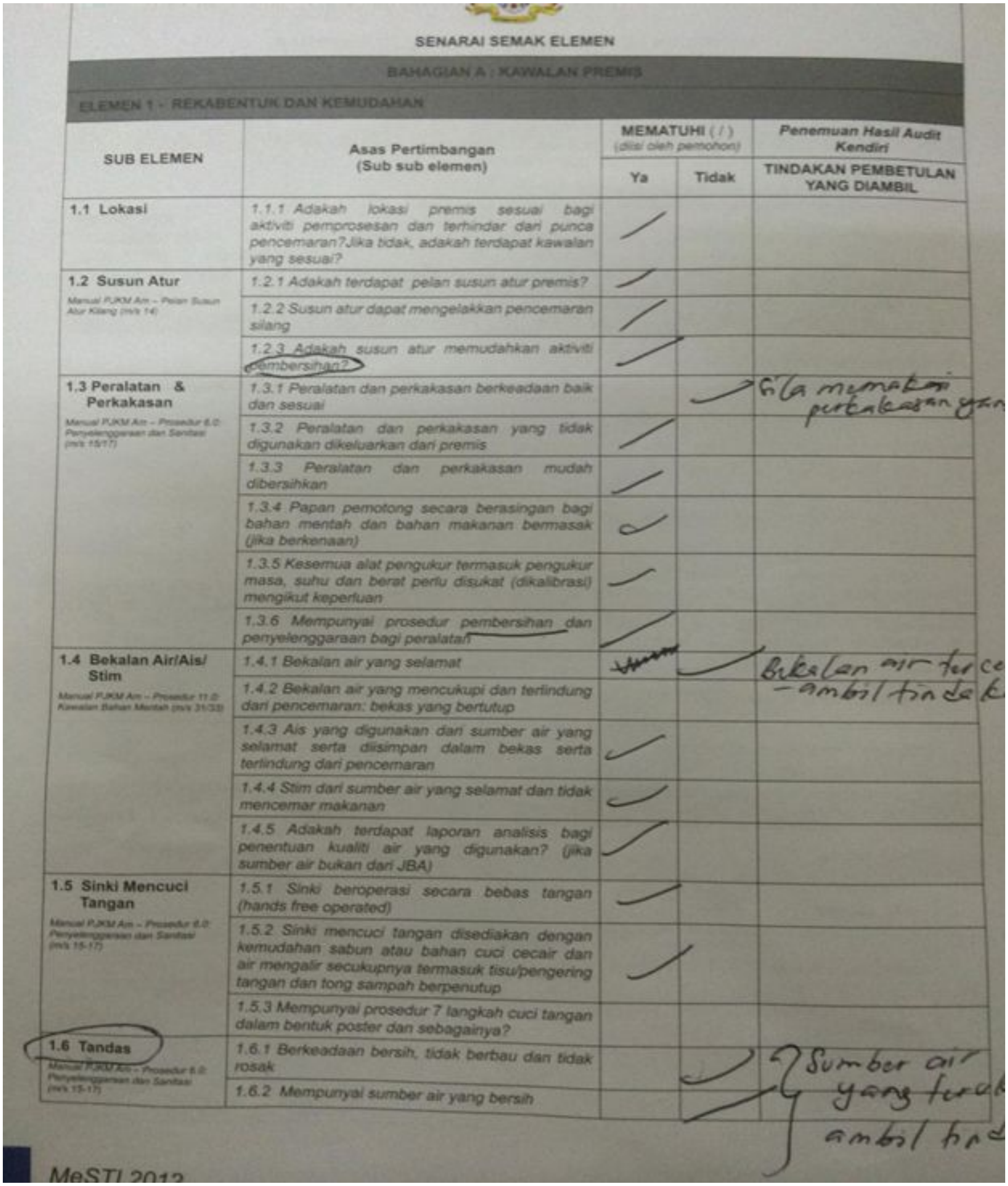
BIL	PERKARA	Skor Demerit	MARKAH PEMERIKSAAN 1	MARKAH PEMERIKSAAN 2
1. KAWALAN PROSES		25	kali	kali
1	Titik Kawalan Kritikal (atau peringkat proses terpenting) Kawalan e.g masakan 70°C atau lebih, makanan berisiko tinggi disimpan dibawah 4°C atau lebih 60°C, peti sejuk beku dikawal dibawah 0°C, pH pada atau dibawah 4.6, *rapid-cooling techniques*, dll.	15		
2	Spesifikasi pembekal & pemeriksaan fizikal sebelum digunakan	5		
3	Pencemaran silang dikawal menerusi saiz, rekabentuk & peralatan sesuai	5		
2.BANGUNAN		7		
4	Terletak jauh dari punca pencemaran	1		
5	Lantai yang sesuai dan berkeadaan baik*	2		
6	Dinding & Siling yang sesuai dan berkeadaan baik*	2		
7	Pencahayaan yang mencukupi	1		
8	Pengudaraan yang mencukupi	1		
3.PENGENDALI MAKANAN		13		
9	Pemeriksaan kesihatan pengendali makanan	2		
10	Amalan kebersihan pengendali makanan (termasuk menghalang pekerja yang sakit bekerja dll)	4		
11	Pakaian perlindungan diri pengendali makanan	3		
12	Latihan (termasuk rekod)	4		

BIL	PERKARA	Skor Demerit	MARKAH PEMERIKSAAN 1	MARKAH PEMERIKSAAN 2
6.KEMUDAHAN PEPARITAN & PERPAIPAN		3		
18	Penyediaan kemudahan/sistem pembuangan air limbah yang efektif	1		
19	Tiada persilangan line dan aliran berbalik	1		
20	Disediakan/dipasang dan berfungsi dengan baik	1		
7.KEMUDAHAN SANITASI		6		
21	Tandas yang mencukupi dan berkeadaan baik/ berfungsi (atau akses kepada tandas am/awam*)	1		
22	Kemudahan persalinan & mandi yang mencukupi*	2		
23	Kemudahan mencuci tangan: Mencukupi dan sesuai pengering tangan atau tuala pakai buang, sabun cecair	3		
8.PENGURUSAN SAMPAH / BAHAN SISA		2		
24	Bekas atau tong sampah yang bersih dan mencukupi dan mempunyai jadual pembuangan	1		
25	Penyelenggaraan tempat pengumpulan sampah yang bersih dan mencukupi di luar premis	1		
9.KAWALAN MAKHLUK PEROSAK		3		
26	Terdapat kawalan yang efektif dan mencukupi	3		
10.PEMBERSIHAN & PENYELENGGARAAN PREMIS		2		
27	Pembersihan & penyelenggaraan yang berjadual (termasuk pembuangan peralatan yang tidak digunakan)	1		
28	Penyimpanan bahan pencuci yang berasingan dengan makanan	1		

Pakaian kurang memuaskan

Pematuhan Tinadingan
Institusi Sekolah
Surveillance Kajian

Figure 2.1 Manual Evaluation Forms.



SENARAI SEMAK ELEMEN

BAHAGIAN A : KAWALAN PREMIS

ELEMEN 1 - REKABENTUK DAN KEMUDAHAN

SUB ELEMEN	Asas Pertimbangan (Sub sub elemen)	MEMATUHI (/) (diisi oleh pemohon)		Penemuan Hasil Audit Kendiri
		Ya	Tidak	TINDAKAN PEMBETULAN YANG DIAMBIL
1.1 Lokasi	1.1.1 Adakah lokasi premis sesuai bagi aktiviti pemprosesan dan terhindar dari punca pencemaran? Jika tidak, adakah terdapat kawalan yang sesuai?	/		
1.2 Susun Atur Manual PJKM Am – Pelan Susun Atur Kilang (m/s 14)	1.2.1 Adakah terdapat pelan susun atur premis?	/		
	1.2.2 Susun atur dapat mengelakkan pencemaran silang	/		
	1.2.3 Adakah susun atur memudahkan aktiviti pembersihan?	/		
1.3 Peralatan & Perkakasan Manual PJKM Am – Prosedur 6.0: Penyelenggaraan dan Sanitasi (m/s 15/17)	1.3.1 Peralatan dan perkakasan berkeadaan baik dan sesuai		/	Sila memakai perkakasan yan
	1.3.2 Peralatan dan perkakasan yang tidak digunakan dikeluarkan dari premis	/		
	1.3.3 Peralatan dan perkakasan mudah dibersihkan	/		
	1.3.4 Papan pemotong secara berasingan bagi bahan mentah dan bahan makanan bermasak (jika berkenaan)	/		
	1.3.5 Kesemua alat pengukur termasuk pengukur masa, suhu dan berat perlu disukat (dikalibrasi) mengikut keperluan	/		
	1.3.6 Mempunyai prosedur pembersihan dan penyelenggaraan bagi peralatan	/		
1.4 Bekalan Air/Ais/Stim Manual PJKM Am – Prosedur 11.0: Kawalan Bahan Mentah (m/s 31/33)	1.4.1 Bekalan air yang selamat		/	Bekalan air terce – ambil tindak
	1.4.2 Bekalan air yang mencukupi dan terlindung dari pencemaran: bekas yang bertutup			
	1.4.3 Ais yang digunakan dari sumber air yang selamat serta disimpan dalam bekas serta terlindung dari pencemaran	/		
	1.4.4 Stim dari sumber air yang selamat dan tidak mencemar makanan	/		
	1.4.5 Adakah terdapat laporan analisis bagi penentuan kualiti air yang digunakan? (jika sumber air bukan dari JBA)	/		
1.5 Sinki Mencuci Tangan Manual PJKM Am – Prosedur 6.0: Penyelenggaraan dan Sanitasi (m/s 15-17)	1.5.1 Sinki beroperasi secara bebas tangan (hands free operated)	/		
	1.5.2 Sinki mencuci tangan disediakan dengan kemudahan sabun atau bahan cuci cecair dan air mengalir secukupnya termasuk tisu/pengering tangan dan tong sampah berpenutup	/		
	1.5.3 Mempunyai prosedur 7 langkah cuci tangan dalam bentuk poster dan sebagainya?			
1.6 Tandas Manual PJKM Am – Prosedur 6.0: Penyelenggaraan dan Sanitasi (m/s 15-17)	1.6.1 Berkeadaan bersih, tidak berbau dan tidak rosak		/	Sumber air yang ter... ambil tind
	1.6.2 Mempunyai sumber air yang bersih		/	

MeSTI 2012

Figure 2.2 Manual Evaluation Forms.

I. Evaluation and Marking

Based on the Figure 2.1 and Figure 2.2, the problem encountered is when the evaluator wants to make a correction and hence the evaluator had to delete and will staining the form. The form then will look untidy and it will be difficult to make the evaluation. Besides, the space provided to write down the further actions need to be taken is not enough so it will take some other space. This problem will be difficult for evaluators to mark more carefully and neatly. Imagine if there were more than 50 list of elements that need to be marked then this evaluation form will surely be untidy and disorganized. In fact, this will also burden the evaluator to make the calculation correctly. Therefore, a more systematic system should be developed in order to facilitate the evaluator to assess each company.

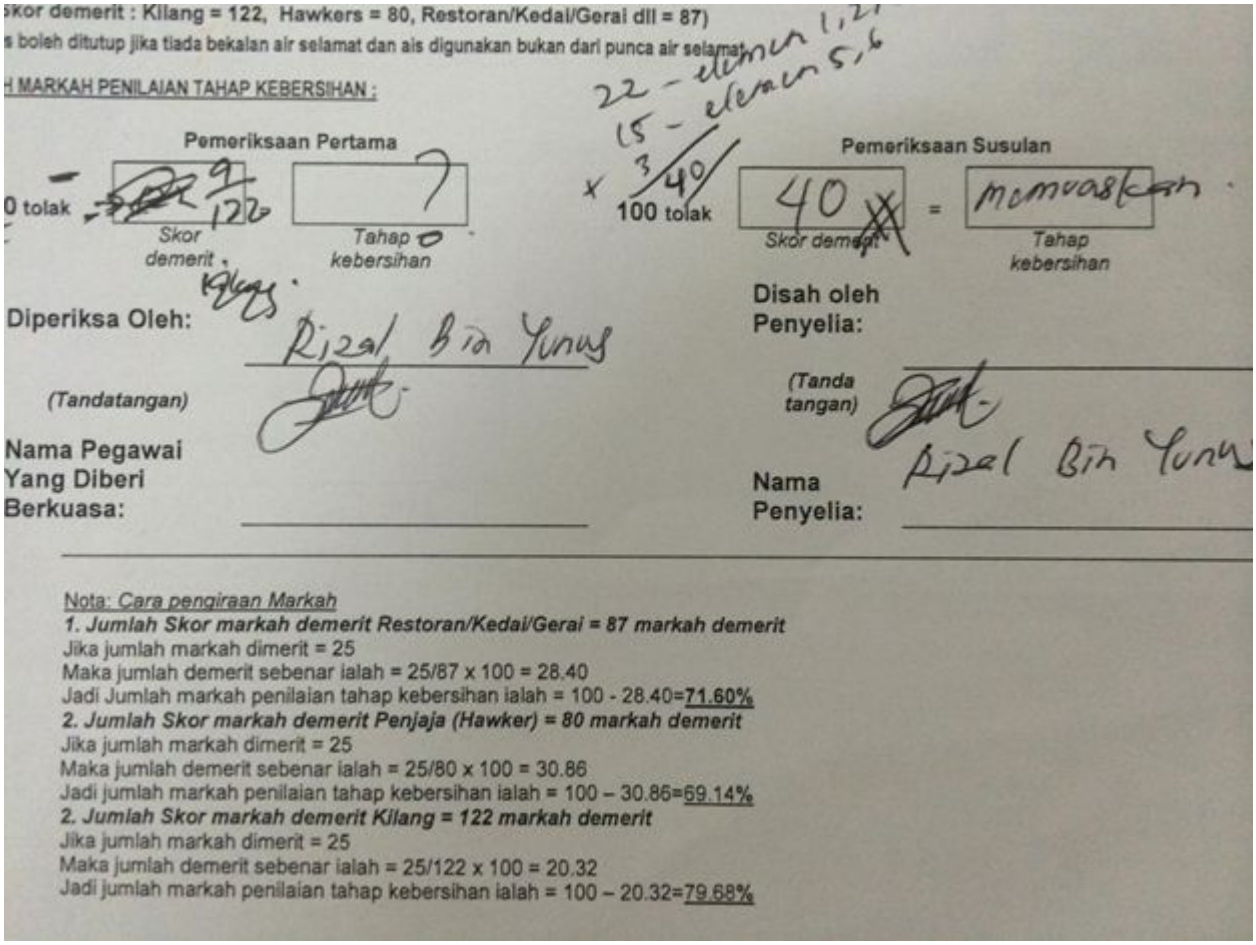


Figure 2.3 Manual record of calculation.