

**UNIVERSITI TEKNOLOGI MARA**

**FAKTOR PEMANGKIN KEPADA  
PRESTASI AHLI AKADEMIK DAN  
 PENYELIDIK MENERBITKAN  
BAHAN ILMIAH BERUNSUR ISLAM  
 KE ARAH MEMBUDAYAKAN  
 SIKAP MEMBACA KEPADA  
 MASYARAKAT MALAYSIA: SATU  
 KAJIAN KES DI NEGERI SEPULUH  
 [MAX 10 BARIS]**

**MOHD ZULI BIN JAAFAR BIN  
 DAUD (MAX 2 BARIS)**

**Choose an item.**

**Disember 2025**



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**MOHD ZULI BIN JAAFAR BIN DAUD (MAX 2  
BARIS)**

Tesis dikemukakan bagi memenuhi  
keperluan untuk ijazah  
**Sarjana**  
**(Pengurusan dan Kepimpinan)**

**AKADEMI PENGAJIAN ISLAM  
KONTEMPORARI**

**Disember 2025**



## **PENGESAHAN OLEH PANEL PEMERIKSA**

Saya sahkan bahawa Panel Pemeriksa yang telah bermesyuarat pada 15 Jun 2017 untuk mengendalikan peperiksaan akhir Mohd Zuli bin Jaafar bin Daud (MAX 2 baris) bagi tesis **Sarjana** yang bertajuk “Faktor Pemangkin Kepada Prestasi Ahli Akademik Dan Penyelidik Menerbitkan Bahan Ilmiah Berunsur Islam ke Arah Membudayakan Sikap Membaca kepada Masyarakat Malaysia: Satu Kajian Kes di Negeri Sepuluh [Max 10 baris]” berdasarkan Akta Universiti Teknologi MARA 1976 (Akta 173). Panel Pemeriksa telah mencadangkan pelajar tersebut layak dianugerahkan ijazah yang tersebut. Panel Pemeriksa adalah seperti berikut

Ahmad Hamdan Abdullah, PhD  
Profesor  
Akademi Pengajian Islam Kontemporari  
Universiti Teknologi MARA  
(Pengerusi)

Mohd Adri Izzat Hamdan, PhD  
Profesor Madya  
Akademi Pengajian Islam Kontemporari  
Universiti Teknologi MARA  
(Pemeriksa Dalam)

Sazali Ahmed, PhD  
Associate Professor  
Fakulti Pengajian Islam  
Universiti of ABC  
(Pemeriksa Dalam)

Najahuddin Ahmad, PhD  
Professor  
Fakulti Pengajian Islam  
Universiti of XYZ  
(Pemeriksa Luar)

**PROF. IR. DR. ZUHAINA BINTI  
HAJI ZAKARIA**  
Dekan  
Institut Pengajian Siswazah  
Universiti Teknologi MARA  
Tarikh: 10 April 2019

## **DEKLARASI PENULIS**

Saya mengakui bahawa penghasilan tesis ini dilakukan mengikut peraturan Universiti Teknologi MARA. Ia adalah asli dan dapatkan hasil usaha saya sendiri, melainkan dinyatakan sebaliknya atau diberikan penghargaan sebagai hasil rujukan. Tesis ini tidak pernah diserahkan kepada mana-mana institusi akademik atau bukan akademik untuk apa-apa ijazah atau kelayakan.

Saya, dengan ini, menyatakan bahawa saya telah mengikuti Kaedah dan Peraturan Akademik bagi Pasca Siswazah, Universiti Teknologi MARA, sepanjang melakukan pengajian dan penyelidikan saya.

Nama Pelajar : Mohd Zuli bin Jaafar bin Daud (MAX 2 baris)

No. Pelajar : 2014202020

Program : Sarjana Pengurusan Wakaf dan Zakat – AP780

Fakulti : Akademi Pengajian Islam Kontemporari

Choose an item. : Faktor Pemangkin Kepada Prestasi Ahli Akademik  
Dan Penyelidik Menerbitkan Bahan Ilmiah Berunsur  
Islam ke Arah Membudayakan Sikap Membaca  
kepada Masyarakat Malaysia: Satu Kajian Kes di  
Negeri Sepuluh [Max 10 baris]

Tandatangan Pelajar : .....

Tarikh :

## **ABSTRAK**

Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document. To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar. Click Insert and then choose the elements you want from the different galleries. Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme. Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign. Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device. Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document. To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar.

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*Note:*

*Master – minimum 200 words*

*PhD – minimum 250 words*

*Limit to one (1) page only*

*No Paragraph*

*Font: Times New Roman - 12*

## **PENGHARGAAN**

Firstly, I wish to thank God for giving me the opportunity to embark on my PhD and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor Assoc Prof Datuk.

My appreciation goes to the Captain and crewmembers of the MMC who provided the facilities and assistance during sampling. Special thanks to my colleagues and friends for helping me with this project.

Finally, this thesis is dedicated to the loving memory of my very dear late father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulilah.

*--please delete--*

*Must include all supervisors names*

*Limit to one (1) page only*

*Font: Times New Roman - 12*

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## **SENARAI SIMBOL**

### **Symbols**

A	Number of PLS or PCA components in the model and the number of selected latent variable in the model
a	Number of the PLS or PCA component
b	PLS regression coefficient
b	Number of blocks ( $b=1,2,3,\dots,K$ )
C	Coarse APM block
$\mathbf{C}_p$	Pooled covariance matrix for the two classes
$\mathbf{C}_g$	Covariance matrix for class g

## **SENARAI SINGKATAN**

### **Singkatan      Kenyataan**

**PCA**

Principal Component Analysis

## **JADUAL TRANSLITERASI**

### **Simbol**

A Amplitude Ratio, (No Units)

C Centroid of pipe, inches

# **BAB 1**

## **PENGENALAN**

### **1.1 Latar Belakang Penyelidikan**

Pada tab Sisipkan, galeri merangkumi item yang dirancang untuk berkoordinasi dengan keseluruhan dokumen anda. Anda boleh menggunakan galeri ini untuk memasukkan meja, tajuk, footer, senarai, halaman sampul, dan blok bangunan dokumen lain. Apabila anda membuat gambar, carta, atau gambar rajah, gambar tersebut juga diselaraskan dengan rupa dokumen semasa anda. Anda boleh menukar format yang dipilih dengan mudah.

Kedua-dua galeri Tema dan galeri Gaya Pantas memberikan perintah tetapan semula supaya anda sentiasa dapat mengembalikan rupa dokumen anda ke yang asli yang terdapat dalam templat semasa anda.

### **1.2 Motivasi**

Tema dan gaya juga membantu memastikan dokumen anda diselaraskan. Apabila anda mengklik Reka Bentuk dan memilih Tema baru, gambar, carta, dan grafik SmartArt berubah agar sesuai dengan tema baru anda. Apabila anda menerapkan gaya, tajuk anda berubah agar sesuai dengan tema baru. Tema dan gaya juga membantu memastikan dokumen anda diselaraskan. Apabila anda mengklik Reka Bentuk dan memilih Tema baru, gambar, carta, dan grafik SmartArt berubah agar sesuai dengan tema baru anda. Apabila anda menerapkan gaya, tajuk anda berubah agar sesuai dengan tema baru.

### **1.3 Penyataan Masalah**

Video memberikan kaedah yang kuat untuk membantu anda membuktikan maksud anda. Apabila anda mengklik Video Dalam Talian, anda boleh menampal kod embed untuk video yang ingin anda tambahkan. Anda juga boleh menaip kata kunci untuk mencari video dalam talian yang paling sesuai dengan dokumen anda seperti yang ditunjukkan dalam Jadual 1.1

Untuk menjadikan dokumen anda kelihatan dihasilkan secara profesional, Word menyediakan tajuk, footer, muka depan, dan reka bentuk kotak teks yang saling

melengkapi. Sebagai contoh, anda boleh menambahkan halaman penutup, tajuk, dan bar sisi yang sepadan. Klik Masukkan dan kemudian pilih elemen yang anda mahukan dari galeri yang berbeza.

*Pada tab Sisipkan, galeri merangkumi item yang dirancang untuk berkoordinasi dengan keseluruhan dokumen anda. Anda boleh menggunakan galeri ini untuk memasukkan meja, tajuk, footer, senarai, halaman sampul, dan blok bangunan dokumen lain. Apabila anda membuat gambar, carta, atau gambar rajah, mereka juga berkoordinasi dengan rupa dokumen semasa anda. Anda boleh mengubah format yang dipilih dengan mudah*

*Pada tab Sisipkan, galeri merangkumi item yang dirancang untuk berkoordinasi dengan keseluruhan dokumen anda. Anda boleh menggunakan galeri ini untuk memasukkan jadual, tajuk, footer, senarai, muka depan,*

Untuk menjadikan dokumen anda kelihatan dihasilkan secara profesional, Word menyediakan tajuk, footer, muka depan, dan reka bentuk kotak teks yang saling melengkapi. Sebagai contoh, anda boleh menambahkan halaman penutup, tajuk, dan bar sisi yang sepadan. Klik Masukkan dan kemudian pilih elemen yang anda mahukan dari galeri yang berbeza seperti yang ditunjukkan dalam Jadual 1.1.

Jadual 1.1  
Maklumat Statistik Set Data APM

Kumpulan	No sampel	Purata sebulan	Peratusan LoD (Coarse APM)	Peratusan LoD (Fine APM)
1	100	8 sampel	1.70%	6.48%
2	102	9 sampel	9.29%	9.09%
3	176	9 sampel	2.65%	4.34%

Sumber: Laporan Bank Dunia 2016

Untuk menjadikan dokumen anda kelihatan dihasilkan secara profesional, Word menyediakan tajuk, footer, muka depan, dan reka bentuk kotak teks yang saling melengkapi. Sebagai contoh, anda boleh menambahkan halaman penutup, tajuk, dan bar sisi yang sepadan. Klik Masukkan dan kemudian pilih elemen yang anda mahukan dari galeri yang berbeza seperti yang ditunjukkan dalam Jadual 1.2.

Jadual 1.2

Tajuk untuk Jadual Ini Di Sini

Bahan Kimia C	Kawasan Komposisi (m <sup>2</sup> g <sup>-1</sup> )	Permukaan Keliangan(cm <sup>3</sup> g <sup>-1</sup> )
Tanah gambut	0.89- 0.99	0.70
Tanah liat	0.68 - 0.69	0.80
Catatan: Pengaruh sifat kimia fizikal bentonit aktif asid dalam pemutihan minyak zaitun.		

Tema dan gaya juga membantu memastikan dokumen anda diselaraskan. Apabila anda mengklik Reka Bentuk dan memilih Tema baru, gambar, carta, dan grafik SmartArt berubah agar sesuai dengan tema baru anda. Apabila anda menerapkan gaya, tajuk anda berubah agar sesuai dengan tema baru seperti yang ditunjukkan dalam (1.3). Persamaan (1.4) memberikan contoh penggunaan kata "Persamaan" di hadapan penomboran persamaan setiap kali ayat dimulakan dengan persamaan.

Pada tab Sisipkan, galeri merangkumi item yang dirancang untuk berkoordinasi dengan keseluruhan dokumen anda. Anda boleh menggunakan galeri ini untuk memasukkan meja, tajuk, footer, senarai, halaman sampul, dan blok bangunan dokumen lain. Apabila anda membuat gambar, carta, atau gambar rajah, gambar tersebut juga diselaraskan dengan rupa dokumen semasa anda. Anda dapat dengan mudah mengubah format teks yang dipilih dalam teks dokumen dengan memilih mencari teks yang dipilih dari galeri Gaya Pantas pada tab Laman Utama. Anda juga boleh memformat teks secara langsung dengan menggunakan kawalan lain pada tab Laman Utama.

$$y = mx + 3 \quad (1.1)$$

$$y = mx + 3 \quad (1.2)$$

$$y = mx + 3 \quad (1.3)$$

$$y = mx + 4 \quad (1.4)$$

Pada tab Sisipkan, galeri merangkumi item yang dirancang untuk berkoordinasi dengan keseluruhan dokumen anda. Anda boleh menggunakan galeri ini untuk memasukkan meja, tajuk, footer, senarai, halaman sampul, dan blok bangunan dokumen lain. Apabila anda membuat gambar, carta, atau gambar rajah, gambar tersebut juga diselaraskan dengan rupa dokumen semasa anda. Anda dapat dengan mudah mengubah format teks yang dipilih dalam teks dokumen dengan memilih mencari teks yang dipilih dari galeri Gaya Pantas pada tab Laman Utama. Anda juga boleh memformat teks secara langsung dengan menggunakan kawalan lain pada tab Laman Utama.

#### **1.4 Objektif**

Untuk menjadikan dokumen anda kelihatan dihasilkan secara profesional, Word menyediakan tajuk, footer, muka depan, dan reka bentuk kotak teks yang saling melengkapi. Sebagai contoh, anda boleh menambahkan halaman penutup, tajuk, dan bar sisi yang sepadan. Klik Masukkan dan kemudian pilih elemen yang anda mahukan dari galeri yang berbeza.

- i) Untuk melakukan analisis pra-pemprosesan dan penerokaan data dengan menggunakan PCA, SOM dan Indeks Pemisahan Kelas.
- ii) Untuk analisis analisis Kaedah multiblock dan analisis regresi set data persekitaran.
- iii) Untuk mencari trend menggunakan pengecaman corak dalam kaedah QSAR dengan penggunaan SOM dan PLSDA.
- iv) Untuk menguji kesahan model menggunakan kaedah Pemisahan data untuk Regresi dan Klasifikasi

#### **1.5 Kepentingan Kajian**

Anda dapat dengan mudah mengubah format teks yang dipilih dalam teks dokumen dengan memilih tampilan teks yang dipilih dari galeri Gaya Pantas pada tab Laman Utama. Anda juga dapat memformat teks secara langsung dengan menggunakan kawalan lain pada tab Laman Utama. Sebilangan besar kawalan menawarkan pilihan

menggunakan tampilan dari tema semasa atau menggunakan format yang anda tentukan secara langsung. Sampel plat yang ditunjukkan dalam Plat 1.2



Rajah 1.1 Logo Pemformatan MZJ



Rajah 1.2 Gambar Cahaya

Video memberikan kaedah yang kuat untuk membantu anda membuktikan maksud anda. Apabila anda mengklik Video Dalam Talian, anda boleh menampal kod embed untuk video yang ingin anda tambahkan. Anda juga boleh menaip kata kunci untuk mencari video dalam talian yang paling sesuai dengan dokumen anda.

Untuk menjadikan dokumen anda kelihatan dihasilkan secara profesional, Word menyediakan tajuk, footer, muka depan, dan reka bentuk kotak teks yang saling melengkapi. Sebagai contoh, anda boleh menambahkan halaman penutup, tajuk, dan bar sisi yang sepadan. Klik Masukkan dan kemudian pilih elemen yang anda mahukan dari galeri yang berbeza.

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Jimat masa di Word dengan butang baru yang muncul di mana anda memerlukannya. Untuk mengubah cara gambar sesuai dengan dokumen anda, klik dan butang untuk pilihan susun atur muncul di sebelahnya. Semasa anda bekerja di atas meja, klik di mana anda ingin menambahkan baris atau lajur, dan kemudian klik tanda tambah.

Membaca juga lebih mudah dalam pandangan Membaca yang baru. Anda boleh meruntuhkan bahagian dokumen dan fokus pada teks yang anda mahukan. Sekiranya anda perlu berhenti membaca sebelum sampai ke akhir, Word ingat di mana anda berhenti - walaupun pada peranti lain.

## 1.6 Contoh Jadual

Jadual 1.3

Contoh Jadual dengan Lebih Daripada Satu Item Halaman Portrait

Nombpr	Penerangan Kumpulan	Singkatan Deskriptor	Molekul	Jumlah	Penerangan
1.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah

---

					sifat atom, dll
2.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
3.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul.  Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
4.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
5.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul.  Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
6.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara

---

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konformasi bebas.

---

#### Jadual 1.4

Contoh Jadual dengan Lebih Daripada Satu Item Halaman Lanskap

Nombpr	Penerangan Kumpulan	Singkatan Deskriptor	Molekul	Jumlah	Penerangan
1.	Penerangan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan perlembagaan
2.	Penerangan	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
3.	Penerangan	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
4.	Penerangan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
5.	Penerangan	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
6.	Penerangan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
7.	Penerangan	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted),

Nombpr	Penerangan Kumpulan	Singkatan Deskriptor	Molekul	Jumlah	Penerangan	
	topologi		iaitu 2D-deskriptor secara konformasi bebas.			
8.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.	
9.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll	
10.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.	
11.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll	
12.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.	
13.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.	
14.	Penerangan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan	

Nombpr	Penerangan Kumpulan	Singkatan Deskriptor	Molekul	Jumlah	Penerangan
	perlembagaan				ikatan, berat molekul, jumlah sifat atom, dll
15.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
16.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
17.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
18.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
19.	Penerangan topologi	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted), iaitu 2D-deskriptor secara konformasi bebas.
20.	Penerangan perlembagaan	Con	0D	48	Deskriptor daripada penyambungan dan pematuhan molekul. Kiraan atom dan ikatan, berat molekul, jumlah sifat atom, dll
21.	Penerangan	Topo	2D	119	Deskriptor molekul yang diperoleh daripada graf molekul (biasanya H-depleted),

Nombpr	Penerangan Kumpulan	Singkatan	Molekul	Jumlah	Penerangan
		Deskriptor			
	topologi				iaitu 2D-deskriptor secara konformasi bebas.

## **BAB 2**

### **SOROTAN LITERATUR**

#### **2.1 Introduction**

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly. As shown in Jadual 2.1 and Jadual 2.2

Jadual 2.1

The Temperature Infomation

Variable	Minimum	Maximum	Average	Standard deviation
Minimum temperature over 24 hours preceding 0300 GMT (0C)	0.0	30.0	15.33	7.06
Maximum temperature over 24 hours preceding 1200 GMT (0C)	12.5	44.7	29.85	6.93

Jadual 2.2

The Environmental Dataset Infomation

Variable	Minimum	Maximum	Average	Standard deviation
Average relative humidity (%)	31.0	97.0	63.70	14.80
Average pressure (hPa)	994.37	1022.43	1009.04	6.48
Average wind speed (Knot)	0.0	9.0	0.79	1.43
Average rainfall (mm)	0.0	140.0	3.82	14.05

#### **2.1.1 Data Pre-Processing and Data Drift: The Utility of Principal Component Analysis, Self-Organizing Maps and Class Separation Indices**

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create

pictures, charts, or diagrams, they also coordinate with your current document look. The sample of equation is given in (2.1). On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look as shown in (2.2).

$$y = mx + 3 \quad (2.1)$$

$$y = mx + dx + 5 \quad (2.2)$$

### 2.1.2 Multivariate Linear Regression

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

## 2.2 Environmental Studies

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most

controls offer a choice of using the look from the current theme or using a format that you specify directly.

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

Jadual 2.3  
Summary of the Meteorological Parameters

Variable	Minimum	Maximum	Average	Standard deviation
Minimum temperature over 24 hours preceding 0300 GMT (0C)	0.0	30.0	15.33	7.06
Maximum temperature over 24 hours preceding 1200 GMT (0C)	12.5	44.7	29.85	6.93
Average relative humidity (%)	31.0	97.0	63.70	14.80
Average pressure (hPa)	994.37	1022.43	1009.04	6.48
Average wind speed (Knot)	0.0	9.0	0.79	1.43
Average rainfall (mm)	0.0	140.0	3.82	14.05

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look. You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab.

## 2.2.1 Airborne Particulate Matter Datasets

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers,

footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

Jadual 2.4

Title for Third Table in Chapter 2

Title	Title	Title
To change the overall look of your document	To change the overall look of your document	To change the overall look of your document
To change the overall look of your document	To change the overall look of your document	To change the overall look of your document
Source: World Bank report 2016		

Jadual 2.5

The Statistical Information of APM Dataset

Batch	No of samples	Average per month	Percentage of LoD (Coarse APM)	Percentage of LoD (Fine APM)
1	100	8 samples	1.70%	6.48%
2	102	9 samples	9.29%	9.09%
3	176	9 samples	2.65%	4.34%

## 2.2.2 Meteorological Dataset

### 2.2.2.1 Data Pre-Processing and Data Drift

- a) You Can Use These Galleries To Insert Tables, Headers, Footers, Lists, Cover Pages, And Other Document Building Blocks. When You Create Pictures,

Charts, Or Diagrams, They Also Coordinate With Your Current Document Look.

- b) You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.
  - i) To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.
  - ii) On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.
- a. You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.
- b. To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

## **2.3 Quantitative Structure Activity Relationships Studies on the Active and Inactive Antimalarial Compounds**

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers,

footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.



Plate 2.1 A Sample of Grass and Bamboo 2

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

Jadual 2.6

The Sample of the Table with More Than One Page Items

No	Molecular Descriptors	Abbreviation	Groups	Amount	Description
1	Constitutional descriptors	Con	0D	48	0D-descriptors, independent from molecular connectivity and conformations. Atom and bonds counts, molecular weight, sum of atomic properties, etc
2	Topological descriptors	Topo	2D	119	Molecular descriptors obtained from the molecular graph (usually H-depleted), i.e 2D-descriptors conformationally independent.
3	Walk and path counts	Wap	2D	47	Molecular descriptors obtained from the molecular graph, counting paths, walk and self returning walks of different lengths.
4	Connectivity indices	Coni	2D	33	Topological Molecular descriptors calculated from the vertex degree of the atoms in the H-depleted molecular graph.
5	Information indices	Info	2D	47	Molecular descriptors calculated as information content of molecules, based on the calculation of equivalences classes from the molecular graph. Among them, the indices of neighbourhood degree and edge multiplicity.
6	2D autocorrelations	2D	2D	96	Molecular descriptors calculated from the molecular graph by summing the products of atom weights of the terminal atoms of all the paths of the considered path length (the lag)
7	Edge adjacency indices	Edge	2D	107	Topological Molecular descriptors derived from the edge adjacency matrix which encodes the connectivity between graph edges.
8	Burden	Bur	2D	64	Molecular descriptors contained from the positive and negative

No	Molecular Descriptors	Abbreviation	Groups	Amount	Description
	eigenvalues				eigenvalues of the adjacency matrix, weighting the diagonal element with atom weight.
9	Topological charge indices	Topoc	2D	21	First 10 eigenvalues (absolute values) obtained from a corrected adjacency matrix.
10	Eigenvalue-based indices	EiG	2D	44	Topological descriptors calculated by the eigenvalues of the square(usually symmetric) matrix representing a molecular graph.
11	Randic molecular profiles	Ran	3D	41	Molecular descriptors derived from the distance distribution moments of the geometry matrix, defined as the average row sum of its entries raised at the k-th power, normalized by the factor k.
12	Geometrical descriptors	Geo	3D	74	Different kinds of conformationally dependent descriptors based on the molecular geometry. Reliable values are obtained if reliable conformations were previously calculated.
13	RDF descriptors	RDF	3D	150	Molecular descriptors obtained by radial basis functions centred on different interatomic distances (from 0.5Å to 15.5Å)
14	3D-MoRSE descriptors	3D	3D	160	Molecular descriptors calculated by summing atom weights by different angular scattering function.
15	WHIM descriptors	WHIM	3D	99	Molecular descriptors obtained as statistical indices of the atom projected onto the 3 principal components obtained from weighted covariance matrices of the atomic coordinates.
16	GETAWAY descriptors	GATE	3D	197	Descriptors calculated from the leverage matrix obtained by the centred atoic coordinates (molecular influences matrix,MIM). The first four descriptors are calculated as information content and connectivity

No	Molecular Descriptors	Abbreviation	Groups	Amount	Description
					indices. HATA and H descriptors are 3D-autocorrelation descriptors obtained from MIM; R and R+ descriptors obtained from the leverage. Geometry matrix.
17	Functional group counts	Funct	Others	152	Molecular descriptors based on the counting of chemical functional groups. They are calculated by knowing the molecular composition and atom connectivities.
18	Atom-centred fragments	Atom	Others	120	Molecular descriptors, based on the counting of 120 atom-centered fragments, as defined by Ghose-Crippen. Some fragments are undefined by the authors. They are calculated by knowing the molecular composition and atom connectivities.
19	Charged descriptors	charged	Others	14	Fourteen charge descriptors which are reliable only when charge are estimated by quantum molecular methods

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

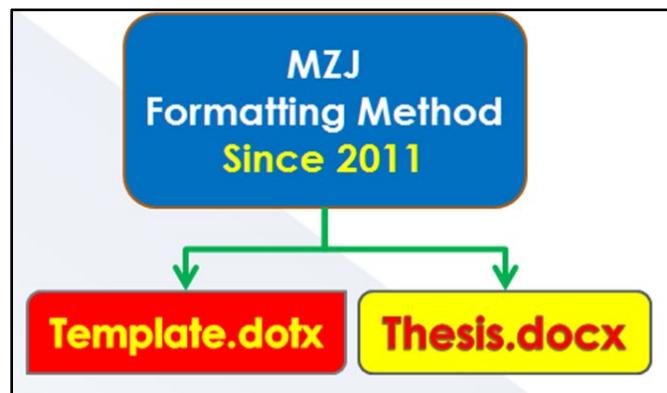


Plate 2.2 A Sample of Formatting Method



Plate 2.3 The View of the Tuanku Syed Sirajuddin Building, UiTM from the Dataran Tengku Fauziah



## **BAB 3**

### **KAEDAH PENYELIDIKAN**

#### **3.1 Introduction**

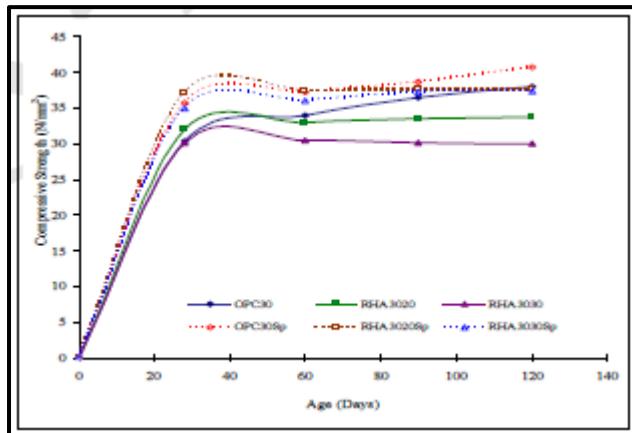
(Normal UiTM Paragraph 1a) On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

#### **3.2 Data Pre-Processing for Classification**

(Normal UiTM Paragraph 1)On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert table. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

(Normal UiTM Paragraph 2b) To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look. You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab.



Rajah 3.1 Compressive strength of Rice Husk Ash (RHA) concrete of Grade 30

### 3.2.1 Individual Transformation

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look. The sample for writing an equation are shown at (3.1) and (3.2);

$$x_{ij}^{sq} = \sqrt[n]{x_{ij}} \quad (3.1)$$

$$x_{ij} = \log_{10} x_{ij} \quad (3.2)$$

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template. On The Insert Tab, The Galleries Include Items That Are Designed To Coordinate With The Overall Look Of Your Document.

Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a

column, and then click the plus sign.

Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device.

### **3.2.2 Row Scaling**

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template. You Can Use These Galleries To Insert Tables, Headers, Footers, Lists, Cover Pages, And Other Document Building Blocks.

When you create pictures, charts, or diagrams, they also coordinate with your current document look. You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab.

You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.

### **3.2.3 Column Scaling**

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

*“You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.”*

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

*You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.*

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template. On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document.

### **3.3 Exploratory Data Analysis Principal Component Analysis**

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

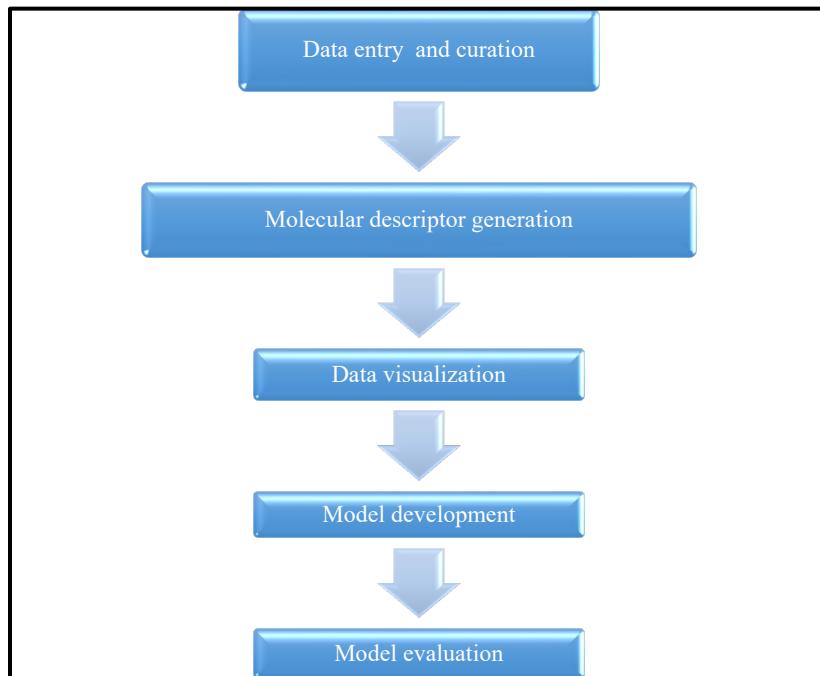
You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most

controls offer a choice of using the look from the current theme or using a format that you specify directly.

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.



Rajah 3.2 Typical Steps Involved in QSAR Methodology



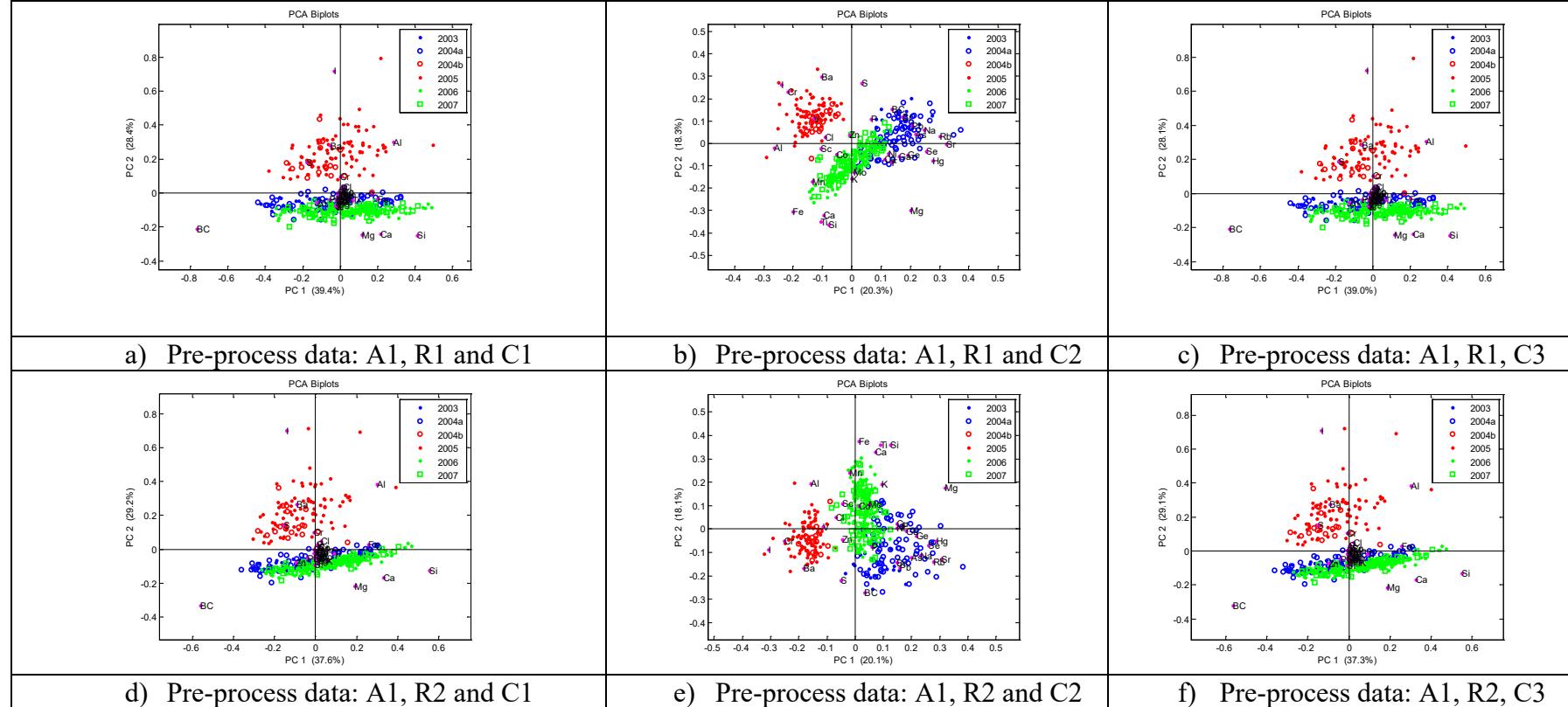
Rajah 3.3 A Map Showing the Sampling Location in Islamabad, Pakistan

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.

### 3.4 Quantitative Structure Activity Relationships Studies on The Active and Inactive Antibacterial Compounds

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly. To change the overall look of your document, choose new Theme elements on the Page Layout tab. the look of your document to the original contained in your current template.



Rajah 3.4 A PCA Plots for Data Processing Strategy

Jadual 3.1

Data QSAR menetapkan Sumber dalam Tesis ini untuk Regresi dan Klasifikasi

No	Name	Dimension	Classes/ Types	Reference
1	Blood Brain Barrier	406 × 926	Non-penetrating (class 1), 136 compounds Penetrating (class 2), 270 compounds	(Li et al., 2005)
2	Antimalarial	57 × 1661	Regression	
3	Skin	131 × 926	Strong skin sensitizers (Class 1), 67 compounds Non- strong skin sensitizers(class 2), 64 compounds	(Ren et al., 2006)

Jadual 3.2

Data QSAR menetapkan Sumber dalam Tesis ini untuk Regresi dan Klasifikasi dan Rujukan Yang Berkaitan

No	Name	Dimension	Classes/ Types	Reference
1	Blood Brain Barrier	406 × 926	Non-penetrating (class 1), 136 compounds Penetrating (class 2), 270 compounds	(Li et al., 2005)
2	Antimalarial	57 × 1661	Regression	
3	Skin	131 × 926	Strong skin sensitizers (Class 1), 67 compounds Non- strong skin sensitizers(class 2), 64 compounds	(Ren et al., 2006)

Jadual 3.3

Untuk menjadikan dokumen anda kelihatan dihasilkan secara profesional, Word menyediakan tajuk, footer, muka depan, dan reka bentuk kotak teks yang saling melengkapi.

No	Name	Dimension	Classes/ Types	Reference
1	Blood Brain Barrier	406 × 926	Non-penetrating (class 1), 136 compounds Penetrating (class 2), 270 compounds	(Li et al., 2005)
2	Antimalarial	57 × 1661	Regression	
3	Skin	131 × 926	Strong skin sensitizers (Class 1), 67 compounds	(Ren et al., 2006)

---

Non- strong skin sensitizers(class 2), 64  
compounds

---

## **BAB 4**

### **DAPATAN DAN PERBINCANGAN BERKENAAN KAJIAN LAPANGAN DAN KAJIAN AWALAN DI MENARA GADING**

#### **4.1 Introduction**

↓  
2cm

On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.(Abbas et al., 2011)

- i) On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document.
- ii) You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks.
- iii) When you create pictures, charts, or diagrams, they also coordinate with your current document look.
- iv) You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab.
- v) You can also format text directly by using the other controls on the Home tab.

#### **4.2 Chemometrics**

You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.(2010a; 2010b; 2013)

#### **4.3 PCA and PLS**

To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template.(Mohd Zuli Jaafar et al., 2006; Mohd Z Jaafar et al., 2011; Lazim et al., 2013; Sim et al., 2015)

## RUJUKAN

- Katritzky, A. R., Kulshyn, O. V., Stoyanova-Slavova, I., Dobchev, D. A., Kuanar, M., Fara, D. C., & Karelson, M. (2006). Antimalarial activity: A QSAR modeling using CODESSA PRO software. *Bioorganic & Medicinal Chemistry*, 14(7), 2333-2357.
- Li, H., Yap, C. W., Ung, C. Y., Xue, Y., Cao, Z. W., & Chen, Y. Z. (2005). Effect of Selection of Molecular Descriptors on the Prediction of Blood-Brain Barrier Penetrating and Nonpenetrating Agents by Statistical Learning Methods. *J. Chem. Inf. Model.*, 45(5), 1376-1384.
- Ren, Y., Liu, H., Xue, C., Yao, X., Liu, M., & Fan, B. (2006). Classification study of skin sensitizers based on support vector machine and linear discriminant analysis. *Analytica Chimica Acta*, 572(2), 272-282.

## **APENDIK**

## APPENDIX 1

### Example of the Codes in PLS Algorithms

```
function Results = AnovaMLRegresion(X,Y)
%% This is the function to calculate the stat parameters for MLR or Anova for Regression
% clear all
% load('G:\dataset\Handbook of Regression and Modeling158.mat')

%% LS Reg
[m,p] = size(X);
Xnew = [ones(m,1) X];
b=inv(Xnew'*Xnew)*Xnew'*Y;

%% pred
Ypred=Xnew*b;

%% DOF
DoFReg = p ;
DoFRes = m - p - 1;

%% residual error
e = (Y - Ypred);

%% SS
SSRes = e'*e;
```

## APPENDIX 2

**Table of Parameters Used in Data Processing for PLS Testing Precuders on the Classification of Biological Activity**

Type	Formula	Description
C1	$x_{ij} = x_{ij} - \bar{x}_j$	Mean centring
C2	$x_{ij} = \frac{x_{ij} - \bar{x}_j}{\sqrt{\frac{1}{I} \sum_{i=1}^I (x_{ij} - \bar{x}_j)^2}}$	Standardisation
C3	$x_{ij} = \frac{x_{ij} - \min(x_i)}{\max(x_i) - \min(x_i)}$	Range scaling

## PROFIL PENULIS



**Mohd Zuli Jaafar** obtained Bachelor of Science in Chemistry (Hons.) in 1996 from University Malaya, Kuala Lumpur, MSc in Chemistry (2002) from Universiti Teknologi Malaysia and PhD in Chemometrics (2011) from the University of Bristol, United Kingdom. His PhD thesis involves several methods in Chemometrics and Pattern Recognition includes Data Preprocessing, Regression, Classification and Variable Selection. Currently he is working on several scientific dataset i.e. Fourier Transform Infrared Spectroscopy, Near Infrared, Particle-Induced X-Ray Emission and Quantitative Structure-Activity Relationship.

### List of Publication:

- Sim, S.F., T.Y. Ling, S. Lau, and M.Z. Jaafar, A novel computer-aided multivariate water quality index. *Environ Monit Assess*, 2015. 187(4): p. 181.
- Yatim, N.N.M., Z.M. Zain, M.Z. Jaafar, Z. Md Yusof, A.R. Laili, M.H. Laili, and M.H. Hisham. Noninvasive glucose level determination using diffuse reflectance near infrared spectroscopy and chemometrics analysis based on in vitro sample and human skin. in *Systems, Process and Control (ICSPC)*, 2014 IEEE Conference on. 2014.
- Rasaruddin, N.F., M.E.N.M. Ruah, M.N. Hasan, and M.Z. Jaafar, Determination of Iodine Value of Palm Oils Using Partial Least Squares Regression-Fourier Transform Infrared Data. *Jurnal Teknologi*, 2014. 70(5).
- Rasaruddin, N.F., M.N. Hasan, M.E.N.M. Ruah, S.S. Fong, and M.Z. Jaafar. Signal processing strategies in FT-NIR and FTIR spectra of palm oils. in *Signal*

- Processing & its Applications (CSPA), 2014 IEEE 10th International Colloquium on Signal Processing and its Application 2014. IEEE.
- Waheed, S., M.Z. Jaafar, N. Siddique, A. Markwitz, and R.G. Brereton, PIXE analysis of PM<sub>2.5</sub> and PM<sub>2.5–10</sub> for air quality assessment of Islamabad, Pakistan: Application of chemometrics for source identification. Journal of Environmental Science and Health, Part A, 2012. 47(13): p. 2016-2027.
- Ridzuan, M.S.M., M.Z. Jaafar, and M.M. Zain. Quantitative structure-activity relationship (QSAR) modelling of N-aryl derivatives as cholinesterase inhibitors. in Humanities, Science and Engineering Research (SHUSER), 2012 IEEE Symposium on. 2012. IEEE.
- Jaafar, M.Z., A.H. Khan, S. Adnan, A. Markwitz, N. Siddique, S. Waheed, and R.G. Brereton, Multiblock analysis of environmental measurements: A case study of using Proton Induced X-ray Emission and meteorology dataset obtained from Islamabad Pakistan. Chemometrics and Intelligent Laboratory Systems, 2011. 107(1): p. 31-43.
- Saim, N., R. Osman, D.R.S.A. Spian, M.Z. Jaafar, H. Juahir, M.P. Abdullah, and F. Ab Ghani, Chemometric approach to validating faecal sterols as source tracer for faecal contamination in water. Water research, 2009. 43(20): p. 5023-5030.
- Jaafar, M.Z., S.A.I.S.M. Ghazali, and M. Musa, Basic Chemistry 1 Objective Questions for Pre Sciences Students. 2008: Pusat Penerbitan Universiti, Universiti Teknologi MARA.
- Brereton, R.G., G. Lloyd, S. Fong, K. Wongravee, and M. Jaafar. Application of Modern Supervised Pattern Recognition Methods in Chemometrics. in Multivariate Analysis and Chemometry Applied to Environment and Cultural Heritage. 2008.