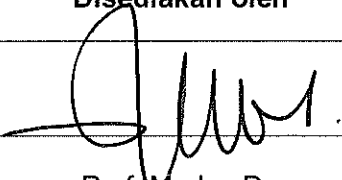
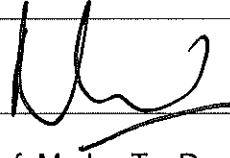
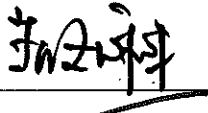


FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN	:	PK.UiTM.FSG.(O).03
		NO. KELUARAN	:	01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN	:	00
		TARIKH KUATKUASA	:	02/09/2019
		MUKA SURAT	:	1/11

PROSEDUR PROJEK TAHUN AKHIR

PK.UiTM.FSG.(O).03

	Disediakan oleh	Disemak oleh	Diluluskan oleh
T/Tangan			
Nama	Prof. Madya Dr. Zainiharyati Mohd Zain	Prof. Madya Ts. Dr. Mohd Rozi Ahmad	Prof. Dr. Hajah Farida Zuraina Mohd Yusof
Jawatan	<i>Resource Person</i>	Wakil Pengurusan/Timbangan Dekan (Akademik)	Dekan
Tarikh	01/03/2019	30/08/2019	2/09/2019



FAKULTI SAINS GUNAAN		PROSEDUR KUALITI OPERASI	NO. RUJUKAN : PK.UITM.FSG.(O).03
			NO. KELUARAN : 01
		PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN : 00
			TARIKH KUATKUASA : 02/09/2019
			MUKA SURAT : 2/11

REKOD PINDAAN DOKUMEN TERKAWAL

Adalah menjadi tanggungjawab pemegang dokumen ini untuk memastikan salinan dokumen ini sentiasa dikemaskini dengan memasukkan semua pindaan-pindaan yang dinyatakan di dalamnya.

HALAMAN DIPINDA

Tarikh	No. Para	Muka Surat	Bentuk Pindaan	Tarikh Diluluskan

FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN : PK.UITM.FSG.(O).03
		NO. KELUARAN : 01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN : 00
		TARIKH KUATKUASA : 02/09/2019
		MUKA SURAT : 3/11

Bil.	Isi Kandungan	Muka Surat
1.	Tujuan	4
2.	Skop	4
3.	Dokumen Rujukan	4
4.	Definisi	5
5.	Singkatan	6
6.	Tanggungjawab dan Tindakan	7
7.	Rekod Kualiti	8
8.	Carta Alir	9
9.	Lampiran	9

FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN : PK.UITM.FSG.(O).03
		NO. KELUARAN : 01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN : 00
		TARIKH KUATKUASA : 02/09/2019
		MUKA SURAT : 4/11

1.0

TUJUAN

Prosedur ini bertujuan memberi garis panduan untuk merancang, melaksana dan membantu Pengendalian Projek Tahun Akhir di FSG.

2.0

SKOP

Prosedur ini digunapakai oleh Koordinator Projek Tahun Akhir, Penyelia dan semua pengurusan FSG bagi keseluruhan proses pelaksanaan Program Sarjana Muda.

3.0

DOKUMEN RUJUKAN

BIL.	NO. RUJUKAN	JENIS
1.	MK.UITM.FSG.01	MANUAL KUALITI
	a. Seksyen 8.3.3	Input bagi aktiviti mereka bentuk dan pembangunan program/cadangan penyelidikan/cadangan aktiviti
2.	Ramlee, W. et al	Buku "Guidelines on Supervision, Assesment, Evaluation and Format for Student's Project 2 nd Edition"
3	Fail Kursus	FSG661 dan FSG611
4	https://fsg.uitm.edu.my/main/index.php/download	Website FSG

FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN	:	PK.UiTM.FSG.(O).03
		NO. KELUARAN	:	01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN	:	00
		TARIKH KUATKUASA	:	02/09/2019
		MUKA SURAT	:	5/11

4.0 DEFINISI

- Projek Tahun Akhir : Kursus teras yang mesti diambil oleh setiap pelajar tahun Akhir sebagai satu syarat untuk penganugerahan Ijazah Sarjana Muda.
- Bidang Projek : Semua penyelidikan yang dijalankan di Fakulti.
- Pensyarah : Semua pensyarah Sains dan Teknologi di UiTM.
- Penyelia : Pensyarah yang membimbing pelajar dalam penyediaan projek.
- Koordinator : Pensyarah yang menyelaras dan mengendalikan aktiviti projek tahun akhir.
- PE(A) : Pegawai Eksekutif Akademik yang bertanggungjawab ke atas pemarkahan pelajar.
- Projek : Tugas pelajar untuk menghasilkan suatu penemuan ilmiah.
- Tesis Projek Tahun Akhir : Satu penulisan kajian ilmiah melalui kaedah saintifik
- Panel Penilai : Kumpulan pensyarah yang dilantik untuk menilai pembentangan dan penulisan projek tahun akhir pelajar



FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN	:	PK.UiTM.FSG.(O).03
		NO. KELUARAN	:	01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN	:	00
		TARIKH KUATKUASA	:	02/09/2019
		MUKA SURAT	:	6/11

5.0 SINGKATAN

PTA	: Projek Tahun Akhir
KPTA	: Koordinator Projek Tahun Akhir
PPTA	: Penyelia Projek Tahun Akhir
PE(A)	: Pengawai Eksekutif Akademik
Pel	: Pelajar
PP	: Panel Penilai
PBPTA	: Penyelia Bersama Projek Tahun Akhir
PK	: Pemeriksa Kedua
KP	: Ketua Program
UiTM	: Universiti Teknologi MARA
FSG	: Fakulti Sains Gunaan
JKPTA	: Jawatankuasa Projek Tahun Akhir



FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN : PK.UITM.FSG.(O).03
		NO. KELUARAN : 01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN : 00
		TARIKH KUATKUASA : 02/09/2019
		MUKA SURAT : 7/11

6.0 TANGGUNGJAWAB DAN TINDAKAN

TANGGUNGJAWAB	TINDAKAN
KPTA	- Paparkan senarai pensyarah mengikut bidang untuk makluman pelajar. (Untuk proposal sahaja) - Edarkan buku panduan penulisan penyelidikan yang akan digunapakai dalam laporan bertulis PTA - Maklumkan tarikh dan adakan taklimat kaedah perlaksanaan laporan bertulis PTA
Pel/KPTA	- Pilih tajuk projek dan tentukan PPTA (Untuk proposal sahaja) - Isi borang kontrak dan hantar kepada KPTA dalam masa empat minggu. (Lampiran 1) (Untuk proposal sahaja)
Pel/PPTA	- Adakan perjumpaan dan perundingan sepanjang semester - Isi borang perjumpaan Pel/PPTA (Rujuk Ramlee, W et al. 2007)
KPTA	Lantik PP dan maklumkan kepada Pel, PPTA dan PP, tarikh, masa dan tempat pembentangan lisan (Lampiran 3)
KPTA/PPTA/Pel/PP	- Kendalikan pembentangan lisan. PP isi markah ke dalam borang penilaian dan hantar kepada KPTA untuk dikumpulkan (Lampiran 4) - KPTA beri peringatan tarikh akhir penghantaran laporan bertulis
	PPTA dan PK (jika perlu) semak dan



FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN : PK.UITM.FSG.(O).03
		NO. KELUARAN : 01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN : 00
		TARIKH KUATKUASA : 02/09/2019
		MUKA SURAT : 8/11

PPTA/PK/KPTA	nilai laporan bertulis dan isi borang penilaian. Menghantar markah kepada KPTA
Pel	12. Buat pembetulan laporan bertulis dan kembalikan kepada PPTA (Lampiran 5)
PPTA	13. Semak dan sahkan pembetulan laporan bertulis(Lampiran 6)
KPTA	14. Jumlahkan markah pembentangan lisan dan laporan bertulis (Lampiran 4) 15. Adakan mesyuarat JKPTA di peringkat program, jika perlu
KPTA/KP	16. Serahkan markah kepada PE(A) (Lampiran 7)

7.0 REKOD KUALITI

BIL.	JENIS REKOD	LOKASI	TEMPOH PENYIMPANAN	RUJUKAN
1.	Tesis Projek Tahun Akhir	Bilik Ketua Program	5 Tahun	
2.	Senarai Tajuk Tesis	Bilik Ketua Program	10 Tahun	
3.	Salinan CD PTA	Perpustakaan	10 Tahun	
4.	Buku "Guidelines on Supervision, Assesment, Evaluation and Format for Student's Project 2 nd Edition"	Bilik Kualiti Website FSG	5 Tahun	

FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN	:	PK.UITM.FSG.(O).03
		NO. KELUARAN	:	01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN	:	00
		TARIKH KUATKUASA	:	02/09/2019
		MUKA SURAT	:	9/11

8.0 CARTA ALIR

Sila lihat **LAMPIRAN A**.

9.0 LAMPIRAN

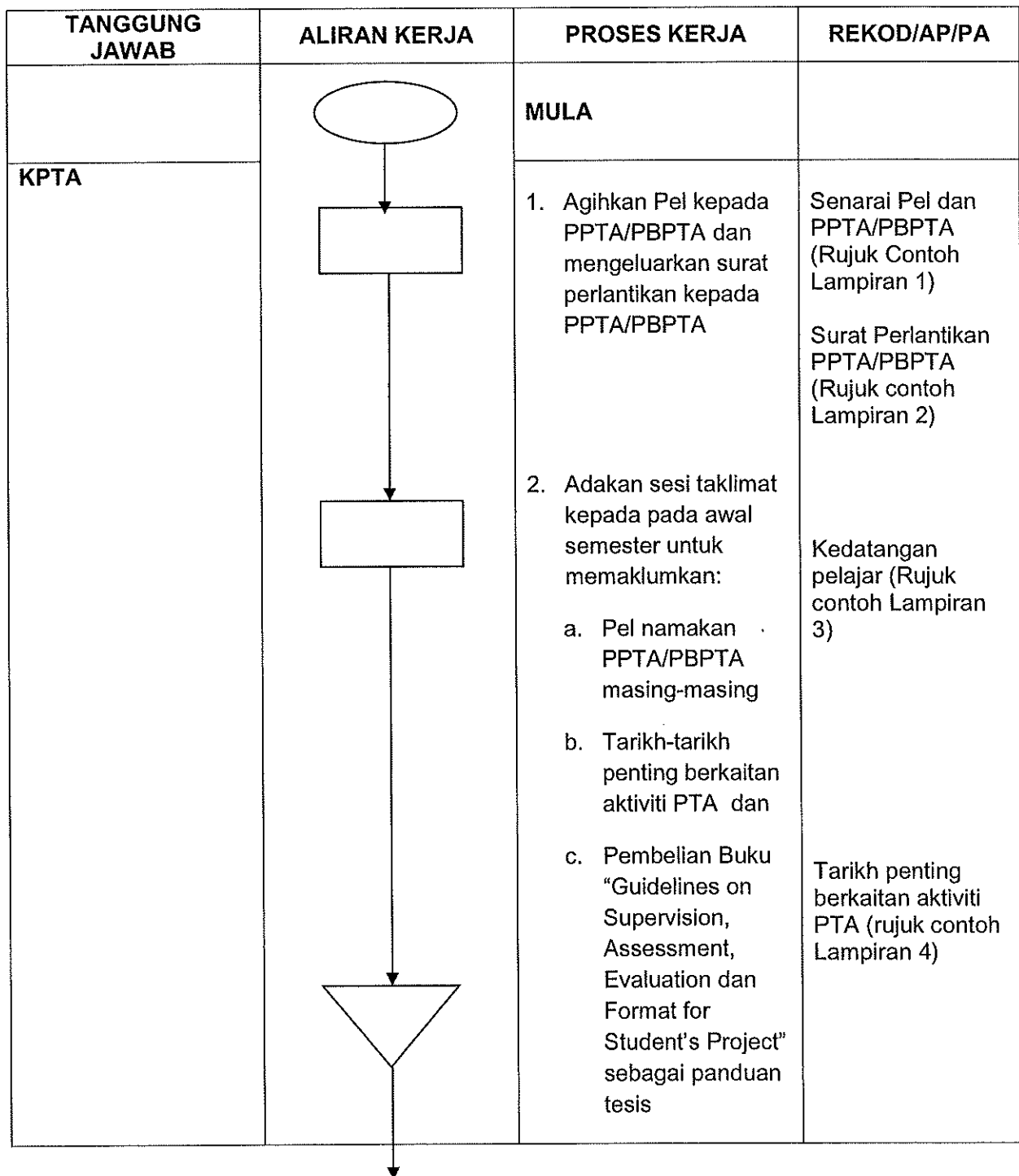
LAMPIRAN	TAJUK	RUJUKAN
Lampiran 1	Contoh Senarai nama PTA, PPTA dan PBPTA	
Lampiran 2	Contoh Surat perlantikan Penyelia Projek Tahun Akhir/ Penyelia Bersama Projek Tahun Akhir	
Lampiran 3	Senarai Kedatangan Pelajar Taklimat PTA	
Lampiran 4	Contoh takwim PTA	
Lampiran 5	'FYP Contract'	FSG/PTA/08/01
Lampiran 6	FSG661 Research Progress Report	FSG661/2016/Form A
Lampiran 7	Surat Perlantikan PP	
Lampiran 8	Senarai PP PTA	
Lampiran 9	Written Report Assessment Form	
Lampiran 10	Makluman Pembentangan	
Lampiran 11	'FSG661 Oral Presentation and Assessment Form'	FSG661/2016/Form C
Lampiran 12	Correction and Submission Approval Form	FSG661/2016/Form D
Lampiran 13	Borang LE15	

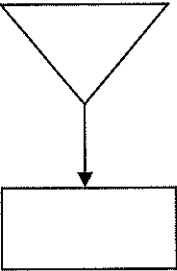
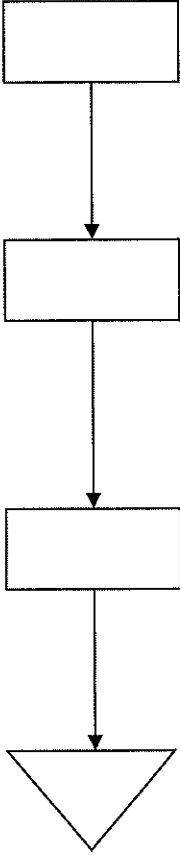
FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN : PK.UITM.FSG.(O).03
		NO. KELUARAN : 01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN : 00
		TARIKH KUATKUASA : 02/09/2019
		MUKA SURAT : 10/11

LAMPIRAN A

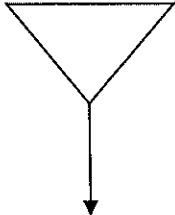
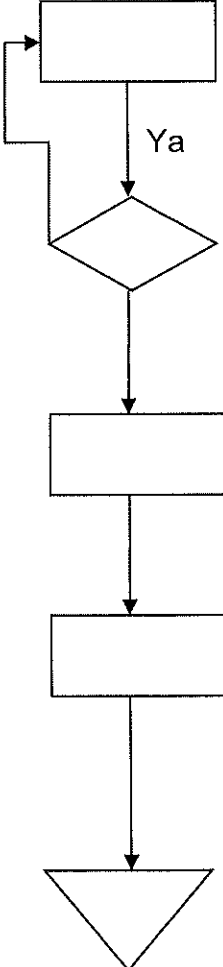


CARTA ALIR PROSEDUR PENGENDALIAN PROJEK TAHUN AKHIR SARJANA MUDA (FSG661)

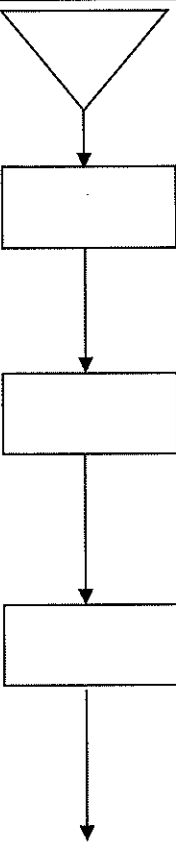
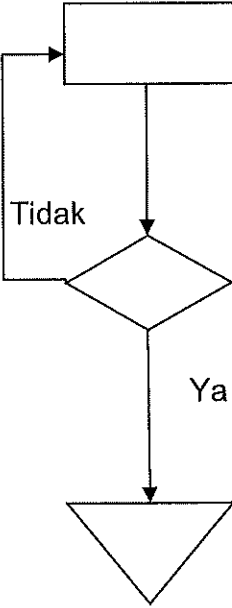


PeI/KPTA/ PPTA/PBPTA		3. Isi borang kontrak beserta tanda tangan PPTA/PBPTA dan dihantar kepada KPTA	'FYP Contract' (FSG/PTA/07/01) (Rujuk contoh Lampiran 5)
I/PPTA/PBPTA /KPTA		4. Adakan perjumpaan dan perundingan berkala sepanjang semester dan isi borang "Progress Report FSG 661" untuk rekod. 5. PPTA/PBPTA melaporkan kepada KPTA sekiranya pelajar tidak hadir pada sesi perjumpaan dan rundingan seawal minggu ke-8. 6. KPTA mengisi borang HEA/RP/KH-02 bagi pengeluaran surat amaran tidak hadir kuliah.	'Progress Report FSG661 (FSG661/2016/FormA) (Rujuk contoh Lampiran 6) Surat Amaran Ketidakhadiran (Rujuk Contoh Lampiran)

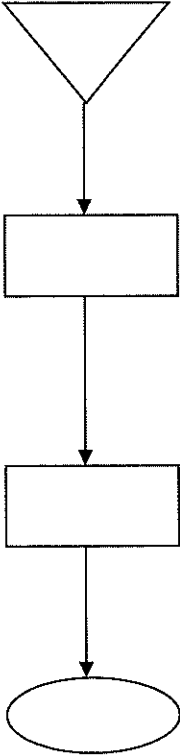


KPTA		7. Melantik dan mengeluarkan surat lantikan untuk PP PTA dan maklumkan kepada Pel dan PPTA /PBPTA nama PP masing-masing.	Surat Perlantikan PP (Rujuk contoh Lampiran 7) Senarai PP PTA (Rujuk contoh Lampiran 8)
Pel/PMTA/KPTA	Tidak 	8. PPTA/PBPTA bertanggungjawab menyemak tesis Pel masing-masing. 9. Pel bertanggungjawab untuk menguji 'Similarity index' menggunakan 'Turnitin' dan memastikan nilai indeks tidak melebihi 30 %. 10. Pelajar menghantar tesis kepada PP yang telah ditetapkan. 11. PP menilai tesis yang dihantar oleh pelajar dalam jangka masa yang ditetapkan dan menyerahkan borang penilaian kepada KPTA.	'FSG661 Written Report Assessment Form (FSG661/2016/Form B) (Rujuk contoh Lampiran 9).



KPTA		12. Melantik dan mengeluarkan surat lantikan untuk PP. 13. Tetapkan tarikh, masa dan tempat pembentangan lisan dan maklumkan kepada Pel dan PPTA/PBPTA	Maklumat pembentangan (Rujuk contoh Lampiran 10)
KPTA/PPTA /PBPTA/PMTA /Pel/PP		14. Kendalikan pembentangan lisan. PP isi markah dalam borang penilaian dan hantar kepada KPTA untuk dikumpulkan	'FSG661 Oral Presentation Assessment Form' (FSG661/2016/Form C) (Rujuk contoh Lampiran 11).
Pel/PPTA/PBPTA		15. Pembedulan tesis dan mengembalikan kepada PPTA/PBPTA untuk semakan. 16. PPTA/PBPTA semak dan sahkan pembedulan pelajar dan menandatangani borang "Correction and Submission Approval Form"	'Correction and Submission Approval Form (FSG661/2016/Form D) (Rujuk contoh Lampiran 12).



Pel/KPTA/PPTA /PBPTA	 <pre> graph TD A[] --> B[] B --> C[] C --> D([]) </pre>	17. Pel serah 1 CD (untuk simpanan KP dan PPTA/PBPTA) dan 1 naskah tesis berjilid (untuk simpanan PPTA/PBPTA) kepada KPTA.	
KPTA/KP/PE(A)		18. Jumlahkan markah pembentangan lisan dan laporan bertulis Serahan markah kepada PEA(A)	Borang LE15 (Rujuk contoh Lampiran 13).
		TAMAT	

FAKULTI SAINS GUNAAN 	PROSEDUR KUALITI OPERASI	NO. RUJUKAN	:	PK.Uitm.FSG.(O).03
		NO. KELUARAN	:	01
	PROSEDUR PROJEK TAHUN AKHIR	NO. PINDAAN	:	00
		TARIKH KUATKUASA	:	02/09/2019
		MUKA SURAT	:	11/11

LAMPIRAN

Correction and Submission Approval Form



Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam, Selangor, MALAYSIA

Course Code :
Document type :
Semester :
Part :
Student Name :
UiTM no :

To:
Project Coordinator

I have reviewed the corrected final draft copy of the final year project document from the above student and would recommend that it is given the following grade (tick ✓ in the appropriate box)*:

Tick ✓ Remarks

☐

Requires no correction and permitted for binding:
(note: hardcover for final report and comb for proposal)

☐

Requires minor errors/ mistakes/ amendments to be resolved/ made

☐

Requires major errors/ mistakes/ amendments to be resolved/ made

☐

Requires further deliberation by the final year students projects committee

Thank you

Main supervisor / Co-supervisor / Second reader**

Full name :
Date :
Signature :

Note:

* Tick ✓ in the appropriate box

** Strike out the appropriate line

UNIVERSITI TEKNOLOGI MARA
SENARAI PENDAFTARAN KURSUS IKUT KELAS
20194 - Session 1 2019/2020

20 January 2020

KAMPUS : B - UITM SHAH ALAM
FAKULTI : AS - FACULTY OF APPLIED SCIENCES
KURSUS : FSG608
KUMPULAN : AS2536B1

DISAHKAN OLEH :

NAMA/TANDATANGAN PENSYARAH

TARIKH :

BIL	NO PELAJAR	NAMA	PRG	BHGN	B.AMBIL	KAMPUS	PENGAJIAN
1	2017442568	DAHLIA BINTI SENIN	AS253	5	1	B	S
2	2017420636	FARAH WAHIDAH BINTI WAHAB	AS253	5	1	B	S
3	2017442612	MOHD NOR ASHRAWI HAIKIM BIN MOHD DALI	AS253	5	1	B	S
4	2017442614	MUHAMMAD ADAM BIN 'AZMI	AS253	5	1	B	S
5	2017442594	NOOR AMIRA BINTI ZAINAL ISHKANDAR	AS253	5	1	B	S
6	2017442606	NOORHASMINIE BINTI SAKAWI	AS253	5	1	B	S
7	2017442584	NOR ASYIKIN BINTI ARIFAN	AS253	5	1	B	S
8	2017442572	NUR ZAHIRAH BINTI ZAINAL ABIDIN	AS253	5	1	B	S
9	2017420666	SHARIFAH MUNIRAH BINTI WAN SALAHUDIN	AS253	5	1	B	S
10	2017420626	UMMU RAFHANNA BINTI ABDUL RAZAK	AS253	5	1	B	S
11	2016338489	MOHAMMAD NOR AKMAN SAFRI BIN ABDULLAH	AS253	6	1	B	S
12	2016341099	SAKINAH BINTI KAMARUDDIN	AS253	6	1	B	S
13	2016326771	UMMU MAISARAH BINTI AHMAD	AS253	6	1	B	S

NAMA/TANDATANGAN PENSYARAH

UNIVERSITI TEKNOLOGI MARA
SENARAI PENDAFTARAN KURSUS IKUT KELAS
 20194 - Session 1 2019/2020

20 January 2020

KAMPUS : B - UITM SHAH ALAM
 FAKULTI : AS - FACULTY OF APPLIED SCIENCES
 KURSUS : FSG608
 KUMPULAN : AS2536C

DISAHKAN OLEH :

 NAMA/TANDATANGAN PENSYARAH

TARIKH :

BIL	NO PELAJAR	NAMA	PRG	BHGN	B.AMBIL	KAMPUS	PENGAJIAN
1	2016537525	ABDUL HANAN BIN AHMAD JAMIL	AS253	6	1	B	S
2	2016317033	AMIRAH BINTI MD DENI	AS253	6	1	B	S
3	2016537995	FAQIHAH ILYANA BINTI MOHD SHALAHUDIN	AS253	6	1	B	S
4	2016718445	FATIN NABILAH BINTI ROSLAN	AS253	6	1	B	S
	2016584077	NUR DINI BINTI ROSLI	AS253	6	1	B	S
	2016727997	NUR SYAHIRAH BINTI SUHALIM	AS253	6	1	B	S
7	2016565141	NUR SYAZATUL SYIMA BINTI SALIM	AS253	6	1	B	S
8	2016317559	NURSYAFIAH IMAN BINTI MOHD REDZUAN	AS253	6	1	B	S
9	2016534775	NURUL AZARINA BINTI MD IZHANI	AS253	6	1	B	S
10	2016329265	NURUL HAZWANI BINTI AMIR	AS253	6	1	B	S
11	2016523019	NURUL RAKINAH BINTI HAMZAH	AS253	6	1	B	S

 NAMA/TANDATANGAN PENSYARAH

SENARAI NAMA PELAJAR, SV, SE DAN TAJUK PROJEK

Bil	No Pelajar	Nama	SV	Second Examiner	TITLE
1	20164476 12	ALIN FATINI BINTI MOHD RIZA	DR MOHD HANAPIAH MOHD YUSOFF	DR MAS IZYANI MD ALI	MODE DIPERSION ANALYSIS OF TAPARATED SINGLE MODE FIBER PROTEIN SENSOR.
2	20164475 28	ANNE ALEESA BINTI NAZREE	DR SURAYA	DR SITI ZAFIRAH ZAINAL ABIDIN	STRUCTURAL AND ELASTIC PROPERTIES OF B2O3-PbO- Na2O GLASS
3	20164475 58	FAIZATUN NABILAH BINTI NOR ISMAIL	DR SYED YUSAINEE BIN SYED YAHYA	EN MOHD FAUZI MAULUD	TIME OF FLIGHT OPERATION (TOFD) IN WELD DEFECTS.
4	20164476 32	FARAH DAYANA IZZATI BINTI MOHAMED NASIR	DR AHMAD TAUFEK ABDUL RAHMAN	DR MISBAH	DEVELOPMENT OFERBIUM ALUMINIUM BOROTELLURITE GLASS FOR THERMOLUMINESCENCE DOSIMETRY SYSTEM.
5	20164477 34	FATHIN NAJIHA BINTI AMINUDDIN	DR NOR ZAINI BT ZAKARIA	DR HEDZLIN BT ZAINUDDIN	WEATHER DATA FOR SOLAR PHOTOVOLTAIC APPLICATION
6	20164476 76	IZZAH NUR ZULAIKHA BINTI MUHARRAM RACHMAN MASJHUR	DR ABU HASSAN BIN HUSIN	DR SYED YUSAINEE BIN SYED YAHYA	DEVELOPMENT OF AN ACCREDITED NDT TRAINING CENTRE IN UTM.
7	20164477 98	MOHD SYAFIQ AIMAN BIN MOHD HANAPI	DR SITI ZAFIRAH BINTI ZAINAL ABIDIN	DR MOHAMAD FARIZ BIN MOHAMAD TAIB	EFFECT OF LITHIUM TRIFLATE SALT ON THE CONDUCTIVITY OF GEL POLYMER ELECTROLYTES BY USING AGAROSE AS POLYMER HOST
8	20164475 46	MUHAMMAD FARIS BIN MOHD YANI	DR ZETY SHARIZAT HAMIDI	DR HEDZLIN BT ZAINUDDIN	OBSERVATION OF DIFFERENT TYPE OF RADIO BURST WITH AN SC-CLASS SOLAR FLARE DUE TO MAGNET RECONNECTION
9	20164476 64	NUR AFIDAH BINTI ROSLAN	DR AHMAD TAUFEK ABDUL RAHMAN	DR NORKARTINI	DEVELOPMENT OF NEODYMIUM ALUMINIUM BOROTELLURITE GLASS FOR THERMOLUMINESCENCE DOSIMETRY SYSTEM
10	20164477 12	NUR AISYAH BINTI AB MALIK	DR MOHAMAD FARIZ BIN	DR ROSNAH ZAKARIA	FIRST PRINCIPLE ON STRUCTURAL,ELECTRONIC AND OPTICAL PROPERTIES OF SN-DOPED CUS CAUNTER

		MARWAN	MOHAMAD TAIB		ELECTROE FOR DYE-SENTIZED SOLAR CELL.
11	20164475 64	NUR ALIA NISA BINTI MOHD AZAM	PN SYAFAWATI NADIAH BINTI MOHAMED	DR ZAKIAH MOHAMED	OPTICAL PROPERTIES OF ALKALI BORATE GLASSES
12	20166467 12	NUR FATINI BINTI NADZIRI @ ISMAIL	DR MOHD FIRDAUS MALEK	DR. MOHD HUSAIRI FADZILAH SUHAIMI	AQUEOUS CHEMICAL ROUTE SYNTHESIS AND THE EFFECT OF DEPOSITION TEMPERATURE ON THE PROPERTIES OF TITANIUM DIOXIDE NANOROD ARRAYS.
13	20164475 78	NUR HAZWANI BINTI JAAFAR	DR ZETY SHARIZAT HAMIDI	PM DR MOHD HANAPIAH MOHD YUSOFF	INVESTIGATIONS OF THE STRUCTURE TYPE II RADIO BURSTS CORRELATED WITH SOLAR ENERGETIC PARTICLE
14	20164475 54	NUR IRDINA BINTI MOHD NASRI	EN MASNAWI BIN MUSTAFFA	DR KHAIRUNNADIM AHMAD SEKAK	EXHAUST EMISSION CALCULATION OF SHIP USING AUTOMATIC IDENTIFICATION SYSTEM (AIS) DATA IN 2016
15	20164475 92	NUR LIYANA BINTI SAMSHIR	DR NORAZILA BINTI IBRAHIM	DR NAZLI AHMAD AINI	EFFECT OF Fe SUBSTITUTION AT Mn-SITE ON MAGNETORESISTANCE AND ELECTRICAL TRANSPORT PROPERTIES IN $\text{La}_{0.8}\text{Pb}_{0.2}\text{Mn}_{1-x}\text{Fe}_x\text{O}_3$ ($x=0.05$)
16	20164476 82	NUR SYUHADAH BINTI SAPUAN	EN MASNAWI BIN MUSTAFFA	EN MOHD FAUZI MAULUD	EXHAUST EMISSION CALCULATION OF AIRPLANE FROM Adsorb DATA
17	20164477 26	NURFADZIRA BINTI ABDUL RAHMAN	DR SYED YUSAINEE BIN SYED YAHYA	EN MOHD FAUZI MAULUD	RADIOGRAPHIC FILM INTERPRETATION AND EVALUATION OF WELD DEFECTS.
18	20164475 86	NURINTAN HIDAYAH BINTI AZALI	PN SYAFAWATI NADIAH BINTI MOHAMED	DR ZAKIAH MOHAMED	ELASTIC BEHAVIOUR OF MIXED IONIC ELECTRONIC OF BORATE GLASSES
19	20164475 26	NURUL ATISYAH BINTI AMRAN	DR NOR ZAINI BT ZAKARIA	DR HEDZLIN BT ZAINUDDIN	PROFILING OF WEATHER DATA IN MALAYSIA FOR ENERGY IN MALAYSIA
20	20164477 58	NURUL IZZATI BINTI ALI	DR SITI ZAFIRAH BINTI ZAINAL ABIDIN	DR MOHAMAD FARIZ BIN MOHAMAD TAIB	INVESTIGATION ON DYNAMIC AND PHYSICALS PROPERTIES OF A POST-CORONAL MASS INJECTION AND SOLAR FLARE
21	20164476 56	RABIHAH BINTI KHALID	DR SYED YUSAINEE BIN SYED YAHYA	EN MOHD FAUZI MAULUD	RADIOGRAPHY IMAGE QUALITY INDICATOR.
22	20164478	SITI AISYAH BINTI	DR MOHD	DR. ZURAIDA KHUSAIMI	SYNTHESIS AND CHARECTERIZATION OF AZO

92	KAMAL ARIFIN	FIRDAUS MALEK		NPS/GRAPHENE OXIDE NANOCOMPOSITE PREPARED VIA ULTRASONIC -ASSISTED SOL-GEL SPIN COATING TECHNIQUE.
23	20164478 12	WAN AHMAD FURQAAN BIN WAN BURHANIUDDIN	DR MOHD HANAPIAH MOHD YUSOFF	DR MAS IZYANI MD ALI
				SIMULATION OF TRANSVERSE OPTICAL SCATTERING IN PROTEIN INFILTRATED PHOTONIC CRYSTAL FIBER

Fakulti Sains Gunaan
Faculty of Applied Sciences

Universiti Teknologi MARA
40450 Shah Alam, Selangor, MALAYSIA
Tel (Pentadbiran) : (+603) 5544 4555
Tel (Akademik) : (+603) 5544 4618
Faks : (+603) 5544 4562
Emel : web_fsg@shah.uilm.edu.my



UNIVERSITI
TEKNOLOGI
MARA

Rujukan : 500-FSG (PT.23/1/1)

Tarikh : 5 Sept 2018

SEPERTI DILAMPIRAN

Ybhg. Profesor/Prof Madya/Dr/Puan

PERLANTIKAN SEBAGAI PENYELIA PROJEK TAHUN AKHIR (FSG600 & FSG650) BAGI PELAJAR AS246 SESI SEPTEMBER 2018 HINGGA JULAI 2019

Dengan segala hormatnya, perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa Ybhg. Profesor/Prof Madya/Dr/Puan telah dilantik sebagai penyelia projek tahun akhir bagi pelajar program AS246 (Ijazah Sarjana Muda Sains dan Teknologi Makanan) iaitu kod kursus FSG600 dan FSG650 bagi sesi September 2018 hingga Julai 2019.

3. Senarai pelajar adalah seperti yang dilampirkan bersama surat lantikan ini. Buku panduan 'Guidelines on Supervision, Assessment, Evaluation and Format for Students' Project: Faculty of Applied Sciences' boleh diperolehi dari UPENA untuk membantu proses penyeliaan pelajar.

4. Bersama-sama ini juga dilampirkan skop/peranan penyelia projek tahun akhir untuk rujukan.

5. Diharap Profesor/Prof Madya/Dr/Puan dapat menjalankan tugas penyeliaan ini dengan penuh dedikasi.

Sekian terima kasih.

DEAN
Tel : (+603) 5544 4560
PA : Tel : (+603) 5544 4555

HEAD
School of Physics &
Material Studies
Tel : (+603) 5544 4580

DEPUTY DEAN
Akademik
Tel : (+603) 5544 4554

HEAD
School of Chemistry &
Environmental Studies
Tel : (+603) 5544 4576

DEPUTY DEAN
Student Affairs & Alumni
Tel : (+603) 5544 4567

HEAD
School of Biology
Tel : (+603) 5544 4564

DEPUTY DEAN
Industrial & Community Networking & Alumni
Tel : (+603) 5544 4548

HEAD
School of Industrial
Technology
Tel : (+603) 5544 4560

HEAD
School of
Studies
Tel : (+603) 5544 4620

DEPUTY REGISTRAR
Tel : (+603) 5544 4566

ASSISTANT REGISTRAR
Tel : (+603) 5544 4566
Tel : (+603) 5544 4566

Yang benar,


DR FADHILAH JAILANI

Koordinator

Program Ijazah Sarjana Muda Sains dan Teknologi Makanan

PERLANTIKAN SEBAGAI PENYELIA PROJEK TAHUN AKHIR (FSG600 & FSG650)
BAGI PELAJAR AS246 SESI SEPTEMBER 2018 – JULAI 2019

Puan Norjanah Yury

- i. Penyelia adalah bertanggungjawab menyelia dan memantau perjalanan projek tahun akhir pelajar sehingga tamat iaitu dari peringkat cadangan penyelidikan sehingga pelajar berjaya menghasilkan laporan bertulis dalam bentuk tesis.
- ii. Memberi bimbingan dan nasihat kepada pelajar berkenaan perkara-perkara yang

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

berkaitan dengan Projek Tahun Akhir ke arah mencapai objektif dan skop yang telah ditetapkan.

- iii. Membantu pelajar dalam membuat perancangan berkenaan dengan projek penyelidikan yang akan dilaksanakan.
- iv. Mengawasi segala perkembangan projek dan menilai hasil projek yang dijalankan oleh pelajar dari masa ke semasa, sehinggalah penyerahan laporan berjilid.
- v. Mengadakan pertemuan dan perbincangan dengan pelajar serta menyemak dan mengesahkan rumusan kemajuan projek pelajar (menandatangani pada ruang yang disediakan – Buku Log) sekurang-kurangnya ENAM (6) kali/semester.
- vi. Membimbing dan menasihati pelajar cara-cara penulisan laporan bersesuaian dengan bentuk projek yang dilaksanakan oleh pelajar tersebut. Penulisan laporan perlu berdasarkan format dan piawaian penulisan yang telah ditetapkan oleh pihak universiti.
- vii. Membuat penilaian terhadap pelajar berdasarkan laporan kemajuan projek dan laporan projek pada tarikh/masa yang telah ditetapkan.
- viii. Menghadiri pembentangan projek pelajar.
- ix. Menyemak laporan sebelum penjilidan dan memastikan pelajar telah membuat pembetulan seperti yang dikehendaki.
- x. Mematuhi tarikh penyelenggaraan projek seperti yang telah ditetapkan oleh Koordinator Projek Tahun Akhir.

KAMPUS : B - UITM SHAH ALAM
 FAKULTI : AS - FACULTY OF APPLIED SCIENCES
 KOD KURSUS : FSG661
 KUMPULAN : AS2036S1
 Tarikh Sah : 14/05/2019 12:36 AM

Bil	No Pelajar	Nama	TAKLIMAT	PROGRESS REPORT 1	PROGRESS REPORT 2	PROGRESS REPORT 3
1	2016447612	ALIN FATINI BINTI MOHD RIZA				
2	2016447528	ANNE ALEESA BINTI NAZREE				
3	2016447558	FAIZATUN NABILAH BINTI NOR ISMAIL				
4	2016447632	FARAH DAYANA IZZATI BINTI MOHAMED NASIR				
5	2016447734	FATHIN NAJIHA BINTI AMINUDDIN				
6	2016447676	IZZAH NUR ZULAIKHA BINTI MUHARRAM RACHMAN MASJHUR				
7	2016447798	MOHD SYAFIQ AIMAN BIN MOHD HANAPI				
8	2016447546	MUHAMMAD FARIS BIN MOHD YANI				
9	2016447664	NUR AFIDAH BINTI ROSLAN				
10	2016447712	NUR AISYAH BINTI AB MALIK MARWAN				
11	2016447564	NUR ALIA NISA BINTI MOHD AZAM				
12	2016646712	NUR FATINI BINTI NADZIRI @ ISMAIL				
13	2016447578	NUR HAZWANI BINTI JAAFAR				
14	2016447554	NUR IRDINA BINTI MOHD NASRI				
15	2016447592	NUR LIYANA BINTI SAMSHIR				
16	2016447682	NUR SYUHADAH BINTI SAPUAN				
17	2016447726	NURFADZIRA BINTI ABDUL RAHMAN				
8	2016447586	NURINTAN HIDAYAH BINTI AZALI				
19	2016447526	NURUL ATISYAH BINTI AMRAN				
20	2016447758	NURUL IZZATI BINTI ALI				
21	2016447656	RABIHAH BINTI KHALID				

IMPORTANT DATES* FSG661 SEMESTER FEB-JULY 2019

Minggu	Aktiviti	Tarikh akhir
1 25 Feb	Kerja amali	
2 4 Mac		
3 11 Mac		
4 18 Mac	Taklimat Koordinator (1). Laporan prestasi 1 kepada coordinator	22 Mac sebelum 5.00 ptg
5 25 Mac	Kerja amali	
6 1 Apr		
7 8 Apr		
8 15 Apr	Laporan prestasi 2 kepada coordinator	19 April sebelum 5.00 ptg
9 22 Apr	Kerja amali	
10 29 Apr	Penghantaran draf tesis kepada penyelia	
11 6 Mei	Kerja amali	
12 13 Mei	Penghantaran Laporan prestasi 3 kepada coordinator	17 Mei sebelum 5.00 ptg
13 20 Mei	Kerja amali dan Pembersihan Makmal	
27 Mei – 9 Jun	Cuti Pertengahan Semester dan Cuti Khas Perayaan	
14 10 Jun	Penghantaran draf tesis akhir kepada coordinator & Laporan Turnitin	14 Jun sebelum 5.00 ptg
17 Jun	MINGGU ULANGKAJI Pembentangan FYP	
21 Jun – 14 Jul	PEPERIKSAAN AKHIR	
8 Jul	Penyerahan markah FYP oleh penyelia dan pemeriksa kepada koordinator	8 Jul sebelum 5.00 ptg
	Pembetulan & penyerahan tesis lengkap (CD) kepada coordinator	18 Jul sebelum 5.00 ptg

* Tertakluk kepada perubahan semasa. Notis terkini akan dimaklumkan selewat-lewatnya dua (2) minggu sebelum tarikh pelaksanaan

FYP CONTRACT

FSG/PTA/08/2019/01



Fakulti
Sains Gunaan

Course Code :
Title :
Semester :
Part :

Student Name :
UiTM no :
Telephone :
Email :

Supervisor Name :
Tel/Fax :
Email :

Signature: _____

Co-supervisor name :
Tel/Fax :
Email :

Signature: _____

Consultation day and time :

I (the student) agree to have the above-stated names as my supervisor and co-supervisor for the stated project title to the end of the semester.

I (the student) agree to observe the roles and responsibilities as stipulated in the "Guidelines on Supervision, Assessment, Evaluation and Format for Students Projects 2nd Edition." I will submit this contract to the coordinator for the project on the specified date.

I (the student) agree to submit my final draft proposal/thesis with **less than 30% Turnitin similarity index**. I understand that failure to do so will earn me an automatic F in accordance to Plagiarism Regulation 1.77 from Peraturan Akademik Diploma dan Sarjana Muda, UiTM (pindaan 2017).

I/we, (supervisor and co-supervisor) agree to have the above-stated name as my/our student for the stated project title to the end of the semester.

I/we (supervisor and co-supervisor) agree to observe the roles and responsibilities as stipulated in the guidelines. I/we will make sure that the student submits this contract to the Coordinator for the project on the date as specified by him/her.

Student and supervisor/s agree to communicate on the above-stated day and time **every week** to discuss the progress of the project during the above-mentioned period.

Signatures:

Student:

Coordinator (Witness)

Date

*Copies of completed forms must be given to every student, supervisor, co-supervisor (if present) and coordinator.



PROGRESS REPORT FSG661

Week (circle) (4) (8) (12)

Name:

Student No:

Supervisor:

Title:

Give a summary of what you did in the past four weeks. Provide data sample or results shown in your FYP laboratory log book.

Signature of Students	Signature of Supervisor:
Name: Student No:	Name: Official Stamp:

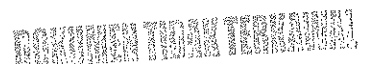
Guidelines on Supervision, Assessment, Evaluation and Format for Students' Project

3rd Edition

FACULTY OF APPLIED SCIENCES

Editors

**Mohd Abdul Fatah Abdul Manan, Wan Ramlee Wan A. Kadir,
Azani Saleh, Faezah Pardi, Norrizah Jaafar Sidik,
Azizah Othman, Siti Roha Ab Mutalib, Hairani Tahir,
Shanti Navaratnam, Reena Abd Rashid,
Wan Nazihah Wan Ibrahim, Vicky Bihud, Rossuriati Dol Hamid,
Rusdin Laiman, Nurul Nadiah Mohd Firdaus Hum, Nur Aimi Jani
Nur Amalina Mustaffa, Mohammad Noor Jalil &
Rabiatuladawiyah Md Akhir**



○



2.6	Chapter 5 Conclusion and Recommendations	12
2.7	References	12
3.0	Format of FYP Report	13
3.1	Spine	13
3.2	Cover	13
3.2.1	Research Proposal	13
3.2.2	FYP Report	13
3.3	Preliminaries	13
3.3.1	Title Page	13
3.3.2	Approval Sheet	14
3.3.3	Abstract/Abstrak	14
3.3.4	Acknowledgements	14
3.3.5	Table of Contents	14
3.3.6	List of Tables, Figures and Plates	14
3.3.7	List of Symbols, Abbreviations or Nomenclature	14
3.4	Main Text	15
3.5	Citations in the Text	15
3.6	Tables	16
3.7	Figures/Plates	17
3.8	Cited References	17
3.9	Appendices	18
3.10	Curriculum Vitae	18
3.11	Header/Footer	18
4.0	Writing Conventions	18
4.1	Units of measure	18
4.2	Numbers	19
4.3	Percentage	19
4.4	The use of $\pm$ signage	19
4.5	Equations	19
5.0	Conclusion and Recommendations	19
6.0	Technical Specifications	19
6.1	Typing and Printing	19
6.2	Paper Quality	20
6.3	Word Count	20
6.4	Photocopy	20
7.0	Submission	20
7.1	Submission of Research Proposal	20
7.2	Submission of FYP Report	21
PART C:	GUIDE TO ASSESSMENT AND EVALUATION	22
1.0	Introduction	23

2.0	Items to be Assessed	23
2.1	Commitment and Effort	23
2.2	Written Report	23
2.3	Oral Presentation	23
3.0	Distribution of Percentage by Assessors	23
3.1	Supervisor	23
3.2	Co-supervisor	23
3.3	Second Reader	24
APPENDICES		25
PART A:	GUIDE TO SUPERVISION	
	<i>Appendix S1: FYP Contract</i>	26
	<i>Appendix S2: Student-Supervisor Journal</i>	27
	<i>Appendix S3: FYP Gantt Chart</i>	28
	<i>Appendix S4: Correction Notice</i>	29
	<i>Appendix S5: Submission Certificate</i>	30
	<i>Appendix S6: Consent for Evaluation of Proposal</i>	31
	<i>Appendix S7: Consent for Defense of FYP Report</i>	32
	<i>Appendix S8: Progress Report Form</i>	33
	<i>Appendix S9: Turnitin Similarity Index Verification</i>	34
PART B:	GUIDE TO FORMATTING	
	<i>Appendix F1a: Spine and Cover</i>	35
	<i>Appendix F1b: CD</i>	36
	<i>Appendix F2: Title Page</i>	37
	<i>Appendix F3: Approval Sheet</i>	38
	<i>Appendix F4: Abstract</i>	39
	<i>Appendix F5: Abstrak</i>	40
	<i>Appendix F6: Acknowledgements</i>	41
	<i>Appendix F7: Table of Content</i>	42
	<i>Appendix F8: List of Tables</i>	43
	<i>Appendix F9a: List of Figures</i>	44
	<i>Appendix F9b: List of Plates</i>	45
	<i>Appendix F9c: List of Symbols</i>	46
	<i>Appendix F10: List of Abbreviations</i>	47
	<i>Appendix F11: Main Text</i>	48
	<i>Appendix F12: Examples of Tables</i>	54
	<i>Appendix F13a: Examples of Figures</i>	55
	<i>Appendix F13b: Examples of Plates</i>	57
	<i>Appendix F14a: Cited References</i>	58
	<i>Appendix F14b: Source of Cited References</i>	60
	<i>Appendix F15: Appendices</i>	63
	<i>Appendix F16: Curriculum Vitae</i>	64
PART C:	GUIDE TO ASSESSMENT AND EVALUATION	
	<i>Appendix E1: Assessment and Evaluation Form</i>	66



PART D:	FORMS	68
	Form 1: FYP Contract	69
	Form 2: Student-Supervisor Journal	70
	Form 3: FYP Gantt Chart	71
	Form 4: Correction Notice	72
	Form 5: Submission Certificate	73
	Form 6: Consent for Evaluation of Proposal	74
	Form 7: Consent for Defense of FYP Report	75
	Form 8: Progress Report Form	76
	Form 9: Turnitin Similarity Index Verification	77
PART E:	EXTENDED ABSTRACT FORMAT	78
	Extended Abstract Template	79

FOREWORD

Dean of Faculty



Since the inception of this Guideline by the Faculty in 2004, it has become an effective reference in guiding and advising students and academic staff in the supervision of undergraduate final year research project. This manual provides specific guidelines on supervision, formatting and evaluating of final year projects work. It is hoped that the concepts and principles stipulated in this guideline could facilitate the supervision and assessment of undergraduate research project.

The revised electronic edition of this guideline encompasses new ideas and suggestion based on feedbacks and comments from students and staff. The emphasis is to make this guideline a quick, accessible and easy reference using samples and illustrations. Students and supervisor are advised to closely follow the guidelines provided in this manual in order to minimize any inconsistency pertaining to assessment, evaluation and format of the undergraduate final year project report.

I wish to congratulate the Chairman and the members of the committee for their effort, dedication and hard work in improving the content of this revised edition. I hope that this guideline will contribute towards producing quality research work by the student and excellent supervisory skills by the academic staffs of the faculty.

Farida Zuraina Mohd Yusof, Ph.D
Professor
Dean of Faculty

March 2019

PART A:

GUIDE TO SUPERVISION

1. The purpose of this guide is to provide a clear and concise overview of the supervision process. It is intended for use by all staff involved in the supervision of offenders.

2. This guide is divided into two main sections: Part A: Guide to Supervision and Part B: Supervision of Offenders.

3. Part A: Guide to Supervision provides a general overview of the supervision process, including the roles and responsibilities of staff, the types of supervision available, and the principles of supervision.

4. Part B: Supervision of Offenders provides a detailed guide to the supervision of offenders, including the assessment of risk, the development of supervision plans, and the monitoring and review of supervision.

5. This guide is a living document and will be updated as necessary to reflect changes in the supervision process.

GUIDELINES ON SUPERVISION, ASSESSMENT, EVALUATION AND FORMAT FOR STUDENTS' PROJECT

This booklet is a guide for supervisors and students who are involved in the final year student project. It should be read together with the 'Peraturan Akademik: Program Sarjana Muda Universiti Teknologi MARA Pindaan 2017, Bilangan 1; or its latest version' which is referred to in this booklet as 'Peraturan Akademik'.

1.0 INTRODUCTION

- a) The Faculty of Applied Sciences (FSG) is committed in undertaking research of the highest quality in all related areas of studies. Supervisors and students play vital roles in creating and sustaining a healthy research atmosphere and contributing to the advancement of knowledge. The Faculty seeks to provide a stimulating and supportive environment in which students can develop their skills and produce high quality research/project work.
- b) The Final Year Project (FYP) is part of the Faculty requirements (*Peraturan Akademik 2.4*) consisting of two parts. The first part involves writing a project proposal and some preliminary work while the second part involves conducting the experimental work, writing the final project report and oral presentation. All students must pass these courses to graduate.

2.0 THE COMMITTEE FRAMEWORK

The Faculty Final Year Project Committee (FFYP Committee) and the School of Studies Final Year Project Committee (SFYP Committee) (Table 1) govern the conduct of the final year project.

3.0 RESPONSIBILITIES OF THE FACULTY FINAL YEAR PROJECT (FFYP) COMMITTEE

This committee is chaired by the Deputy Dean (Academic Affairs) and is responsible for:

- a) Appointment of the SFYP Coordinators.
- b) Deciding the conduct and distribution of the supervision and the number of students supervised.
- c) Making recommendations to the Jawatankuasa Akademik Fakulti (JAF) on policies related to students' projects within the general guidelines laid down by the university.
- d) Creating conducive FYP ambience within the Faculty/Programme with respect to optimization of staff and equipment.
- e) Organising the induction and orientation of new and prospective supervisors in accordance with the guidelines laid down by the Faculty.
- f) Monitoring the quality of evaluation and assessment.
- g) Setting, organising and maintaining the FYP report in a standard database.

Table 1: The FYP Committee Framework

ITEM	Faculty FYP Committee	School of Studies FYP Committee
Chairman	Deputy Dean (Academic Affairs)	Programme Coordinators
Secretary	Assistant Registrar (HEA)	FYP Coordinator
Members	All FYP Coordinators	All member of the staffs / Supervisor
Additional Members	1 Professor	
Frequency of Meeting	Minimum of once in an academic calendar year	Minimum of two per semester
Agenda	a. Appointment of members b. Enforcement of new academic policies c. Data on student performance and Step for Improvement d. Disputes and Conduct of Supervisors and Students e. Research facilities and supports	a. Distribution and allocation of students/supervisors. b. Update of Policy, Research Titles and Scope. c. Analyse, validate and endorse marks before submitting to the Pra JAF. d. Students training in research skills and techniques. e. Dispute of student/s and supervisor/s conduct and progress. f. Other matters related to the conduct of the projects.

4.0 RESPONSIBILITIES OF THE SCHOOL OF STUDIES FYP (SFYP) COMMITTEE

This committee is chaired by the Programme Coordinator and is responsible to coordinate the management of the FYP and to:

- a) Evaluate and approve the titles, scope, objectives, expected outcome of FYP proposal and report submitted by students.
- b) Analyse, validate and endorse the marks for the FYP proposal and reports before submitting to the Faculty.
- c) Ensure that students receive adequate training in both undergraduate research skills and techniques relevant to their chosen topics.
- d) Monitor and make recommendations to the FFYP Committee concerning the progress of students' projects.
- e) Consider and make decisions on dispute matters related to the projects.
- f) Ensure that supervisors follow these guidelines.

5.0 RESPONSIBILITIES OF THE PROGRAMME FINAL YEAR PROJECT (PFYP) COORDINATOR

The coordinator is secretary to the PFYP committee and is responsible to:

- a) Brief the students and/or supervisors on the guidelines.
- b) Compile proposed projects and thesis (refer to respective coordinators).

- c) Organise students' presentation of their FYP proposals and reports.
- d) Advise on the allocation of students to supervisors, and on any subsequent changes in supervisory arrangements.
- e) Consider recommendations from supervisors for the nomination of a co-supervisor (if necessary).
- f) Arrange for temporary supervision when supervisors are absent.
- g) Manage information and records pertaining to the FYP and students in the Programme.
- h) Assist and encourage students to complete the FYP.
- i) Attend the FFYP Committee meetings and to de-brief the PFYP Committee on meeting minutes.

6.0 ROLES, RESPONSIBILITIES AND RIGHTS OF SUPERVISORS

6.1 Roles of supervisors

The main roles of the supervisors are to supervise, guide and train the students towards their development of the FYP.

6.2 Responsibilities of supervisors

Supervisors are responsible to:

- a) Sign the appropriate semester contract form (*Appendix S1*).
- b) Ensure that students are aware on the safety and health regulations of laboratory handling.
- c) Endorse the requests on purchasing chemicals, and other related resources for project.
- d) Advise students on the availability of facilities and resources
- e) Guide the students in avoiding plagiarism, scientific fraud, and intellectual property rights (*Peraturan Akademik 1.77 dan 2.24.3*) by:
 - i. informing the students of appropriate referencing techniques and providing clear examples of what is acceptable
 - ii. explaining academic expectations and what constitutes plagiarism to students in course profile literature.
 - iii. cultivating with the students, a climate of mutual respect for original work.
- f) Identify and advise their students' training needs at the beginning of the FYP.

- g) Ensure that the students follow the procedure relating to the conduct of the FYP.
- h) Providing appropriate project topics and objectives of research.
- i) Inform to the PFYP Coordinator should the student fail to meet three (3) consecutive appointments.
- j) Ensure that students have the opportunity to develop communication skills.
- k) Provide regular progress reports to the PFYP Coordinator.
- l) Attend and evaluate students' oral presentation.
- m) Be prompt in responding to students work and request.
- n) Ensure that the report is written according to Faculty's requirements.

6.3 Rights of supervisors

- a) To bring attention in writing during the semester the intention to withdraw from supervision with valid reasons to the PFYP Coordinator.
- b) To have the rights over the intellectual properties relating to the outcome of the FYP with the proper acknowledgement of the students contributions.
- c) To use the findings from the students' FYP for other academic purposes.

7.0 ROLES, RESPONSIBILITIES AND RIGHTS OF STUDENTS

7.1 Roles of students

The main role of the students is to conduct and complete their FYPs, which meet the standard requirements of the University with guidance from the supervisors.

7.2 Responsibilities of students

- a) To meet the FYP coordinator regarding the assigning of a supervisor.
- b) Student will discuss with the supervisor the topic of research.
- c) Sign and submit the appropriate semester contract form (*Appendix S1*) to the PFYP Coordinator according to the schedule. A copy of the contract form must be submitted to the supervisor and co-supervisor (if necessary).
- d) Abide by the terms and conditions as stated in the contract.
- e) Attend the full session, conduct oral presentations and pass both oral presentations for the FYP proposal and report. Failure to do so will be given an F (Gagal) status (*Peraturan Akademik 2.4 dan 2.14*).
- f) Submit their FYP proposal, the final draft thesis together with a copy of Turnitin report and hard bound thesis to the FYP Coordinator (*Appendix S9*).

- g) Observe all deadlines as stated in the schedule as notified by the PFYP Coordinator.
- h) It is compulsory to submit progress report (*Appendix S8*) as schedule to PFYP Coordinator.
- i) Ensure that the Student-Supervisor Journal are signed at every meeting. (*Appendix S2*).
- j) Notify his/her supervisors as soon as possible when struck by illness or other emergencies. All illnesses must be supported by valid medical certification.
- k) Avoid plagiarism practices and abide the guidelines in the Avoiding Plagiarism: A Guide for Students Handbook <https://hea.uitm.edu.my/v3/downloads/e-books/plagiarism4s/index.html>.
- l) Acknowledge all contributors of the FYP.

7.3 Rights of students

- a) To have a choice in his/her project of interest based on the availability of the supervisors.
- b) To get help and advice from their supervisors in managing their research activities.
- c) To receive a fair evaluation of the completed FYP by the **supervisor and second examiner**.
- d) Students may appeal for reevaluation (*Peraturan Akademik 1.57 dan 2.28*).
- e) To have access to the necessary facilities needed to carry out their projects.
- f) After the contract has been signed, the students may request in writing a change of supervisor. The request should be made to the PFYP Coordinator and the decision will be made by the PFYP Committee.
- g) To be acknowledged for their contributions made towards any academic outputs from their FYPs.
- h) To bring to the PFYP Coordinator's attention, if the student is unable to resolve problems with the supervisor.

8.0 PLANNING THE FYP

- a) FYP students should be encouraged to focus on the requirements of the degree from the start, and ensure they have a realistic appreciation of what is achievable in the period. It is therefore important to plan the FYP from the earliest stages to ensure that it can be completed within the specified period. (*Peraturan Akademik 1.45 dan 2.6.2*) (*Appendix S3*).
- b) Students are encouraged to identify their FYP topic of interest as early as one semester before. The viability of the FYP must be taken into consideration since sometimes experiments do not produce the expected results, facilities cease to

be available, or the FYP does not develop in the way expected. In such cases that students will depend upon their supervisors' expertise in balancing the need to complete the FYP within the period.

9.0 COMPLETION OF FYP

9.1 Project requirements

- a) Students are required to contribute to the knowledge of the subject and provide evidence of originality.
- b) The student must submit on the specified date to the FYP Coordinator *two (2) copies of the final hardbound report that is to be returned to the student after it has been signed by appropriate personnel/*two (2) electronic copy of the thesis on a CD based on the requirement of the programme. *(one for student, one for supervisor).
- c) If a student is unable to submit the written proposal and/or FYP report, on a date specified by the FYP Coordinator, the supervisor should provide a written report stating the reasons and the possible extended period (maximum one week from the specified date of submission) to the FYP Coordinator.

9.2 Writing-up

- a) The project report must be written in English in accordance with Part B of these Guidelines.
- b) The student's FYP proposal and report shall be assessed and evaluated by the supervisor, co-supervisor (if necessary), second examiner and moderator (if required) (*Peraturan Akademik 1.28*). The report will be assessed according to Part C of these Guidelines (*Appendix E1*).
- c) After the FYP report has been assessed and evaluated, the student will sign the Correction Notice form (*Appendix S4*).
- d) Students should submit the corrected FYP report by the agreed date as stated in the same form (*Appendix S4*).
- e) The supervisor shall inform the PFYP Coordinator on the status of the Project Report by filling the Submission Certificate form (*Appendix S5*).

9.3 Oral/Poster Presentation

- a) There shall be an oral presentation/poster presentation for the FYP based on the requirement of the programme.
- b) The PFYP Coordinator shall advise students on the presentation date and should attend it upon the consent of the supervisor (*Appendix S7*).
- c) Students shall be evaluated by a minimum of two (2) panel members appointed by the PFYP.

- d) All registered students for the FYP reports must attend their program oral presentations throughout the sessions.
- e) The students should adhere to the specified time for the oral presentation.
- f) Students should follow proper dress code.
- g) The students are encouraged to use visual aids.
- h) Evaluated items for the oral presentations as elaborated in Part C of these Guidelines (**Appendix E1**).

10.0 PLAGIARISM

Plagiarism is the act of misrepresenting as one's own original work the ideas, interpretations, words or creative works of another. These include published and unpublished documents, designs, music, sounds, images, photographs, computer codes and ideas gained through working in a group. These ideas, interpretations, words or works may be found in print and/or electronic media.

The University has defined plagiarism as written in *Peraturan Akademik 1.77*.

10.1 Turnitin Report

Students must attach their Turnitin Report (**Appendix S9**) with Similarity Index **not more than 30%** during written proposal and final draft thesis submission. Failure to do so will be given an F (**Gagal**) status (*Peraturan Akademik 1.77*).

PART B:

GUIDE TO FORMATTING

1.0 INTRODUCTION

This formatting guideline is to help students prepare their FYP reports. Every FYP report shall comprise as follows:

1.1 Research Proposal shall comprise of the following:

- i. Title page
- ii. Table of contents
- iii. List of tables
- iv. List of figures
- v. Introduction
- vi. Literature review
- vii. Methodology
- viii. References
- ix. Gantt chart

1.2 FYP reports shall comprise of three parts as follows:

a) The preliminaries:

- i. Title page
- ii. Approval sheet
- iii. Abstract and *Abstrak*
- iv. Acknowledgements
- v. Table of contents
- vi. List of tables
- vii. List of figures
- viii. List of plates
- ix. List of symbols
- x. List of abbreviations

b) The text or main body may include 5 chapters as follows:

- i. Introduction
- ii. Literature review
- iii. Methodology
- iv. Results and discussion
- v. Conclusion and recommendations

c) The final part includes the following:

- i. References
- ii. Appendices
- iii. *Curriculum Vitae*

2.0 RESEARCH GUIDELINES

2.1 PROJECT TITLE

A proposal should begin with a title that succinctly describes the contents. A title should be brief, short and unambiguous, yet be an adequate description of the work. However, when desirable, a longer, more definitive title may also be given, it should not be more than three lines. In general, the title should contain the keywords addressing the subject studied, method and objective(s).

2.2 CHAPTER 1 INTRODUCTION

This section sets forth the rationale, significance and objectives of the study. It includes details of the background, problem statement, reasons for carrying out the current research, and an outline of what the student intend to do.

a) Background and problem statement(s)

This section gives a short summary of the background, provides the content for the research study, and generates questions, which the researcher seeks to answer. Remember, the most important aspect of a research proposal is clarity on the research problem. There should be a statement explaining why the researcher feels the research project is important and therefore should be carried out.

b) Significance of study

This section explains the purpose of the study. Students should emphasize the findings of the study, its benefit and to what extent the research will enhance the existing knowledge.

Examples;

The research will be beneficial to

The project will be helpful to

The study will be a significant endeavor to

c) Objectives of study

The objectives are the main or specific issues that are being looked at. They must be measurable, either qualitatively or quantitatively and form a guide to the research methodology, data analysis and presentation of results. They may also be stated as questions, which the research seeks to answer, or as hypotheses to be tested. The number of objectives recommended is three or less. The verbs are appropriate to the subject matter of study. For examples:

- i. To analyse
- ii. To evaluate
- iii. To determine

2.3 CHAPTER 2 LITERATURE REVIEW

This section includes a fully referred and discussions of previous studies including substantial findings as well as theoretical and methodological contribution to the research topic.

Students must include a review of the relevant literature especially the most current reports (the past five to ten years at the most) related to the study. It should contain a fully referenced review of previous studies, which may obtain from journals, books, proceedings or articles. Students must not duplicate texts in the Introduction section with text written in the Literature review.

-

3.0 FORMAT OF THE FYP

3.1 Spine (*Appendix F1a*)

The following particulars should be lettered in font size 14, Arial/Times New Roman, bold; in gold colour, imbedded; in capital letters from top to bottom in the following order:

- a) Name of student
Long names should be shortened to fit the spine
(E.g. Raja Sharifah Aloyah ~ Rj. Sh. Aloyah)
- b) Programme code/FSG
- c) Month of submission
- d) Year of submission

3.2 Cover (*Appendix F1a*)

3.2.1 Research Proposal

All copies must be made in comb binding, with a clear plastic cover that must be used for the front and back page.

3.2.2 FYP Report

The final report should be in Hardcover bound/CD (*Appendix F1b*), which is maroon in colour (**based on the requirement of the programme**).

The following particulars should be printed in font size 14, Arial/ Times New Roman, bold; in gold colour imbedded; in capital letters; centre-justified in the following order:

- a) Title of final year project report (single spaced);
- b) Name of student;
- c) Degree;
- d) Faculty;
- e) Universiti Teknologi MARA;
- f) Month and year of submission.

3.3 Preliminaries

The heading of every section must be in capital letters, bold and centred without punctuation, 3 cm from the top of the page.

3.3.1 Title page (*Appendix F2*)

This page must contain the following information:

- a) Title of final year project report

It should be 3 cm from the top, bottom, right and 4 cm from the left; centred; single-spaced; bold font Times New Roman, size 12; and all in capital letters.

- b) Full name of student

It should be in the middle of the page; centred; single-spaced; bold, font size 12, Times New Roman; and in capital letters.



- c) The following statement should be typed in bold, font size 12, Times New Roman; centred:

**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) (name of programme)
in the Faculty of Applied Sciences,
Universiti Teknologi MARA**

- d) The month and year in which the project report is submitted for final assessment in the relevant registered semester.

3.3.2 Approval sheet (*Appendix F3*)

This sheet bears the signatures of the Head of Programme; Project Coordinator; Supervisor and Co-supervisor(s) (if applicable); and the date.

3.3.3 Abstract/Abstrak (*Appendix F4 and F5*)

The abstract should provide a brief and concise summary of the objectives, research method, findings or major results and conclusions. The length should be of one paragraph, approximately between 200 - 300 words in single spacing. Abstract generally do not have citations. Information in the title should not be repeated. Abstract is written both in English and Bahasa Malaysia in separate pages (*Appendix F4 and F5*).

3.3.4 Acknowledgements (*Appendix F6*)

The acknowledgement statement enables the student to convey his or her gratitude to all who have contributed in carrying out the research; intellectually (assistance or advice), technically (materials or supplies) or financially (individuals, department or organisation).

3.3.5 Table of contents (*Appendix F7*)

The title of parts, sections or chapters and their principal subdivisions should be listed in the Table of Contents and must be worded exactly as they appear in the body of the report. It should be written in sentence case except for abbreviations (which should be in capital letters). Single spacing for preliminaries; and two single spacing between preliminaries and chapters; and two single spacing between chapter and the second main heading.

3.3.6 List of tables, figures and plates (*Appendix F8, F9a and 9b*)

List of tables shows the exact titles of all tables in the text and appendices together with the page number of each table. List of figures includes graphs, diagrams, charts, maps, drawings, etc while list of plates are printed images, photos and other forms of illustration that is not a table. The exact title and page number of each figure is listed.

3.3.7 List of symbols, abbreviations or nomenclature (*Appendix F9c and F10*)

If an assortment of abbreviations and acronyms are used in the project report, they are listed with their meanings in the List of Abbreviations, even though the full names are given at the first mention in the text, provided they are used more than five times. This list serves as ready reference to readers not familiar with the abbreviations.

3.4 Main text (*Appendix F11*)

Default font: Size is 12 using Times New Roman.

All headings should be short and comprising not more than ten words.

Text and text in table: Should not be scripted or italicized except for scientific names and terms in a different language.

First main headings: Bold, capital letters, centred, and 3 cm from the top paper boundaries.

Second main headings: Bold, capital letters, centred and two double spacing from the main heading.

Primary headings: Sentence case, bold, and left justified; tab at 1.27 cm. It should be two double-spaced from the second main heading.

Secondary headings: Sentence case, bold, and left justified; tab at 1.27 cm. It should be two double-spaced from the last sentence of the previous paragraph. The tab setting is setup according to Plate 3.4a.

Paragraph to paragraph: sentence case, justified, font 12; Times New Roman. A new paragraph should be two double-spaced from the last line of the preceding paragraph. The page paragraph is setup according to Plate 3.4b.

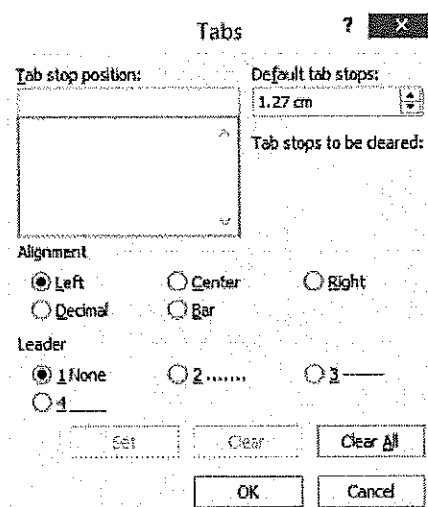


Plate 3.4a

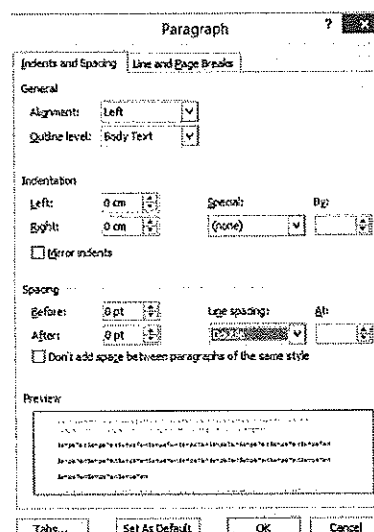


Plate 3.4b

Symbols or special characters/notations: If these are not found on a computer keyboard, they shall be drawn with a mechanical guide in Black India ink or equivalent.

Footnotes: The use of footnote is unacceptable.

3.5 Citations in the text

Students are advised to use the Endnote or other relevant software to provide a consistency of citations format based on the APA style.

If the authors of the paper are more than two, the first author's name is cited followed by *et al.*

E.g. Okamura *et al.* (1982) have identified anthrones and chromones in *Aloe barbadensis*.

Or

Other phenolic compounds have been identified by HPLC method (Park *et al.*, 1998; Wayne and Rooney, 1997).

In the text, *et al.* may be used for reference for more than two authors, but in the references, all names should be cited in full.

One author:

.... Benecke (1997).....

Benecke (1997) showed that....

....(Benecke, 1997).

Two authors:

.... Jobling and Gill (2004).....

Jobling and Gill (2004) showed that

.....(Jobling and Gill, 2004).

More than two authors:

....as noted by Harty *et al.* (2000).

Harty *et al.* (2000) claim that ...

.... (Harty *et al.*, 2000).

Two or more journals by the same author:

Several studies (Mohamad Ali, 2008, 2009) showed ...

.... (Mohamad Ali, 2008, 2009).

**Note that the works are separated by commas*

Two or more works by the same author in the same year

According to Mohamad Ali (2007a) ...

... (Mohamad Ali, 2007a).

Several studies (Harty *et al.*, 2000; Mohamad Ali, 2007a, 2007b)...

**Note that the authors name are placed in alphabetical order, and that the various works are separated by semicolons whereas work by the same author are separated by commas.*

3.6 Tables (Appendix F12)

A table should begin with an introductory paragraph. It should contain the caption and the title of the table.

Captions for tables must be consecutively numbered in Arabic numerals. The number given to each table should correspond to the chapter in which the table is displayed in the text. The first number refers to the chapter and the second number represents the sequence the table appears in the text of the chapter.

Tables are centred in the page and should precede their full explanation. It is advice to format the content in the cell either to 'Align Center' Left or 'Align Center' where appropriate.

The font for the caption and the table content is 1 size smaller than the text (size 11). Only 'bold' the caption number. Use 'bold' or *italic* font for main row or column heading if necessary.

Table sources and notes should be placed directly below the table.

No vertical or horizontal line to be drawn inside the table. The next paragraph starts after one double spacing from the source.

3.7 Figures/plates (*Appendix F9a/F9b*)

Introduce formally any figures/plates to be used in a paragraph preceding the figure/plate.

All captions must be consecutively numbered in Arabic numerals bearing their chapter numbers. Only **bold** the caption number.

Plates: A maximum number of two per page.

Figures: A maximum number of two per page for portrait and a maximum number of four per page for landscape orientation.

Figures/plates are centred on the page and should precede their explanation.

Sources and notes should be placed directly below figures/plates.

The next paragraph starts after two single spacing from the source.

3.8 Cited references (*Appendix F14a*)

The cited references refer to the list of work referred.

The list of cited references should be on a new page. All entries shall be single spaced, with the first entry in a two single spacing below the main heading. It shall be arranged in alphabetical order (*Appendix F14a*).

Each entry is one single-spaced from the other.

The second of each entry is hanged 1.0 cm inward.

To indicate the page number and number of pages, the small letter 'p' has to be used in proper order:

Page 18

[Faint handwritten notes at the bottom of the page, likely bleed-through from the reverse side.]

30 litres	30 L
Ringgit Malaysia 450	RM450
37 degree Celcius	37°C
3 nanometer	3×10^{-9} m
4,312 kiloJoule per degree Celcius	4.312×10 kJ °C ⁻¹

4.2 Numbers

Spell out all numbers less than 10, unless the numbers are part of a series of number or the numbers are attached to units of measurement.

Examples:

- a) There are six children walking to the play ground.
- b) The children were aged 2, 6, 7, 12 and 13 years old.
- c) The standard deviations for each group were 3, 4, 8 and 15.
- d) Its height and volume is 8 cm and 25 L respectively.

Use figures for quantities of 10 or more.

Example: There are 12 mothers waiting outside the classroom.

4.3 Percentage

The symbol % may be used in place of percentage; e.g. 25.5% and typed without a space. If the candidate prefers to use "25.5 percent" in full, then this should be consistent throughout the report.

4.4 The use of ± signage

The symbol ± must be typed without a space (e.g. 6 ± 0.5)

4.5 Equations

Use Microsoft (MS) equation editor or equivalent for all equations.

Numbering of equations should be numbered consecutively bearing its chapter number and in Arabic numerals.

5.0 CONCLUSION AND RECOMMENDATIONS

This section concludes the work done and major findings of the project and gives recommendations for further work.

The number of paragraph should follow in line with the number of objectives. The following paragraph will conclude the main finding of the entire study.

The recommendation paragraph should be placed at the end of this section.

6.0 TECHNICAL SPECIFICATIONS

6.1 Typing and printing

Use MS Word processor or equivalent for typing. Use laser printer for printing text and

illustrations on one side of each sheet. The paper size is setup according to Plate 6.1a while margins and layout are set according to Plate 6.1b and Plate 6.1c respectively.

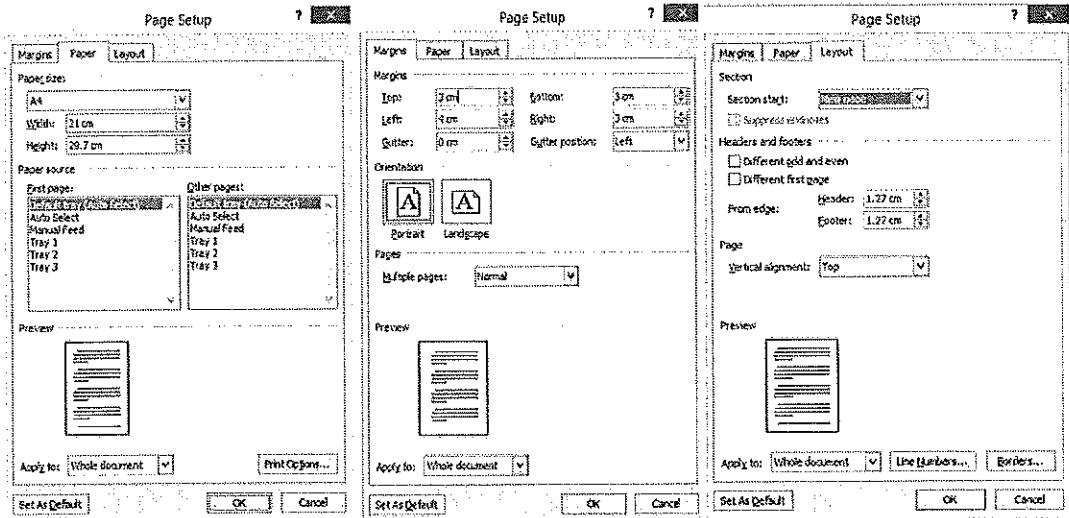


Plate 6.1a

Plate 6.1b

Plate 6.1c

6.2 Paper quality

Use quality plain white simile paper (80 g) of A4 size (210 x 297 mm) for all copies of the report.

6.3 Word count

The final report should not be more than 20,000 words excluding all illustrations, references and appendices. Literature review section should not be more than one quarter of the full report.

There is no prescribed length for the research proposal; however, a report of 20-25 pages is acceptable.

6.4 Photocopy

Only good, clean and legible photocopies are accepted. Carbon copies are not acceptable.

7.0 SUBMISSION

7.1 Submission of Research Proposal

Students are reminded to submit two (2) copies of the corrected version of the research proposal including the student-supervisor journal (*Appendix S2*), Gantt Chart (*Appendix S3*) and consent for evaluation of proposal (*Appendix S6*) *a week after the oral presentation. The Students also need to sign and submit the semester Contract Form (*Appendix S1*) and *Order Form that will be provided by FYP coordinator. (*based on the requirement of the programme).

7.2 Submission of FYP Report

Students are reminded to submit two copies of the corrected version of the FYP report (comb binding) a week after the oral presentation to the FYP coordinator. Only one (1) copy of the FYP report (hard bound)/one (1) CD is to be submitted together with the approved correction and submission certification notice from supervisor/s (*Appendix S5*) to the FYP coordinator.

PART C:

GUIDE TO

ASSESSMENT AND EVALUATION

1.0 INTRODUCTION

Evaluation and assessment consist of three major components:

- a) commitment and effort
- b) written report; and
- c) oral presentation

Each of these components is allocated marks as shown in *Appendix E1*.

2.0 ITEMS TO BE ASSESSED

2.1 Commitment and effort

This is a continuous assessment of students' performance in conducting their projects. It is evaluated throughout the semester and involves the competency of students' experimental work, data collection, information gathering, etc. The frequency in meeting supervisor and the initiative, motivation, dedication, discipline and creativity will be taken into account.

2.2 Written report

Students shall submit their written reports which will be evaluated by the supervisor and co supervisor (if applicable). The students are expected to write the report in proper English with relevant argument and reasoning. Students' level of understanding and control of their research topics, as well as their written skills are also assessed.

2.3 Oral presentation

In the oral presentation, students shall present their proposals and/or FYP results before a panel of evaluators.

The purpose of the oral presentation is to allow students to show their understanding, have attained breadth and depth of the subject matter, as well as their communication skills.

The student may be questioned on any aspect of the project and will be asked to elaborate upon or defend issues arising from their work.

3.0 DISTRIBUTION OF PERCENTAGES BY ASSESSORS

3.1 Supervisor

A supervisor is the main assessor and has the prerogative over assessment matters. The supervisor is given the mandate to overview in particular the marks for commitment and effort; and the written report.

3.2 Co-supervisor

A co-supervisor assists the supervisor in assessing the written report. The co-supervisor shall liaise with the supervisor in all related matters.

Evaluation

He/she shall submit the final grades to the PFYP Coordinator on the required date.

3.3 Second reader

A second reader shall be appointed by the Programme Coordinator to evaluate and assess a FYP report when there is need to do so on the advice of the PFYP Committee.

PART A: GUIDE TO SUPERVISION

Appendix S1:	FYP Contract
Appendix S2:	Student-Supervisor Journal
Appendix S3:	FYP Gantt Chart
Appendix S4:	Correction Notice
Appendix S5:	Submission Certificate
Appendix S6:	Consent for Evaluation of Proposal
Appendix S7:	Consent for Defense of FYP Report
Appendix S8:	Progress Report Form
Appendix S9:	Turnitin Similarity Index Verification

Appendix F1a:	Spine and Cover
Appendix F1b:	CD
Appendix F2:	Title Page
Appendix F3:	Approval Sheet
Appendix F4:	Abstract
Appendix F5:	Abstrak
Appendix F6:	Acknowledgements
Appendix F7:	Table of Content
Appendix F8:	List of Tables
Appendix F9a:	List of Figures
Appendix F9b:	List of Plates
Appendix F9c:	List of Symbols
Appendix F10:	List of Abbreviations
Appendix F11:	Main Text
Appendix F12:	Examples of Tables
Appendix F13a:	Examples of Figures
Appendix F13b:	Examples of Plates
Appendix F14a:	Cited References
Appendix F14b:	Source of Cited References
Appendix F15:	Appendices
Appendix F16:	<i>Curriculum Vitae</i>

PART C: GUIDE TO ASSESSMENT AND EVALUATION

Appendix E1: Assessment and Evaluation



Appendix S1: FYP CONTRACT

FYP Contract



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/01

Course Code : FSG611 / FSG661
Title : Proposal / Thesis
Semester : Environmental Impacts of Oil Spill at Tanjung Pelepas
Part : 5

Student Name : Daniel bin Kamaruzaman
UiTM no : 2017123456
Telephone : 012-3456789
Email : denial_kamaruzaman@hotmail.com

Supervisor name : Prof. Madya Dr Rusdini binti Selamat
Tel/Fax : 019-8765432 Signature: _____
Email : rusdiniselamat@salam.uitm.edu.my

Co-supervisor name : Prof. Madya Dr. Shamsuri Ismail
Tel/Fax : 012-9876543 Signature: _____
Email : shamsuriismail@salam.uitm.edu.my

Consultation day and time : Monday 3-4 pm

I (the student) agree to have the above-stated names as my supervisor and co- supervisor for the stated project title to the end of the semester.

I (the student) agree to observe the roles and responsibilities as stipulated in the "Guidelines on Supervision, Assessment, Evaluation and Format for Students Projects 3rd Edition." I will submit this contract to the coordinator for the project on the specified date.

I (the student) agree to submit my final draft proposal/thesis with **less than 30% Turnitin similarity index**. I understand that failure to do so will earn me an automatic F in accordance to *Peraturan Akademik 1.77*.

I/we, (supervisor and co-supervisor) agree to have the above-stated name as my/our student for the stated project title to the end of the semester.

I/we (supervisor and co-supervisor) agree to observe the roles and responsibilities as stipulated in the guidelines. I/we will make sure that the student submits this contract to the Coordinator for the project on the date as specified by him/her.

Student and supervisor/s agree to communicate on the above-stated day and time **every week** to discuss the progress of the project during the above- mentioned period.

Signatures

Student:

Coordinator (Witness)

Date

* Completed forms must be distributed each to student, supervisor, co-supervisor (if present) and coordinator.

Appendix S2: STUDENT-SUPERVISOR JOURNAL

Student-Supervisor Journal

FSG/PTA/08/2019/02



Fakulti
Sains Gunaan

Course code : FSG611 / FSG661
Document type : Proposal / Thesis
Semester : 2018Sept-2019Jan
Part : 5
Student name : Daniel bin Kamaruzaman
UITM no : 2017123456
Project title : Environmental Impacts of Oil Spill at Tanjung Pelepas
Supervisor : Prof. Madya Dr. Rusdini binti Selamat
Co-supervisor : Prof. Madya Dr. Shamsuri Ismail

Date	Task	Due date	Complete/ Not Complete	Reason (If Not Complete)	Action to be taken	Signature	
						Student	Supervisor
Mon 22 Oct 18	1. Discuss literature review 2. Do more on literature review 3. Discuss the flow of literature review	Mon 29 Oct 18	1. Completed 2. Not completed	1. - 2. Difficult to find references in library	1. Edit literature review and write in point form. 2. Look up environment database		
Mon 29 Oct 18	1. Continue lit review – focus on: oil spill pollution and effects 2. Start measurement on 2 sites to get benchmark	Mon 5 Nov 18	1. On-going 2. Not completed	1. Lack of references in library 2. Problem acquiring right equipment	1. Search more info. 2. Get right equipment, do experiments and take data		
Mon 5 Nov 18	1. No meeting at student's request	-	-	1. Student ill	1. Set new appointment		

Appendix S3: FYP GANTT CHART

FYP Gantt-chart



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/03

No	Activity	Sem	1								2							
		Mth	1		2		3		4		5		6		7		8	
		Wk	02	04	06	08	10	12	14	16	18	20	22	24	26	28	30	32
1	Identify a proposed title		x	x														
2	Submission of contract			x														
3	Literature review			x	x	x	x	x	x	x	x	x	x					
4	Plan of research design					x	x	x										
5	Finalise proposal							x										
6	Presentation of proposal								x									
7	Submission of proposal																	
8	Assembly of apparatus								x	x	x	x						
9	Run experiment and compile data										x	x	x	x				
10	Analysis of data											x	x	x	x			
11	Presentation of project														x	x		
12	Final draft of report (comb bound)															x	x	
13	Submission of final report (hard bound)																	

Appendix S4: CORRECTION NOTICE

Correction Notice



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/04

Course code : FSG611 / FSG661
Document type : Proposal / Thesis
Semester : 2018Sept-2019Jan
Part : 6
Student name : Daniel bin Kamaruzaman
UITM no : 2017123456

Dear student,

Your final year project document has been evaluated by your supervisor, co-supervisor and/or second reader. Please read the comments and corrections provided by them. Check thoroughly every page of your final year project document for detail errors and corrections.

You are given a week notice from this date to complete the correction. Please see your respective supervisor and co-supervisor if you require further deliberations. Then resubmit two copies of your final corrected project document together with the two original marked copies back to me.

Note:

For the final written project report - do not bind with the hardcover until you are permitted to do so.

Thank you

Project coordinator

Full name : Name of FYP Coordinator
Date : dd mmm yyyy
Signature :

Student declaration

I fully understand the above statement and have accepted the marked copies of my final year project document to be corrected for mistakes and errors. I will return with two (2) copies of the corrected version with the two (2) original marked copies before the date due as follows:

My due date is : dd mmm yyyy

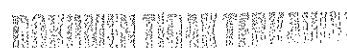
Date signed:

Student's Signature :

dd mmm yyyy

Witnessed by Project
Coordinator: :

dd mmm yyyy



Appendix S5: SUBMISSION CERTIFICATE

Submission Certificate



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/05

Course code : FSG611 / FSG661
Document type : Proposal / Thesis
Semester : 2018Sept-2019Jan
Part : 6
Student name : Daniel bin Kamaruzaman
UiTM no : 2017123456

To:
Project Coordinator

I have reviewed the corrected final draft copy of the final year project document from the above student and would recommend that it is given the following grade (tick ✓ in the appropriate box)*:

Tick ✓	Remarks
☒	Requires <u>no correction</u> and permitted for binding: (note: hardcover for final report and comb for proposal)
☐	Requires <u>minor</u> errors/mistakes/amendments to be resolved/made
☐	Requires <u>major</u> errors/mistakes/amendments to be resolved/made
☐	Requires <u>further deliberation</u> by the final year students project committee

Thank you

Main supervisor / ~~Co-supervisor~~ / ~~Second reader~~ **

Full name : Prof. Madya Dr. Rusdini binti Selamat
Date : dd mmm yyyy
Signature :

Note:

* Tick ✓ in the appropriate box

** Strike out the appropriate line



Appendix S6: CONSENT FOR EVALUATION OF PROPOSAL

Consent for evaluation of proposal



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/06

Instruction to students:

1. Complete the required information.
2. Please attach Table of Contents of proposal.
3. Obtain approval of consent from the Main Supervisor.
4. Duplicate the signed form for your reference.
5. Submit the original copy of the form to Coordinator.

Part 1: Student details

Name:	Daniel bin Kamaruzaman
Student ID:	2017123456
Mobile Phone No:	012 345 6789
E-mail:	daniel_kamaruzaman@hotmail.com
Programme:	AS229
Part:	6

Part 2: Project details

Project Title:	
Name of main supervisor: Name of co-supervisor (if any): I hereby declare that I have completed the report and ready to be evaluated. Student's Signature Date: dd mmm yyyy	Remarks and comments (if any) from supervisor

Part 3: Consent

Approval by Main Supervisor	Verified by Coordinator
I certify that the work of conducted by the above student is *completed/incomplete and *approve/disapprove for evaluation of research proposal. Signature	 Signature
..... Prof. Madya Dr. Rusdini binti Selamat Name and Official Stamp Date: dd mmm yyyy	 Name of Coordinator Name and Official Stamp Date: dd mmm yyyy

Appendix S7: CONSENT FOR DEFENCE OF FYP REPORT

Consent for Defence of FYP Report



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/07

Instruction to students:

1. Complete the required information two (2) weeks before the date of presentation.
2. Please attach Table of Contents of final year project report.
3. Obtain approval of consent from the Main Supervisor.
4. Duplicate the signed form for your reference.
5. Submit the original copy of the form to Coordinator.

Part 1: Student details

Name:	Daniel bin Kamaruzaman
Student ID:	2017123456
Mobile Phone No:	012 345 6789
E-mail:	daniel_kamaruzaman@hotmail.com
Programme:	AS229
Part:	6

Part 2: Project details

Project Title:	
Name of main supervisor: Name of co-supervisor (if any): I hereby declare that I have completed the report and ready to be evaluated for oral presentation. Student's Signature Date dd mmm yyyy	Remarks and comments (if any) from supervisor

Part 3: Consent

Approval by Main Supervisor	Verified by Coordinator
I certify that the work of conducted by the above student is *completed/incomplete and *approve/disapprove for oral defence presentation. (*incomplete/disapprove students will still have to do oral presentation) Signature Prof. Madya Dr. Rusdini binti Selamat Name and Official Stamp Date dd mmm yyyy	 Signature Name of Coordinator Name and Official Stamp Date dd mmm yyyy

Appendix S8: PROGRESS REPORT FORM

Progress Report Form



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/08

Report (circle) (1) (2) (3)

Name: Daniel bin Kamaruzaman

Student No: 2017123456

Supervisor: Prof. Madya Dr. Rusdini binti Selamat

Title: Environmental Impacts of Oil Spill at Tanjung Pelepas

Provide a summary of what you did in the past four weeks. Show data sample and results shown in your FYP laboratory log book as evidence.

Logbook Usage % :

Supervisor's Comment(s):

Signature of Student:	Signature of Supervisor:
Name: Daniel bin Kamaruzaman Student No: 2017123456 Date: dd mmm yyyy	Name: Prof. Madya Dr. Rusdini binti Selamat Official Stamp: Date: dd mmm yyyy

Appendix S9: TURNITIN SIMILARITY INDEX VERIFICATION

Turnitin Similarity Index Verification



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/09

1. Complete the required information.
2. Please attach a copy of the Turnitin similarity index report.
3. Obtain verification the Main Supervisor.
4. Duplicate the signed form for your reference.
5. Submit the original copy of the form to Coordinator.

Part 1: Student details

Course code:	FSG611 / FSG661
Document type:	Proposal / Thesis
Student name:	Daniel bin Kamaruzaman
Student ID:	2017123456
Mobile Phone No:	012 345 6789
E-mail:	daniel_kamaruzaman@hotmail.com
Programme:	AS229
Part:	6

Part 2: Project details

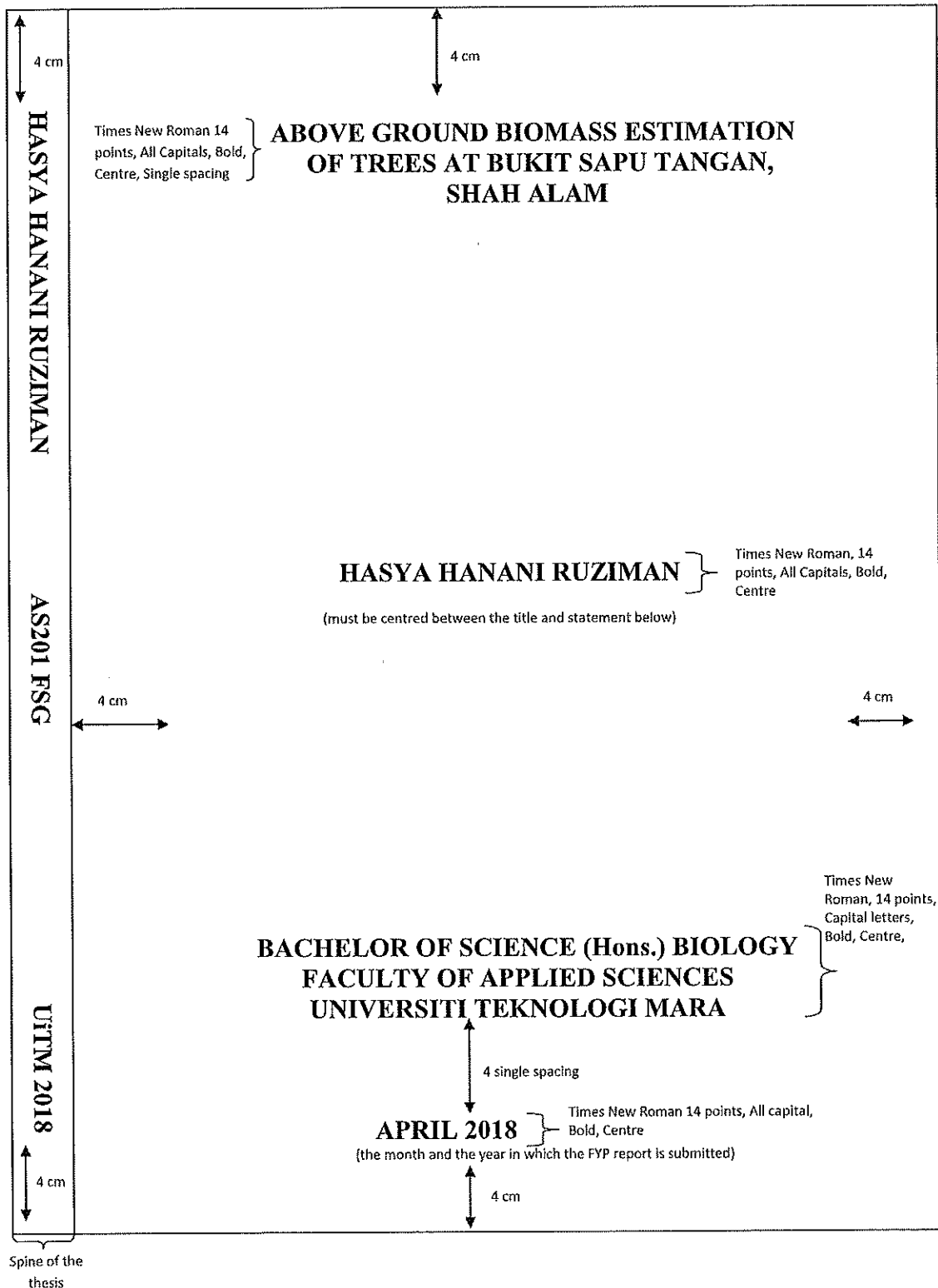
Project Title:	
Name of main supervisor: Name of co-supervisor (if any): I hereby declare that I have submitted my final draft proposal/thesis with less than 30% Turnitin similarity index. Student's Signature Date: dd mmm yyyy	Remarks and comments (if any) from supervisor

Part 3: Verification

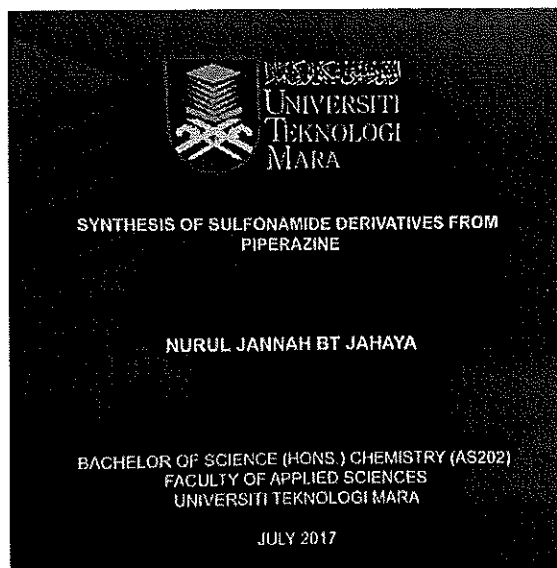
Verification by Main Supervisor	Verified by Coordinator
I certify that the above student has *submitted/not submitted the Turnitin similarity index report. ☐ % of similarity index (to be filled by supervisor) Signature Prof. Madya Dr. Rusdini binti Selamat Name and Official Stamp Date: dd mmm yyyy	 Signature Name of Coordinator Name and Official Stamp Date: dd mmm yyyy



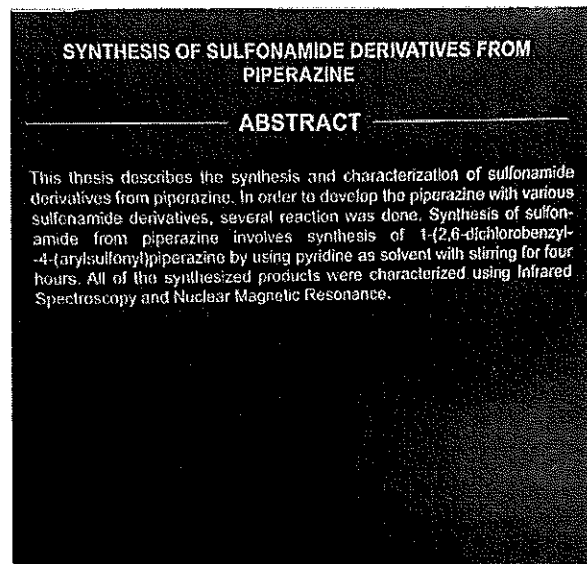
Appendix F1a: SPINE AND COVER



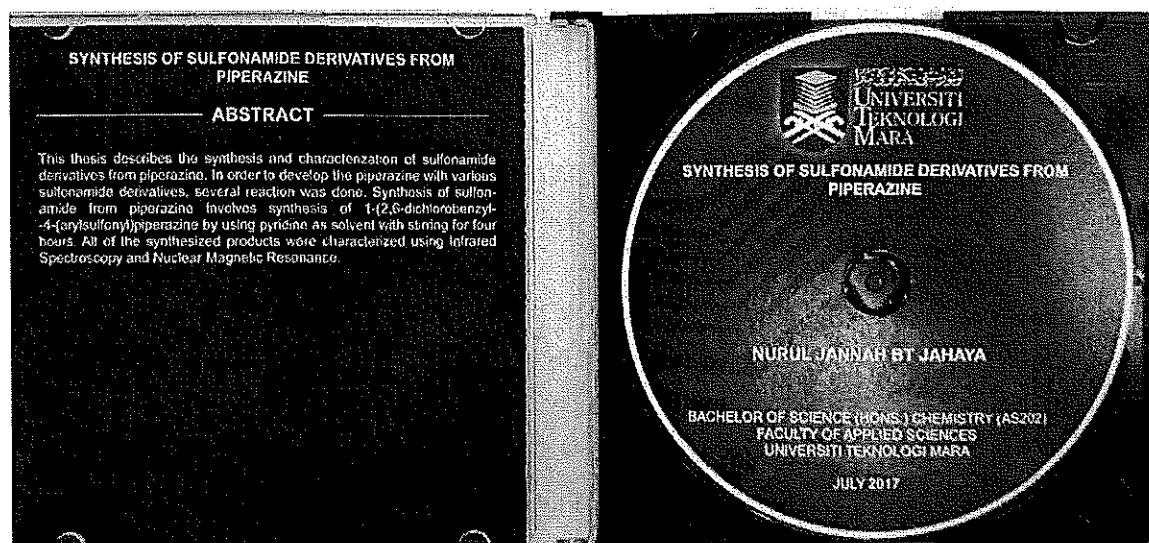
Appendix F1b: CD



Front Cover



Abstract



ABSTRACT and CD

Appendix F2: TITLE PAGE

The diagram illustrates the layout of a title page with the following elements and dimensions:

- Title:** ABOVE GROUND BIOMASS ESTIMATION OF TREES AT BUKIT SAPU TANGAN, SHAH ALAM
Dimensions: 3 cm from the top margin; Times New Roman, 12 points, Capital letters, Bold, Centre, Single.
- Author:** HASYA HANANI RUZIMAN
Dimensions: 4 cm from the left margin; 3 cm from the right margin; Times New Roman, 12 points, Capital letters, Bold, Centre.
Note: (must be centered between the title and the statement below)
- Statement:** Final Year Project Report Submitted in Partial Fulfilment of the Requirements for the Degree of Bachelor of Science (Hons.) Biology in the Faculty of Applied Sciences Universiti Teknologi MARA
Dimensions: 4 single spacing from the author; Times New Roman, 12 points, Capital letters, Bold, Centre, Single spacing.
- Year:** JANUARY 2018
Dimensions: 3 cm from the statement; (the month and year which the final year project is submitted).

Appendix F3: APPROVAL SHEET

Paper boundaries

3 cm

This Final Year Project Report entitled "**Environmental Impacts of Oil Spill at Tanjung Pelepas**" was submitted by Daniel bin by Daniel bin Kamaruzaman in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Environmental Technology, in the Faculty of Applied Sciences, and was approved by

4 single spacing

Prof. Madya Dr. Rusdini Selamat
Supervisor
B. Sc. (Hons.) Environmental Technology
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

4 single spacing

Prof. Madya Dr. Shamsuri Ismail
Department of Environmental Sciences
Institute of Natural Resources and Environment
62574 Putrajaya
Wilayah Persekutuan

4 single spacing

Prof. Madya Dr. Nizam Yusof Project Coordinator B.Sc.(Hons.) Environmental Technology Faculty of Applied Sciences Universiti Teknologi MARA 40450 Shah Alam Selangor	Prof. Madya Dr. Daud Ahmad Head of Programme B. Sc. (Hons.) Environmental Technology Faculty of Applied Sciences Universiti Teknologi MARA 40450 Shah Alam Selangors
--	--

3 single spacing

4 single spacing

Date: _____

ii

3 cm

4 cm

3 cm



Appendix F4: ABSTRACT

Paper boundaries

3 cm

ABSTRACT } Times New Roman, 12 points,
Capital letters, Bold, Centre

} 2 double spacing

**PROPERTIES OF UREA - BONDED PARTICLE BOARD
FROM THREE-YEAR-OLD BAMBOO
(*Gigantochloa scortechinii*)**

} 2 single spacing

4 cm

3 cm

The properties of urea-bonded particleboard produced from three-year-old bamboo (*Gigantochloa scortechinii*) were ascertained. The effects of different board densities (561, 641 and 721 kg m⁻³) and resin contents (8, 10 and 12%) were determined. All board properties were significantly influenced by board density (except for thickness swelling) and resin content.....

.....

.....

.....

(One paragraph, Times New Roman, 12 points, single spacing)

iii

3 cm

Appendix F5: ABSTRAK

Paper boundaries

3 cm

ABSTRAK } Times New Roman, 12 points,
Capital letters, Bold, Centre

} 2 double spacing

**CIRI-CIRI PAPAN SERPAI UREA DARI BULUH
(*Gigantochloa scortechinii*) BERUMUR
TIGA TAHUN**

} 2 single spacing

4 cm

3 cm

Ciri-ciri papan serpai urea dan papan serpai simen yang dihasilkan daripada buluh *Gigantochloa scortechinii* berumur tiga tahun telah dikaji. Kesan perbezaan ketumpatan papan (561, 641 dan 721 kg m⁻³) dan kandungan perekat (8, 10 dan 12%) ke atas papan serpai dikaji. Kesemua ciri papan dipengaruhi oleh ketumpatan papan (kecuali pembengkakan ketebalan) dan kandungan perekat.....

iv

3 cm

Appendix F6: ACKNOWLEDGEMENTS

Paper boundaries

3 cm

ACKNOWLEDGEMENTS } Times New Roman, 12 points,
Capital letters, Bold, Centre

} 2 double spacing

Upon completion of this project, I would like to express my
gratitude to many parties. My heartfelt thanks goes to my
supervisor,
.....
.....
.....

4 cm 3 cm

(Times New Roman, 12 points, single spacing)

(Student's Name)

V
3 cm

Appendix F7: TABLE OF CONTENTS

Paper boundaries	
TABLE OF CONTENTS	
Times New Roman, 12 points, Capital letters, Bold, Centre	
2 double spacing	
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x
(2 single spacing)	
CHAPTER 1 INTRODUCTION	
1.1 Background of study	1
1.2 Problem statement	4
1.3 Significance of study	5
1.4 Objectives of study	6
(2 single spacing)	
CHAPTER 2 LITERATURE REVIEW	
2.1 Introduction	8
2.2 Toxicity of mercury	8
2.2.1 Cold vapour Atomic Absorption Spectrometry	8
(2 single spacing)	
CHAPTER 3 METHODOLOGY	
3.1 Materials	20
3.1.1 Chemicals	20
3.2 Methods	20
(2 single spacing)	
CHAPTER 4 RESULTS AND DISCUSSION	
(2 single spacing)	
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS	
(2 single spacing)	
CITED REFERENCES	53
APPENDICES	55
CURRICULUM VITAE	60
vi	
3 cm	

Appendix F8: LIST OF TABLES

Paper boundaries			3 cm
LIST OF TABLES			Times New Roman, 12 points, Capital letters, Bold, Centre
			2 double spacing
Table	Caption		Page
		1 single spacing	
3.1	Specifications of urea- and melamine urea-formaldehyde resins	1 single spacing	34
3.2	Dimensions and number of test pieces		36
3.3	Blending variables for <i>lalang</i> thermoplastic manufacture		37
4.1	Chemical properties of <i>Bambusa vulgaris</i>		41
4.3	Effects of particle size on the board properties		55
4 cm			3 cm
vii			3 cm

Appendix F9a: LIST OF FIGURES

Paper boundaries			
LIST OF FIGURES			
Times New Roman, 12 points, Capital letters, Bold, Centre			
2 double spacing			
1 single spacing			
Figure	Caption	Page	
2.1	Classification of composite materials	19	
4.1	Screen analysis of <i>Bambusa vulgaris</i> particles	37	
4.2	Bulk density of <i>Bambusa vulgaris</i> particles	38	
4.3	Sieve analysis of <i>Bambusa vulgaris</i> particles	39	

Appendix F9b: LIST OF PLATES

Paper boundaries		
		3 cm
	LIST OF TABLES	Times New Roman, 12 points, Capital letters, Bold, Centre
		2 double spacing
		1 single spacing
Plates	Title	Page
3.2	<i>Amantica muscaria</i> (fly agaric)	34
3.2	Experimental setup for direct fluorination using F ₂ elemental	36
3.3	Scaled up demonstration pilot plant at Hinze Dam showing the fluidization column and tank for recycle batch tests	37

Appendix F9c: LIST OF SYMBOLS

Paper boundaries		3 cm	
		LIST OF SYMBOLS	} Times New Roman, 12 points, Capital letters, Bold, Centre
		2 double spacing	
		1 single spacing	
Symbols			
α	Alpha particle		20
β	Beta ray		23
σ	Conductivity		27
ρ	Density		35
η	Efficiency		37
ε	Electromotive force		40
γ	Gamma ray		43
λ	Wavelength		50
		3 cm	
		X	
		3 cm	

				Paper boundaries
				3 cm
			LIST OF ABBREVIATIONS	} Times New Roman, 12 points, Capital letters, Bold, Centre
				} 2 double spacing
AAS	:	Atomic Absorption Spectrometry		
				} 1 single spacing
ANOVA	:	Analysis of Variance		
				} 1 single spacing
BS	:	British Standard		
DNA	:	Deoxyribonucleic acid		
FRIM	:	Forest Research Institute Malaysia		
MPa	:	Megapascal		
PP	:	Polypropylene		
PVC	:	Polyvinylchloride		
SMI's	:	Small and Medium-sized Industries		
USEPA	:	United States Environmental Protection Agency		
				xi
				3 cm

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

3 cm

Text boundaries

CHAPTER 1Times New Roman, 12 points,
Capital letters, Bold, Centre

2 double spacing

INTRODUCTION

2 double spacing

1.1 Background and problem statement (sentence case, bold and left-aligned).

1 double spacing

Epoxy is a thermosetting epoxide polymer that polymerizes when mixed with a catalyzing agent or hardener....

1 double spacing

2 double spacing

This is the second paragraph.....

2 double spacing

1.2 Significance of study (sentence case, bold and left-aligned)

1 double spacing

Statistics indicate that Small and Medium-sized Industries (SMI's) represent a big portion of industries.....

1 double spacing

2 double spacing

1.3 Objectives of study (sentence case, bold and left-aligned)

1 double spacing

The intention of this research is to investigate the presence and diversity of *Pedomicrobium* in an expanded bed bioreactor for manganese removal using molecular techniques previously developed (PCR and qRT-PCR). The specific objectives of the project include to:-

1 double spacing

1 double spacing

1 double spacing

1. Use specific PCR tests to detect.....

1

3 cm

4 cm

3 cm



CHAPTER 2

} 2 double spacing

LITERATURE REVIEW

} 2 double spacing

2.1 Primary heading no. 1 (sentence case, bold and left-aligned)

} 1 double spacing

The main secondary metabolites described in *Aloe* species are phenolic of the anthrone, chromone and phenyl pyrone type.

} 2 double spacing

The chemical structures of these compounds are shown in Figure 1. Among them only anthrone and chromone have been identified in *Aloe barbadensis*, also called *Aloe vera* (Okamura *et al.*, 1996; Park *et al.*, 1998; Wayne and Rooney, 1997).

} 2 double spacing

2.2 Primary heading no. 2 (sentence case, bold and left-aligned)

According to Ash *et al.* (1991), the sequence similarity may be as high as 99.9% in some species.

} 2 double spacing

2.2.1 Secondary heading no. 1 (sentence case, bold and left-aligned)

The electrochemical impedance spectroscopy (EIS) is suitable to have better measurements of dielectric properties (Park and Yoo, 2003).



3 cm

Impedance is actually a complex resistance when the current flows through circuit made of resistors, capacitors or inductors or any combination of them (Castan, 1936).

} 2 double spacing

2.2.2.1 Tertiary heading No. 1 (sentence case, bold and left-aligned)

Lithium perchlorate is also extensively used as an electrolyte in lithium batteries, as it does not undergo oxidation on the anode (Loudon and Mark, 2002).

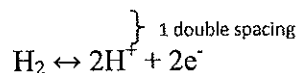
} 2 double spacing

This is the second paragraph.....

} 2 double spacing

2.3 Primary heading no. 3 (sentence case, bold and left-aligned)

At the anode side, it is catalytically split into protons and electrons. This half-cell reaction is represented by:



} 1 double spacing

Meanwhile, a stream of oxygen is delivered to the cathode side of the MEA where.....

} 1 double spacing

} 1 double spacing

CHAPTER 3

3 cm

} 2 double spacing

METHODOLOGY

} 2 double spacing

3.1 Materials (sentence case, bold and left-aligned)

Empty fruit bunches, EFB, was obtained from Seri Ulu Langat Palm Oil Dengkil, Selangor. The samples was rinsed with tap water to get rid of dirt, contaminants or foreign substances, then dried in sunlight....

} 2 double spacing

3.1.1 Primary heading no. 1 (sentence case, bold and left-aligned)

} 1 double spacing

The

} 2 double spacing

This is the second paragraph.....

} 2 double spacing

3.4 Methods

A volume of 200 μL of settled biomass from the washwater sample was added in the Lysing Matrix E Tube. For gravel or sand samples, 500 mg of the sample was added directly into Lysing Matrix E Tube. Lysis was done by adding 978 μL sodium phosphate buffer and 122 μL MT buffer. The tubes were secured in the FastPrep[®] Instrument and were centrifuged at 14,000 rpm for 30 secs

20

3 cm

CHAPTER 4

2 double spacing

RESULTS AND DISCUSSION

2 double spacing

4.1 Performance of the polymer electrolytes with and without the plasticizer

Table 4.1 tabulates the conductivities of non-plasticized samples at elevated wt%.

Times New Roman, 11 points

Table 4.1 Conductivity of non-plasticised samples at elevated weight % of salt.

1 double spacing

1 single spacing

Weight %	Conductivity σ (10^{-5} S cm $^{-1}$)
10	0.41
20	4.87
30	8.55
40	1.55
50	0.98

4 cm

2 single spacing

3 cm

From Table 4.1, it is apparent that there was a slight increase of conductivity as the wt% of salt increase.

1 double spacing

2 double spacing

This is the next paragraph.....

2 double spacing

4.2 Primary heading no. 2 (sentence case, bold and left-aligned)

The Electrochemical Impedance Spectroscopy (EIS) is

.....

(Table caption and Table content, Times New Roman, 11 points, single spacing)

CHAPTER 5

2 double spacing

CONCLUSION AND RECOMMENDATIONS

2 double spacing

In conclusion, by using ENR-50 as the polymer host, the SPE could be prepared by the solution cast technique. The highest conductivity of the non-plasticised SPE was $8.55 \times 10^{-5} \text{ S cm}^{-1}$, while plasticized SPE was $2.2 \times 10^{-4} \text{ S cm}^{-1}$. The addition of PC has increased the dielectric constant and helped to increase the dissociation of the salt thus producing more free ions for conducting and hence increases the ionic conductivity.

The discharge capacity of the cell with the implied current of 1.0 mA is 880 mAh g^{-1} .

2 double spacing

This is the next paragraph.....

Appendix F12: EXAMPLES OF TABLES

Paper boundaries

3 cm

Table 9 shows the theoretical and specific activity values of carbon-11 compared to fluorine-18.

1 double spacing

Table 9: The relationship of positron energy and positron travel range of carbon-11 and fluorine-18.

1 single spacing

Nuclide	Common production method	Max energy (keV)	Mean energy (keV)	Max. range in water (mm)	Theoretical and (practical) radioactivity (GBq/ μ mol)
C-11	$^{14}\text{N}(\text{p},\alpha)^{11}\text{C}$	960	386	4.1 mm	3.4×10^5 (110-2600)
F-18	$^{18}\text{O}(\text{p},\text{n})^{18}\text{F}$	640	250	2.4 mm	6.3×10^4 (180-3700)

Source: Wong (2004). (Font Size: 10)

4 cm

2 single spacing

3 cm

Based on the results of number of cells present in the standard 1.00, the number of cells in all dilutions was estimated by dividing by the dilution factor. The expected numbers of cells present in each dilution over the different dilutions are summarized in Table 3.5.

1 double spacing

Table 3.5 Expected number of cells per 25 μ L reaction estimated from direct microscopic enumeration counts.

1 single spacing

Dilution	Cells per 25 μ L reaction (estimated)	Cells per 25 μ L reaction (actual)
1.00 ($1/5^0$)	10,976,563	10,976,563
0.2 ($1/5^{-1}$)	2,195,313	2,195,313
0.04 ($1/5^{-2}$)	439,063	439,063
0.008 ($1/5^{-3}$)	87,813	87,813

(Table caption and Table content, Times New Roman, 11 points, single spacing)

3 cm

Appendix F13a: EXAMPLES OF FIGURES

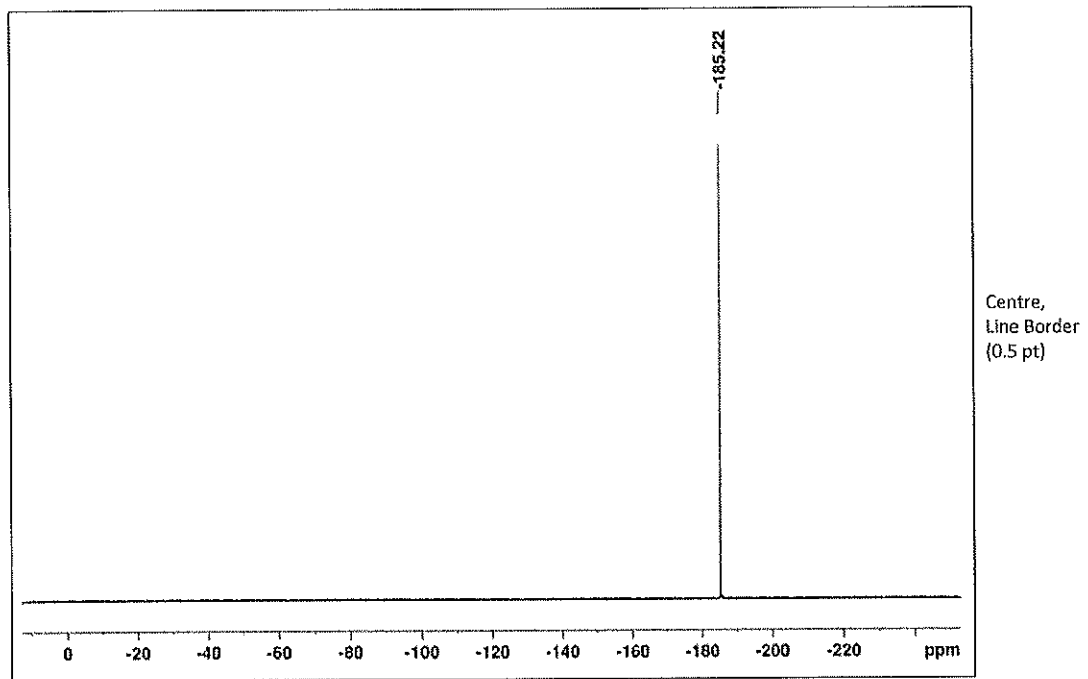


Figure 2.1 ^{19}F NMR spectrum of fluoromuscimol.
Source: Abdul Manan, *et al.* (2017).

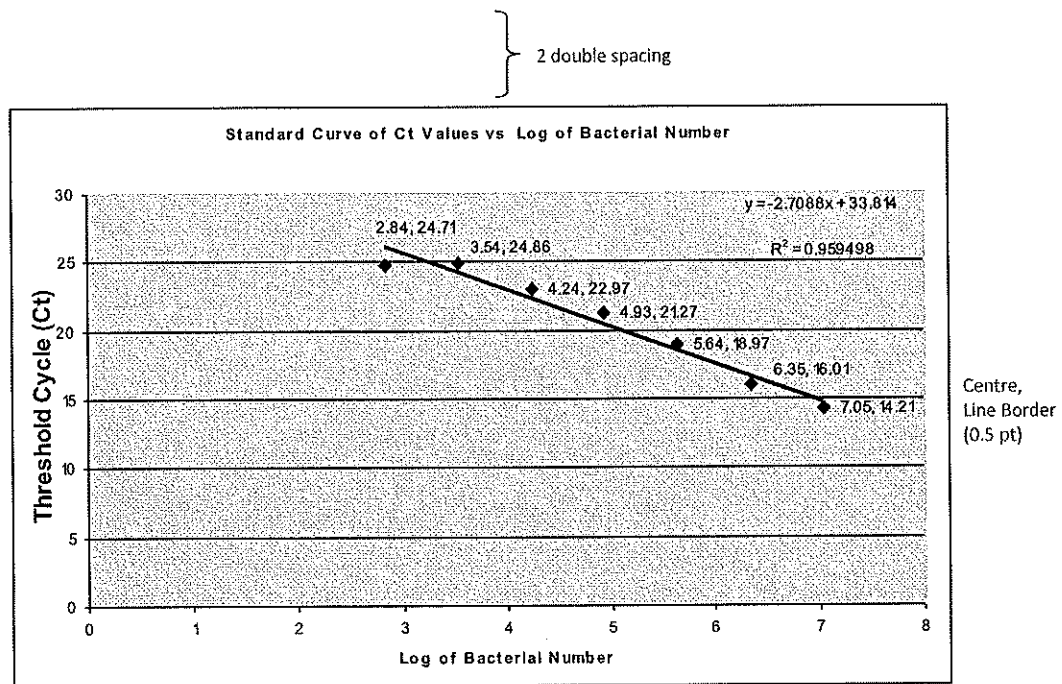


Figure 4 Standard curve of threshold cycle versus log of bacterial number (standard 1.00 to dilution 0.00064).

Appendix F13a: EXAMPLES OF FIGURES

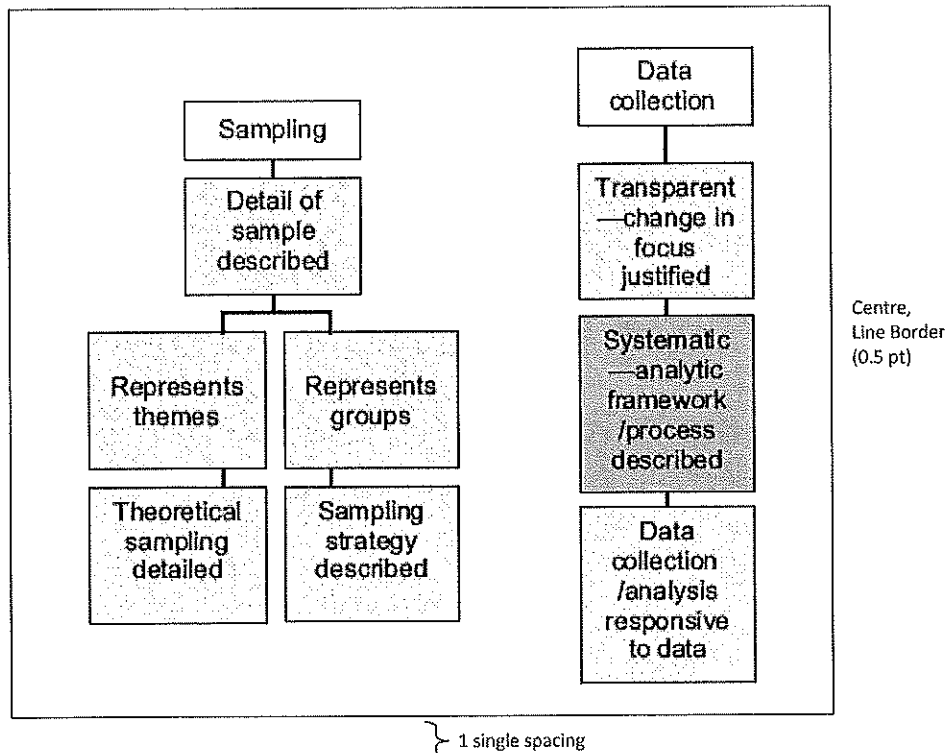
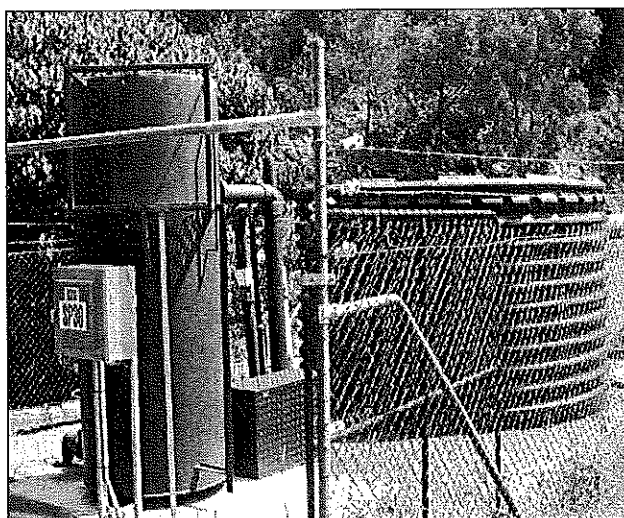


Figure 9 Flow charts explaining the research process.
Source: Meyrick (2006).

Appendix F13b: EXAMPLES OF PLATES

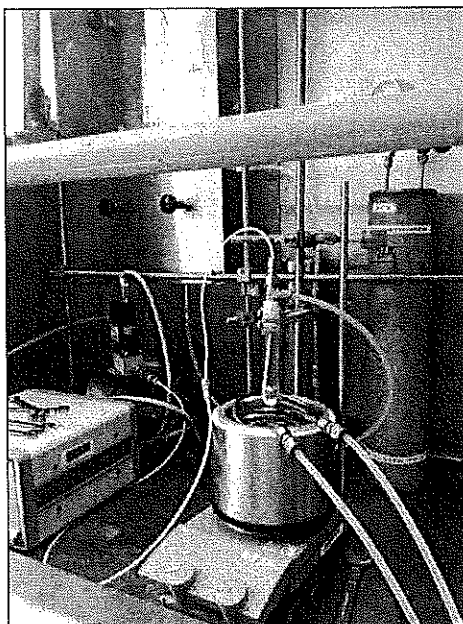


Centre,
Line Border
(0.5 pt)

Plate 2.1 Scaled up demonstration pilot plant at Hinze Dam showing the fluidisation column and tank for recycle batch tests.
Source: Okamura, *et al.* (1996).

1 single spacing

2 double spacing



Centre,
Line Border
(0.5 pt)

Plate 9 Experimental setup for direct fluorination using F_2 elemental.
Source: Abdul Manan, *et al.* (2017).

1 single spacing

Appendix F14a: CITED REFERENCES

CITED REFERENCES

(two single spacing)

Alfitra Salam, (1999). *Kerjasama dan potensi konflik dalam hubungan Indonesia-Malaysia 1966-1991*. Tesis Dr. Fal. Universiti Kebangsaan Malaysia. 178 pp.

(one single spacing)

} 1 single spacing
American Public Health Association. (1980). Standard methods for the examination of wastewater. (15th ed.). *Am. Public Health Assoc.*, New York. 4-9.

Anon. (1984). Computer programmes for your radio? *Agri-Marketing*, 22(6), 66 pp.

Campbell, G.S., (1997). Simulation of water uptake by plant roots. In *Agronomy abstracts*. ASA, Madison, WI. 10 p.

Donahue, R.L., Miller, R.W. and Shickluna, J.C., (1983). *Soils: An introduction to soils and plant growth*. (5th ed.). Prentice Hall, Englewood Cliffs, NJ. 45 pp.

Fauziah, I. (2000). *Personal communication*. Senior Researcher, Crop Protection Department, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, (September 20, 2000).

Fauziah, I., (1989). *Insecticides cross-resistance against diamondback moth (Plutella xylostella)*. Ph.D. Thesis. University of London, United Kingdom. 266 pp.

Griffis, C.L., Ritter, D.W. and Matthews, E.J., (1983). Simulation of rotary spreader distribution patterns. *Trans. ASAE*, 26, 33-37.

Laiman, R., (2003). *Evaluation of carbon dioxide capacity used in production of hydrogen by unmixed reforming*. M.Sc. diss. University of Leeds, United Kingdom. 200 pp.

Low, S.M., (2000). Mechanical spraying of insecticide in highland tea plantation. *Malaysian Agriculture*, 36(7), 18-19.

Moss, J.P., Spielman, I.V., Burge, A.P., Singh, A.K. and Gibbon, R.W., (1981). Utilization of wild *Arachis* species as source of *Cercospora* leafspot resistance in groundnut breeding. In *Perspective in cytology and genetic*. (Vol. 3), Manna, G.K. and Sinhu, U. (eds.). Hindasia Pbl., Delhi, India. 673-677.

Okamura, N., Asai, M., Hine, Y. and Yagi, A., (1996). High performance liquid chromatographic determination of phenolic compounds in *Aloe* species, *J. Chromatogr.*, A 746, 225-231.

Appendix F14a: CITED REFERENCES

- Park, M.K., Park, J.H., Kim, N.Y., Shin, Y.G., Choy, Y.S., Lee, J.G., Kim, K.H. and Lee, S.K., (1998). Analysis of 13 phenolic compounds in *Aloe* species by high performance liquid chromatography, *Phytochem. Anal.*, 9, 186-191.
- Reeder, J.D., (1981). *Nitrogen transformation in revegetated coal spoils*. Ph.D. Thesis. The University of Tennessee, Knoxville. *Dissertations Abstracts International*, 81/26, 447 pp.
- Roslan, H., (1999). Erosion in the Cameron Highlands. *New Straits Times*. 2 March. 10 p.
- Sabant, N.K. and DeDatta, S.K., (1982). Nitrogen transformation in wetland rice soils. *Adv. Agron.*, 35, 241-302.
- Simon, A., (2000). Perceptual comparisons through the mind's eye. *Memory & Cognition*, 23, 635-647.
- Soil Survey Staff. (1975). Soil taxonomy: A basic system of soil classification for making an interpreting soil surveys. *USDA-SCS Agric. Handb.*, U.S. Gov. Print. Office. Washington, DC. 100-110.
- Titcomb, S.T. and Juers, A.A., (1976). Reduced calorie bread and method of making same. U.S. Patent 3 979 523. Date issued: 7 September.
- U.S. Environmental Protection Agency. (1981). Process design manual for land treatment of municipal wastewater. *USEPA Rep.* 625/1-77-088(COE EM1110-1-501). 10 pp.
- Uehara, G., Trangmar, B.B. and Yost, R.S., (1985). Spatial variability of soil properties. *Proc. Workshop ISSS and SSSA: Soil spatial variability*, Nielson, B.R. and Bouma, J., (eds.) Las Vegas, NV 30 Nov-1 Dec 1984. PUDOC, Wageningen, Netherlands. 61-95.
- Vigerust, E. and Selmer-Olson, A.R., (1981). Uptake of heavy metal by some plants from sewage sludge. (In Norwegian.) *Fast Avfall.*, 2, 26-29.
- Wadleigh, C.H., (1968). Waste in relation to agriculture and forestry. *USDA Misc. Publ.*, 1065, U.S. Gov. Print. Office, Washington. 4-6.

Appendix F14b: SOURCE OF CITED REFERENCES

FORMAT FOR THE SOURCE OF REFERENCES

Articles from Journals

- Griffis, C.L., Ritter, D.W. and Matthews, E.J., (1983). Simulation of rotary spreader distribution patterns. *Trans. ASAE*, 26, 33-37.
- Okamura, N., Asai, M., Hine, Y. and Yagi, A., (1996). High performance liquid chromatographic determination of phenolic compounds in *Aloe* species, *J. Chromatogr., A* 746, 225-231.
- Park, M.K., Park, J.H., Kim, N.Y., Shin, Y.G., Choy, Y.S., Lee, J.G., Kim, K.H. and Lee, S.K., (1998). Analysis of 13 phenolic compounds in *Aloe* species by high performance liquid chromatography, *Phytochem. Anal.*, 9, 186-191.
- Sabant, N.K. and DeDatta, S.K., (1982). Nitrogen transformation in wetland rice soils. *Adv. Agron.*, 35, 241-302.
- Simon, A., (2000). Perceptual comparisons through the mind's eye. *Memory & Cognition*, 23, 635-647.

Book

- Donahue, R.L., Miller, R.W. and Shickluna, J.C., (1983). *Soils: An introduction to soils and plant growth*. (5th ed.). Prentice Hall, Englewood Cliffs, NJ. 45 pp.

Chapter in a Book

- Moss, J.P., Spielman, I.V., Burge, A.P., Singh, A.K. and Gibbon, R.W., (1981). Utilization of wild *Arachis* species as source of *Cercospora* leafspot resistance in groundnut breeding. In *Perspective in cytology and genetic*. (Vol. 3), Manna, G.K. and Sinhu, U. (eds.). Hindasia Pbl., Delhi, India. 673-677.

Article with no Identifiable Author

(Avoid using it if possible)

- Anon. (1984). Computer programmes for your radio? *Agri-Marketing*, 22(6), 66 pp.

Magazine or Newspapers Articles

- Roslan, H., (1999). Erosion in the Cameron Highlands. *New Straits Times*. 2 March. 10 p.
- Low, S.M., (2000). Mechanical spraying of insecticide in highland tea plantation. *Malaysian Agriculture*, 36(7), 18-19.

Appendix F14b: SOURCE OF CITED REFERENCES

Technical Report

U.S. Environmental Protection Agency. (1981). Process design manual for land treatment of municipal wastewater. *USEPA Rep.* 625/1-77-088(COE EM1110-1-501). 10 pp.

Conference, Symposium, or Workshop Proceedings

(Include page numbers, editor(s), title, location and dates, publisher's name and location)

Uehara, G., Trangmar, B.B. and Yost, R.S., (1985). Spatial variability of soil properties. *Proc. Workshop ISSS and SSSA: Soil spatial variability*, Nielson, B.R. and Bouma, J., (eds.) Las Vegas, NV 30 Nov-1 Dec 1984. PUDOC, Wageningen, Netherlands. 61-95.

Dissertation/Thesis

Laiman, R., (2003). *Evaluation of carbon dioxide capacity used in production of hydrogen by unmixed reforming*. M.Sc. diss. University of Leeds, United Kingdom. 200 pp.

Fauziah, I., (1989). *Insecticides cross-resistance against diamondback moth (Plutella xylostella)*. Ph.D. Thesis. University of London, United Kingdom. 266 pp.

Reeder, J.D., (1981). *Nitrogen transformation in revegetated coal spoils*. Ph.D. Thesis. The University of Tennessee, Knoxville. *Dissertations Abstracts International*, 81/26, 447 pp.

Alfitra Salam, (1999). *Kerjasama dan potensi konflik dalam hubungan Indonesia-Malaysia 1966-1991*. Tesis Dr. Fal. Universiti Kebangsaan Malaysia. 178 pp.

Translated Article

Vigerust, E. and Selmer-Olson, A.R., (1981). Uptake of heavy metal by some plants from sewage sludge. (In Norwegian.) *Fast Avfall*, 2, 26-29.

Patent

Titcomb, S.T. and Juers, A.A., (1976). Reduced calorie bread and method of making same. U.S. Patent 3 979 523. Date issued: 7 September.

Appendix F14b: CITED REFERENCES

Miscellaneous Publication

Wadleigh, C.H., (1968). Waste in relation to agriculture and forestry. *USDA Misc. Publ.*, 1065, U.S. Gov. Print. Office, Washington. 4-6.

Corporate Author of Article

American Public Health Association. (1980). Standard methods for the examination of wastewater. (15th ed.). *Am. Public Health Assoc.*, New York. 4-9.

Government / Private Sector Publication

Soil Survey Staff. (1975). Soil taxonomy: A basic system of soil classification for making an interpreting soil surveys. *USDA-SCS Agric. Handb.*, U.S. Gov. Print. Office. Washington, DC. 100-110.

Abstract

Campbell, G.S., (1997). Simulation of water uptake by plant roots. In *Agronomy abstracts*. ASA, Madison, WI. 10 p.

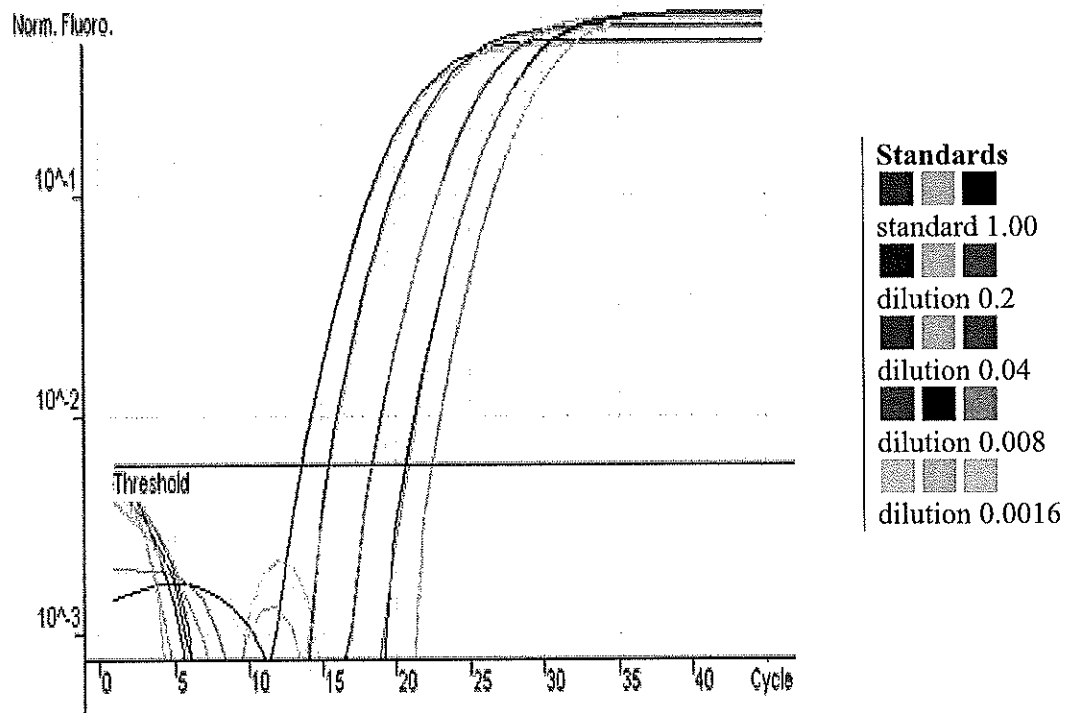
Personal Communications

(Personal communications should provide sufficient information to enable the reader to contact the person cite. It may be things such as email message, interviews and telephone conversations)

Fauziah, I. (2000). *Personal communication*. Senior Researcher, Crop Protection Department, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, (September 20, 2000).

Appendix F15: APPENDICES

APPENDIX A



Amplification plot of *Pedomicrobium* sp. ACM 3067 dilution series from standard 1.00 to dilution 0.0016 in triplicates.

Appendix F16: *CURRICULUM VITAE*

A. Personal profile *(Font: Arial 16, bold)*

Full name Daniel bin Kamaruzaman
National IC no 990924 01 0007
Birth date 24th September 1984
Citizenship MALAYSIA
Place of birth Selangor, MALAYSIA
Gender Male
Correspondence address No. 007, Jalan Asmara,
Section 2,
40000 Shah Alam, Selangor.
Telephone no. (H) 603 755 2525
Telephone no. (HP) 6012 345 6789
Email address Daniel_kamaruzaman@hotmail.com

Insert passport- sized
colour photo

B. Hobbies and interests

I enjoy reading, travelling and exploring places. I like to meet new people, learn about cultures and the arts and learn new things. I listen to light and easy music and enjoy classical Malay music.

I am very fluent in written and spoken Malay and English and have basic knowledge of German.

C. Academic qualifications

Degree	Area	Institution	Year awarded
B.Sc. (Hons.)	Environmental Technology	Universiti Teknologi MARA, Malaysia	2019
Diploma	Industrial Chemistry	Universiti Teknologi MARA, Malaysia	2016
S.P.M	Science	Sek Menengah Seksyen 1, Selangor	2012

D. Work experience

Post	Place	Year
Asst Chemist	Kerteh Oil Refinery, Kerteh, Terengganu, Malaysia	2016-2017
Sales promoter	Jomalina Palm Oil, Banting, Selangor, Malaysia	2013

E. Related experience

Post	Place	Year
President	Tae Kwon Do Club, Universiti Teknologi MARA, Shah Alam	2014-2016
Facilitator	Motivational Programme, Faculty of Applied Sciences, UiTM, Shah Alam	2013-2014
Member	Team member of "Terjun Payung Team", UiTM	2013-2015

Appendix F16: *CURRICULUM VITAE*

F. Awards

Type	Name of award / awarding organisation	Date
Certificate	Dean's List Award 2018, Universiti Teknologi MARA, 40450 Shah Alam, Malaysia	28 Nov 2018
Certificate	Dean's List Award 2016, Universiti Teknologi MARA, 40450 Shah Alam, Malaysia	28 Oct 2016
Medal	Gold medal for <i>Portable Oil Spill Tester Kit</i> , National Inventor's Exposition, PWTC, Kuala Lumpur, Malaysia.	2-5 Aug 2016

G. Other Relevant Information

Daud, A. (2018). Concepts and fundamentals of EIA. *FSG Young Scientists Workshop*, UiTM, 16 Jan 2018. Shah Alam.

Appendix E1: ASSESSMENT AND EVALUATION FORM

ASSESSMENT AND EVALUATION FORM

Name of student	Daniel bin Kamaruzaman		
Name of evaluator	Prof Dr David Russell		
Signature of evaluator			
Supervisor (tick one only)		Second examiner	✓
Program code	AS229	% Turnitin	25
Date of submission	dd mmm yyyy		

(To be filled by SUPERVISOR only)			
	FSG611 (A)	FSG611(B)	FSG661
ITEMS	Full Marks	Full Marks	Full Marks
A1. Commitment and effort (supervisor)			
1. Initiative and resourcefulness 2. Enthusiasm, attitude and rapport 3. Preparation, organization and information gathering 4. Frequency of meeting with supervisor 5. Experimental work	15	15	15
A2. Commitment and effort (coordinator)	5	NA	NA
(To be filled by SUPERVISOR and SECOND EXAMINER)			
ITEMS	Full Marks	Full Marks	Full Marks
B. Structure of written report			
Synopsis/Abstract			
6. Precise, coherent 7. Summarizes the entire research work 8. The significant methods, findings are clearly drawn 9. Conclusions are highlighted	NA	NA	5
Overall Structure, Organization & Quality			
1. Format and layout 2. Clarity and neatness 3. Table of content (list of table, figure, abbreviation) 4. Language, spelling, grammar and syntax	24	15	5
Introduction			
1. Background and problem statement 2. Significant of Study 3. Objectives of Study	16	15	5
Literature Review			
1. Relevancy of information 2. Continuity of review 3. Depth and Width of Coverage 4. Elements of Critical Review	16	10	10
Materials and Methods			
1. Adaptation to Method and Procedure 2. Experimental design and statistical analysis 3. Innovative and creativity	16	10	5

PART D:

FORMS

- Form 1: FYP Contract
- Form 2: Student-Supervisor Journal
 - Form 3: FYP Gantt Chart
 - Form 4: Correction Notice
 - Form 5: Submission Certificate
- Form 6: Consent for Evaluation of Proposal
- Form 7: Consent for Defense of FYP Report
 - Form 8: Progress Report Form
- Form 9: Turnitin Similarity Index Verification



Form 1: FYP Contract



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/01

Course Code :
Title :
Semester :
Part :

Student Name :
UiTM no :
Telephone :
Email :

Supervisor name :
Tel/Fax :
Email :

Signature: _____

Co-supervisor name :
Tel/Fax :
Email :

Signature: _____

Consultation day and time :

I (the student) agree to have the above-stated names as my supervisor and co- supervisor for the stated project title to the end of the semester.

I (the student) agree to observe the roles and responsibilities as stipulated in the "Guidelines on Supervision, Assessment, Evaluation and Format for Students Projects 3rd Edition." I will submit this contract to the coordinator for the project on the specified date.

I (the student) agree to submit my final draft proposal/thesis with **less than 30% Turnitin similarity index**. I understand that failure to do so will earn me an automatic F in accordance to *Peraturan Akademik 1.77*.

I/we, (supervisor and co-supervisor) agree to have the above-stated name as my/our student for the stated project title to the end of the semester.

I/we (supervisor and co-supervisor) agree to observe the roles and responsibilities as stipulated in the guidelines. I/we will make sure that the student submits this contract to the Coordinator for the project on the date as specified by him/her.

Student and supervisor/s agree to communicate on the above-stated day and time **every week** to discuss the progress of the project during the above- mentioned period.

Signatures

Student:

Coordinator (Witness)

Date

* Completed forms must be distributed each to student, supervisor, co-supervisor (if present) and coordinator.



Form 2: Student-Supervisor Journal

FSG/PTA/08/2019/02



**UNIVERSITI
TEKNOLOGI
MARA**

Fakulti
Sains Gunaan

Course code :
Document type :
Semester :
Part :
Student name :
UITM no :
Project title :
Supervisor :
Co-supervisor :

Date	Task	Due date	Complete/ Not Complete	Reason (If Not Complete)	Action to be taken	Signature	
						Student	Supervisor

Form 3: FYP Gantt-chart



Fakulti
Sains Gunaan

FSG/PTA/08/2019/03

No	Activity	Sem	1								2							
		Mth	1		2		3		4		5		6		7		8	
		Wk	02	04	06	08	10	12	14	16	18	20	22	24	26	28	30	32
1	Identify a proposed title																	
2	Submission of contract																	
3	Literature review																	
4	Plan of research design																	
5	Finalise proposal																	
6	Presentation of proposal																	
7	Submission of proposal																	
8	Assembly of apparatus																	
9	Run experiment and compile data																	
10	Analysis of data																	
11	Presentation of project																	
12	Final draft of report (comb bound)																	
13	Submission of final report (hard bound)																	



Fakulti
Sains Gunaan

FSG/PTA/08/2019/04

Course code :
Document type :
Semester :
Part :
Student name :
UiTM no :

Dear student,

Your final year project document has been evaluated by your supervisor, co-supervisor and/or second reader. Please read the comments and corrections provided by them. Check thoroughly every page of your final year project document for detail errors and corrections.

You are required to make the corrections and see your respective supervisor and co-supervisor if you require further deliberations. Then resubmit your final corrected project document to your respective supervisors / second reader for approval.

Note:

For the final written project report - **do not bind** with the hardcover until you are permitted to do so.

Thank you

Project Coordinator

Full name :
Date :
Signature :

Student declaration

I fully understand the above statement and have accepted the marked copies of my final year project document to be corrected for mistakes and errors. **I will return with two (2) copies of the corrected version with the two (2) original marked copies** before the date due as follows:

My due date is _____ : **Date signed:** _____

Student's Signature :

Witnessed by Project Coordinator:

Form 5: Submission Certificate



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/05

Course code :
Document type :
Semester :
Part :
Student name :
UiTM no :

To:
Project Coordinator

I have reviewed the corrected final draft copy of the final year project document from the above student and would recommend that it is given the following grade (tick ✓ in the appropriate box)*:

Tick ✓ Remarks

☐

Requires no correction and permitted for binding:
(note: hardcover for final report and comb for proposal)

☐

Requires minor errors/mistakes/amendments to be resolved/made

☐

Requires major errors/mistakes/amendments to be resolved/made

☐

Requires further deliberation by the final year students project committee

Thank you

Main supervisor / Co-supervisor / Second reader **

Full name :

Date :

Signature :

Note:

* Tick ✓ in the appropriate box

** Strike out the appropriate line



Form 6: Consent for Evaluation of Proposal



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/06

Instruction to students:

1. Complete the required information.
2. Please attach Table of Contents of the proposal.
3. Obtain approval of consent from the Main Supervisor.
4. Duplicate the signed form for your reference
5. Submit the original copy of the form to Coordinator.

Part 1: Student details

Name: Student ID: Mobile Phone No: E-mail: Programme: Part:	
--	--

Part 2: Project details

Project Title:	
Name of main supervisor: Name of co-supervisor (if any): I hereby declare that I have completed the report and ready to be evaluated. Student's Signature Date:	Remarks and comments (if any) from supervisor

Part 3: Consent

Approval by Main Supervisor	Verified by Coordinator
I certify that the work conducted by the above student is *completed/incomplete and *approve/disapprove for evaluation of research proposal. Signature Name and Official Stamp Date:	 Signature Name and Official Stamp Date:



Form 7: Consent for Defence of FYP Report



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/07

Instruction to students:

1. Complete the required information two (2) weeks before the date of presentation.
2. Please attach Table of Contents of final year project report.
3. Obtain approval of consent from the Main Supervisor.
4. Duplicate the signed form for your reference
5. Submit the original copy of the form to Coordinator.

Part 1: Student details

Name: Student ID: Mobile Phone No: E-mail: Programme: Part:	
--	--

Part 2: Project details

Project Title:	
Name of main supervisor: Name of co-supervisor (if any): I hereby declare that I have completed the report and ready to be evaluated for oral presentation. Student's Signature Date:	Remarks and comments (if any) from supervisor

Part 3: Consent

Approval by Main Supervisor	Verified by Coordinator
I certify that the work conducted by the above student is *completed/incomplete and *approve/disapprove for oral defence presentation. (*incomplete/disapprove students will still have to do oral presentation) Signature Name and Official Stamp Date:	 Signature Name and Official Stamp Date:

Form 8: Progress Report Form



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/08

Report (circle) (1) (2) (3)

Name:

Student No:

Supervisor:

Title:

Provide a summary of what you did in the past four weeks. Show data sample and results shown in your FYP laboratory log book as evidence.

Logbook Usage % :

Supervisor's Comment(s):

Signature of Student:	Signature of Supervisor:
Name: Student No:	Name: Official Stamp:

Form 9: Turnitin Similarity Index Verification



UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Gunaan

FSG/PTA/08/2019/09

1. Complete the required information.
2. Please attach a copy of the Turnitin similarity index report.
3. Obtain verification from the Main Supervisor.
4. Duplicate the signed form for your reference.
5. Submit the original copy of the form to Coordinator.

Part 1: Student details

Course code: Document type: Student name: Student ID: Mobile Phone No: E-mail: Programme: Part:	
--	--

Part 2: Project details

Project Title:	
Name of main supervisor: Name of co-supervisor (if any): I hereby declare that I have submitted my final draft proposal/thesis with less than 30% Turnitin similarity index. Student's Signature Date:	Remarks and comments (if any) from supervisor

Part 3: Verification

Verification by Main Supervisor	Verified by Coordinator
I certify that the above student has *submitted/not submitted the Turnitin similarity index report. ☐ % of similarity index (to be filled by supervisor) Signature Name and Official Stamp Date:	 Signature Name and Official Stamp Date:



PART E:

EXTENDED ABSTRACT FORMAT

Extended Abstract Template

TITLE

(TIMES NEW ROMAN, 24 FONT SIZE, BOLD, ALL CAPS, CENTERED)

Author's Name and Surname¹, Author's Name and Surname² (12 font size)

¹Affiliation

E-mail

Abstract: Abstract should be written with 10 font size, Times New Roman, single line spacing. Summarize in this section **objective, method and findings**.

Keywords: This section should contain maximum 5 words separated by commas.

GENERAL GUIDELINES

The extended abstract must contain the following sections: **Abstract and Keywords, Introduction, Methodology, Findings, Conclusion, and References**. Section can be named differently and subsections can be included.

The extended abstract shall be written in font **Times New Roman**, single line spacing and 11 font size. The extended abstract should contain a minimum of 500 words and a maximum of 2500 words. Extended abstracts can contain figures, tables and/or images which are not included in the word count. The references are not included in the word count as well. Page format should be A4 page size with margins 2.5 cm wide from the right, left, top and bottom. **Extended abstracts should not exceed 2 pages including the references** and pages should not be numbered.

Supporting figures, tables and images of the results (no more than two figures and two tables) may be included in the extended abstract.

All the tables, images and figures should be centered. Figures and images should be numbered (see Figure 2 for an example) and figure headers should be placed under the figure or image; as for the tables, they should also be numbered (see Table 2 for an example) and the table header should be placed at the top. References (if any) of the tables, figures and images should be presented right under the tables, figures and images in the form of author surname and publication date.

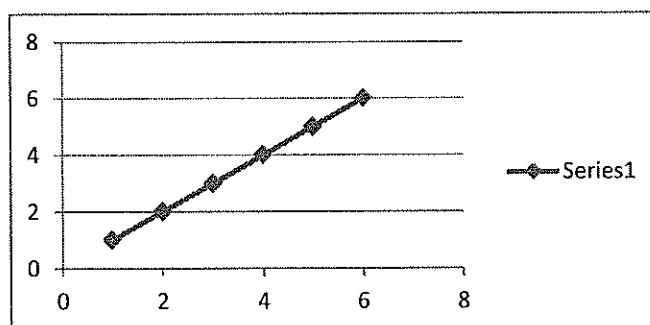


Figure 2. Header

Table 2. Header

Reference: author surname and publication date

INTRODUCTION(Times New Roman, 16 font size, bold, all caps)

The introduction section should (1) present the scope and objective of the paper and state the problem, (2) briefly review the pertinent literature, (3) describe the methods, and (4) provide an overview of the main results of the work.

METHODOLOGY

The methodology must be clearly stated and described in sufficient detail or with sufficient references. The author shall explain the research question, describe the research framework, and the methods applied in detail. It should be furthermore highlighted why the research question is relevant to theory and practice, and why the chosen method(s) are suited for the problem.

FINDINGS

The arguments and findings are described in detail in this section.

CONCLUSIONS

Conclusions should include (1) the principles and generalisations inferred from the results, (2) any exceptions, problems or limitations of the work, (3) theoretical and/or practical implications of the work, and (5) conclusions drawn and recommendations.

REFERENCES

References should be listed in alphabetical order and presented in a format according to the Chicago Manual of Style: http://www.chicagomanualofstyle.org/tools_citationguide.html.

Disclaimer: This template has been adopted from www.ketcon2018.com/Template

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari : Isnin
Masa : 9.30 am - 12.30 p.m
Group / Bilik : G1 / B428

NO	STUDENT NAME	TITLE
1	ALIN FATINI BINTI MOHD RIZA (2016447612)	MODE DIPERSION ANALYSIS OF TAPARATED SINGLE MODE FIBER PROTEIN SENSOR.
2	FAIZATUN NABILAH BINTI NOR ISMAIL 2016447558	TIME OF FLIGHT OPERATION (TOFD) IN WELD DEFECTS.
3	NUR LIYANA BINTI SAMSHIR 2016447592	EFFECT OF Fe SUBSTITUTION AT Mn-SITE ON MAGNETORESISTANCE AND ELECTRICAL TRANSPORT PROPERTIES IN La _{0.8} Pb _{0.2} Mn _{1-x} Fe _x O ₃ (X=0,0.05)
4	MUHAMMAD FARIS BIN MOHD YANI 2016447546	OBSERVATION OF DIFFERENT TYPE OF RADIO BURST WITH AN SC-CLASS SOLAR FLARE DUE TO MAGNET RECONNECTION
5	NUR ALIA NISA BINTI MOHD AZAM 2016447564	OPTICAL PROPERTIES OF ALKALI BORATE GLASSES
6	FATHIN NAJIHA BINTI AMINUDDIN 2016447734	WEATHER DATA FOR SOLAR PHOTOVOLTAIC APPLICATION
7	FARAH DAYANA IZZATI BINTI MOHAMED NASIR 2016447632	DEVELOPMENT OF FERBIUM ALUMINIUM BOROTELLURITE GLASS FOR THERMOLUMINESCENCE DOSIMETRY SYSTEM.

Name of evaluator: _____ Signature : _____

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari : Isnin
Masa : 9.30 am - 12.30 p.m
Group / Bilik : G2 / B432

NO	STUDENT NAME	TITLE
1	NURINTAN HIDAYAH BINTI AZALI 2016447586	ELASTIC BEHAVIOUR OF MIXED IONIC ELECTRONIC OF BORATE GLASSES
2	NUR AFIDAH BINTI ROSLAN 2016447664	DEVELOPMENT OF NEODYMIUM ALUMINIUM BOROTELLURITE GLASS FOR THERMOLUMINESCENCE DOSIMETRY SYSTEM
3	NUR AISYAH BINTI AB MALIK MARWAN 2016447712	FIRST PRINCIPLE ON STRUCTURAL, ELECTRONIC, AND OPTICAL PROPERTIES OF NICKEL SULFIDES COUNTER ELECTRODE FOR DYE-SENTIZED SOLAR CELL.
4	WAN AHMAD FURQAAN BIN WAN BURHANUDDIN 2016447812	SIMULATION OF TRANSVERSE OPTICAL SCATTERING IN PROTEIN INFILTRATED PHOTONIC CRYSTAL FIBER
5	NUR FATINI BINTI NADZIRI @ ISMAIL 2016646712	AQUEOUS CHEMICAL ROUTE SYNTHESIS AND THE EFFECT OF DEPOSITION TEMPERATURE ON THE PROPERTIES OF TITANIUM DIOXIDE NANOROD ARRAYS.
6	NUR IRDINA BINTI MOHD NASRI 2016447554	EXHAUST EMISSION CALCULATION OF SHIP USING AUTOMATIC IDENTIFICATION SYSTEM (AIS) DATA IN 2016
7	ANNE ALEESA BINTI NAZREE 2016447528	STRUCTURAL AND ELASTIC PROPERTIES OF B2O3-PbO-Na2O GLASS

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari : Isnin
Masa : 9.30 am - 12.30 p.m
Group / Bilik : G3 / A404

NO	STUDENT NAME	TITLE
1	NUR SYUHADAH BINTI SAPUAN 2016447682	EXAUST EMISSION CALCULATION OF AIRPLANE FROM Adsb DATA
2	SITI AISYAH BINTI KAMAL ARIFIN 2016447892	SYNTHESIS AND CHARECTERIZATION OF AZO NPS/GRAPHENE OXIDE NANOCOMPOSITE PREPARED VIA ULTRASONIC -ASSISTED SOL-GEL SPIN COATING TECHNIQUE.
3	NURUL ATISYAH BINTI AMRAN 2016447526	PROFILING OF WESTHER DATA IN MALAYSIA FOR ENERGY IN MALAYSIA
4	HAZAMI BIN ZULKIFLI 2016447552	TL RESPONE OF BORO-TELLURITE GLASSES FOR RADIATION DOSIMETRY SYSTEM.
5	NURUL IZZATI BINTI ALI 2016447758	INVESTIGATION ON DYNAMIC AND PHYSICALS PROPERTIES OF A POST- CORONAL MASS INJECTION AND SOLAR FLARE
6	RABIHAH BINTI KHALID 2016447656	RADIOGRAPHY IMAGE QUALITY INDICATOR.
7	AIMAN RAZZI BIN ROHAIZAT 2016447572	ELECTRICAL PROPERTIES OF SOLID POLYMER ELECTROLYTES BASED ON PVC

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari : Isnin
Masa : 9.30 am - 12.30 p.m
Group / Bilik : G4 / A405

NO	STUDENT NAME	TITLE
1	FATIN AZIRAH BINTI MOHD SHUKOR 2016447772	SIZING A 4KWP RETROFITTED GRID-CONNECTED PHOTOVOLTAIC SYSTEM : ACASE STUDY IN SHAH ALAM, MALAYSIA.
2	NASHWA BINTI MOHD IDRIS 2016447704	EXHAUST EMISSION ESTIMATION OF MARINE VESSELS IN PORT KLANG USING AIS DATA IN THE YEAR 2017
3	AHMAD ROHIMI BIN AHMAD SUHAIMI 2016447616	DETECTION OF RADIATION IN DIFFUSION CLOUD CHAMBER USING DIFFERENT TYPES OF ALCOHOL AND LIQUID NITROGEN AS COOLANT
4	FATIN FARHANA BINTI AWANG 2016447598	PVC-LICFO3SO3 POLYMER ELECTROLYTE : CONDUCTIVITY AND ITS DEPENDENCE ON TEMPERATURE.
5	IZZAH NUR ZULAIKHA BINTI MUHARRAM MASJHUR 2016447676	DEVELOPMENT OF AN ACCREDITED NDT TRAINING CENTRE IN UITM.
6	NURUL AISYAH FARHANA BINTI MOHD ALI 2016447522	FIRST PRINCIPLE INVESTIGATION OF STRAIN PbTiO3 AND SnTiO3

Signature :

Name of evaluator: _____



Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari : Isnin
Masa : 9.30 am - 12.00 p.m
Group / Bilik : G5 / A406

NO	STUDENT NAME	TITLE
1	NURFADZIRA BINTI ABDUL RAHMAN 2016447726	RADIOGRAPHIC FILM INTERPRETATION AND EVALUATION OF WELD DEFECTS.
2	NUR HAZWANI BINTI JAAFAR 2016447578	INVESTIGATIONS OF THE STRUCTURE TYPE II RADIO BURSTS CORRELATED WITH SOLAR ENERGETIC PARTICLE
3	NORAISHAH SYUHADA BINTI MOHD RAFI 2016447784	PREPARATION AND CHARACTERIZATION OF MAGNESIUM ION-BASED GEL POLYMER ELECTROLYTES
4	MOHAMAD NOR EFIEZAL MUKMININ BIN MOHD FADZIL 2016447544	STUDY OF TL RESPOND OF DOPED TELLURITE GLASS SYSTEM
5	NUR UMAIRAH BINTI MOHD NIZAM 2016447618	FIRST PRINCIPLE UNDERSTANDING OF NEW HUESLER ALLOY : FeVRuSi
6	PUTERI NAJIHAH BINTI MEGAT ZAKARIA 2016447762	SOLID POLYMER ELECTROLYTES PVC-LiBF ₄ : IONIC CONDUCTIVITY AND AETHER DIELECTRIC PROPERTIES.
7	NURUL SITI FAZANA BINTI NOORMAN 2015250464	EFFECT OF BI SUBSTITUTION AT LA SITE ON ELECTRESISTANCE BEHAVIOUR IN La. 85BixAgO.15MnO ₃

Signature :

Name of evaluator: _____

CONFIDENTIAL

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari: Isnin

Masa : 9.30 am - 12.30 p.m

Group / Bilik : G6 / A407

NO	STUDENT NAME	TITLE
1	MOHAMMAD AMIR SUHAIRI ZUHAIRY 2016447748	OXIGEN RESPOND OF YTTRIUM BARIUM COPPER OXIDE CERAMIC RODS UTILIZING HOT-SPOT PHENOMENON
2	NUR FATIHAH BINTI MOHD SHAH 2016447604	PVC-LIN (CT3SO2)2 POLYMER ELECTROLYTES : ELECTRICAL PROPERTIES
3	NUR MUZFIRAH BINTI MOHD ZAMRI 2016447606	RE-EVALUATION OF Z ANGLE OF DAWN PRAYER TIME BY USING SQM
4	MOHD FAIQ ZARIF BIN MOHD AZMAN 2016447542	ELECTRICAL AND STRUCTURAL PROPERTIES OF CARBOXYMETHYL CELLULOSE BASED GEL POLYMER ELECTROLYTE DOPED WITH POTASSIUM HYDROXIDE
5	ERLINA BINTI MOHAMAD JAAPER 2016447602	AN EARLY FAULT DETECTIONS APPROACH IN GRID CONNECTED PHOTOVOLTAIC (GCPV) SYSTEM
6	NURAKMA NATASYA BINTI MD JAHANGIR ALAM 2016447742	DETERMINATION OF GROUND STATE STRUCTURE OF PbTiO3 AND SnTiO3

Signature :

Name of evaluator: _____



Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Hari : Isnin
Masa : 9.30 am - 12.00 p.m
Group / Bilik : G7 / A408

NO	STUDENT NAME	TITLE
1	NURUL IZZAH BINTI AZLAN 2016447608	IONIC CONDUCTIVITY OF SOLID POLYMER ELECTROLYTES PVC-LiPF6
2	NURUL IZZATI ZAFIRAH BINTI ZULFIKRI 2016447684	INVESTIGATION ON DYNAMICAL AND PHYSICAL PROPERTIES OF A POST CORONAL MASS EJECTION AND SOLAR FLARE
3	RAIHAN BATRISYIA BINTI RAMLI 2016447754	PERFORMANCE ANALYSIS OF A 3KWP RETROFITTED GRID-CONNECTED PHOTOVOLTAIC SYSTEM : A CASE STUDY IN KLANG, MALAYSIA.
4	MUHAMMAD AIMAN BIN SHAARI 2016447566	ELECTRICAL PROPERTIES OF SOLID POLYMER ELECTROLYTES BASED ON PVC
5	SULEY NORSYAKILA BINTI YAHYA 2016447538	CONTROLLED AQUEOUS CHEMICAL GROWTH OF ORIENTED CRYSTALLINE TITANIUM DIOXIDE NANOROD ARRAYS.
6	NUR AIREEN SYARIENA BINTI MOHD AZMI 2016447614	RE-EVALUATION OF Z ANGLE OF ISYA' PRAYER TIME BY USING SQM

Name of evaluator: _____

Signature : _____

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Group / Bilik : G8 / A 304

NO	STUDENT NAME	TITLE
1	MOHD SYAFIQ AIMAN BIN MOHD HANAPI 2016447798	EFFECT OF LITHIUM TRIFLATE SALT ON THE CONDUCTIVITY OF GEL POLYMER ELECTROLYTES BY USING AGAROSE AS POLYMER HOST

Name of evaluator: _____

Signature : _____

Sesi Pembentangan FY Projek 2 Mac – Julai 2019 (FSG661) Tarikh : 17 Jun 2019

Group / Bilik : G9 / A 304

NO	STUDENT NAME	TITLE
1	MUHAMMAD IRWAN BIN ABDUL HALIM 2016447536	EFFECT OF ADDITION BISMUTH ION ON RESISTIVITY OF NICKEL ZINC FERRITES (Ni _{0.25} (Bi _x Zn _(0.25-x))Fe ₂ O ₄)

Name of evaluator: _____

Signature :

Assessment & Evaluation Form for FSG661 – Project 2

COORDINATOR					
Part	Details	Full Marks	Student 1	Student 2	Student 3
SUPERVISOR					
A	Commitment & Effort				
	Initiative and resourcefulness				
	Enthusiasm, attitude and rapport				
	Preparation, organization and information gathering	15%			
	Frequency of meeting with supervisor				
	Experimental work				
Sub-total A		15%	0.0	0.0	0.0
SUPERVISOR/ EXAMINER					
B	Extended Abstract	5%			
	Report Writing				
	Synopsis/Abstract				
	Precise, coherent				
	Summarizes the entire research work	5%			
	The significant methods, findings are clearly drawn				
	Conclusions are highlighted				
	Overall Structure, Organization and Quality				
	Format and layout				
	Clarity and neatness	5%			
	Table of content (list of table, figure, abbreviation)				
	Language, spelling, grammar and syntax				
	Introduction				
	Background and problem statement				
	Significance of Study	5%			
	Objectives of Study				
	Literature Review				
	Relevancy of information				
	Continuity of review	10%			
	Depth and Width of Coverage				
	Elements of Critical Review				
	Materials and Methodology				
	Adaptation to Method and Procedure				
	Experimental design and statistical analysis	5%			
	Innovative and creativity				
	Results and Discussion				
	Data presentation (charts, tables, graphs)				
	Data analysis	15%			
	Relate, argue and reason the findings				
	Continuity and element of creativity				
	Conclusion and Recommendation				
	Summarize of findings				
	Objective achieved	5%			
	Suggestions for further research				
	References				
	Format				
	Number of journals	5%			
	Cited authors all listed				
Sub-total B		60%	0.0	0.0	0.0

	NAME OF STUDENTS	PROGRAM	ID NO.
Student 1	A		
Student 2	BB		
Student 3			

RUBRICS FOR ORAL PRESENTATION (30%)

		Below Average (1 mark)	Satisfactory (2 marks)	Good (3 marks)	Student Name	Student Name	Student Name
1	Attire and Gesture	Student reads all of notes with minimal eye contact	Student reads all of notes with moderate eye contact	Student summarizes notes and maintains eye contact			
2	Fluency of Language	Low voice. Incorrectly mispronounces terms. Difficult to hear presentation	Clear voice. Most words correctly pronounced. Most audience can hear presentation	Clear voice and correct pronunciation. All can hear presentation			
3	Organization of Presentation	No sequence of info	Only some info in logical sequence	All info in logical and interesting sequence			
4	Presentation Technique : Use of AV aids; creativity	Rare use of graphics to support text and presentation	Moderate use of graphics to support text and presentation	Graphics explain and reinforce screen text and presentation			
5	Clarity of Presentation	Not clear	Moderately clear	Very clear			
6	Timing	>5 mins over time	<5 mins over time	Within time			
7	Intro, Problem Statement, Objective, Significance of Study	Poorly described and irrelevant	Moderately described or irrelevant	Clearly described and relevant			
8	Literature Review – Relevance of information presented, Depth of coverage, number of citations	More than 1 aspect missing	One aspect missing	All aspects complete			
9	Methodology : accuracy of information presented and availability of equipment	Methods poorly described and process flow partly explained	Methods or process flow partly explained	Methods clearly described and process flow is strongly supported with suitable detail			
10	Question and Answer	Cannot answer all questions	Can answer all questions but not complete	Demonstrates full knowledge by answering all questions with explanations and elaborations			
				Total Marks	30		

Bil	No Pelajar	Nama	Commitment & Effort (15%)	Written Report (60%)				Oral Presentation (100%)			Oral (25%)	Total (100)
				SV	2nd Examiner	Average		Panel 1	Panel 2	Average		
1	2016447616	AHMAD ROHIMI BIN AHMAD SUHAIMI	13	46.9	39.8	43.35		71	88	79.5	19.9	76.2
2	2016447572	AIMAN RAZZI BIN ROHAIZAT	13	46.6	45	45.8		88	84	86	21.5	80.3
3	2016447602	ERLINA BINTI MOHAMAD JAAPER	14.5	52.9	42.5	47.7		86	78	82	20.5	82.7
4	2016447772	FATIN AZIRAH BINTI MOHD SHUKOR	14.5	53.5	41.5	47.5		80	91	85.5	21.4	83.4
5	2016447598	FATIN FARHANA BINTI AWANG	13	41.2	46.6	43.9		75	88.5	81.75	20.4	77.3
6	2016447552	HAZAMI BIN ZULKIFLI	15	50.5	43.9	47.2		63	71	67	16.8	79.0
7	2016447544	MOHAMAD NOR EFIEZAL MUKMININ BIN MOHD FADZIL	15	52.9	43.6	48.25		74	75	74.5	18.6	81.9
8	2016447748	MOHAMMAD AMIR SUHAIRI ZUHAIRY	11.5	47.2	48	47.6		81	83	82	20.5	79.6
9	2016447542	MOHD FAIQ ZARIF BIN MOHD AZMAN	14	54	52.4	53.2		78	73	75.5	18.9	86.1
10	2016447566	MUHAMMAD AIMAN BIN SHAARI	12	42	31.4	36.7		64	66	65	16.3	65.0

11	2016447536	MUHAMMAD IRWAN BIN ABDUL HALIM	9.5	36	31.1	33.6	44	52	48	12.0	55.1
12	2016447784	NORAISHAH SYUHADA BINTI MOHD RAFI	14	54.3	52.4	53.3	82	78	80	20.0	87.3
13	2016447614	NUR AIREEN SYARIENA BINTI MOHD AZMI	12	43.4	53.2	48.3	69	69	69	17.3	77.6
14	2016447604	NUR FATIAH BINTI MOHD SHAH	10.5	37.6	46.6	42.1	86	88	87	21.8	74.4
15	2016447606	NUR MUZFIH BINTI MOHD ZAMRI	12	43.4	45.8	44.6	82	75	78.5	19.6	76.2
16	2016447618	NUR UMAIRAH BINTI MOHD NIZAM	13	50.2	45.8	48	80	81	80.5	20.1	81.1
17	2016447742	NURAKMA NATASYA BINTI MD JAHANGIR ALAM	14.5	54.8	52.1	53.45	90	85	87.5	21.9	89.8
18	2016447522	NURUL AISYAH FARHANA BINTI MOHD ALI	14.5	54.3	51.3	52.8	74	85	79.5	19.9	87.2
19	2016447608	NURUL IZZAH BINTI AZLAN	10.5	39.3	43.9	41.6	83	84	83.5	20.9	73.0

11	2016447536	MUHAMMAD IRWAN BIN ABDUL HALIM	9.5	36	31.1	33.6	44	52	48	12.0	55.1
12	2016447784	NORAISHAH SYUHADA BINTI MOHD RAFI	14	54.3	52.4	53.3	82	78	80	20.0	87.3
13	2016447614	NUR AIREEN SYARIENA BINTI MOHD AZMI	12	43.4	53.2	48.3	69	69	69	17.3	77.6
14	2016447604	NUR FATIAH BINTI MOHD SHAH	10.5	37.6	46.6	42.1	86	88	87	21.8	74.4
15	2016447606	NUR MUZFIrah BINTI MOHD ZAMRI	12	43.4	45.8	44.6	82	75	78.5	19.6	76.2
16	2016447618	NUR UMAIRAH BINTI MOHD NIZAM	13	50.2	45.8	48	80	81	80.5	20.1	81.1
17	2016447742	NURAKMA NATASYA BINTI MD JAHANGIR ALAM	14.5	54.8	52.1	53.45	90	85	87.5	21.9	89.8
18	2016447522	NURUL AISYAH FARHANA BINTI MOHD ALI	14.5	54.3	51.3	52.8	74	85	79.5	19.9	87.2
19	2016447608	NURUL IZZAH BINTI AZLAN	10.5	39.3	43.9	41.6	83	84	83.5	20.9	73.0