UNIVERSITI TEKNOLOGI PETRONAS
Bandar Seri Iskandar, 31750 Tronoh, Perak Darul Ridzuan
# TABLE OF CONTENTS

1. INTRODUCTION 1

2. PURPOSE 2

3. SCOPE OF WORK 2

4. RESPONSIBILITIES 2
   4.1 FYP Committee
   4.2 Supervisor
   4.3 Co-supervisor
   4.4 Panel of examiners
   4.5 Students

5. PROJECT PROCESS FLOW 8
   5.1 Submission of Titles and Project Synopsis
   5.2 Approval on Project Title, Synopsis and Assignment of Supervisor
   5.3 Selection of Project Titles
   5.4 Allocation of Approved Project Title
   5.5 Approval for Purchase and Usage of Resources and Services
   5.6 Submission of Extended Proposal (FYP 1)
   5.7 Proposal Defence (FYP 1)
   5.8 Submission of Interim Report (FYP 1)
   5.9 Submission of Progress Report (FYP 2)
   5.10 Pre-SEDEX
   5.11 Submission of Technical Paper
   5.12 Submission of Dissertation (final draft report)
   5.13 Viva
   5.14 Submission of Hard Bound Copy of Project Dissertation
   5.15 Grading of Project

6. WRITING FORMAT 15
   6.1 Extended Proposal
   6.2 Interim Report
   6.3 Progress Report
   6.4 Dissertation
   6.5 General Writing Format
   6.6 General Content

7. EVALUATION 23

8. GRADING SCHEME 24

9. CLAIMS 25

10. PLAGIARISM 25

11. COPYRIGHT 26
APPENDIX 1-1: Organisation Chart on Management of the Final Year Project

APPENDIX 1-2: Final Year Project Process Flow

APPENDIX 2-1: Suggested Milestone for the First Semester of a 2 Semester FYP

APPENDIX 2-2: Suggested Milestone for the Second Semester of a 2 Semester FYP

APPENDIX 3-1a: FORM 01A

APPENDIX 3-1b: FORM 01B

APPENDIX 3-2: FORM 02

APPENDIX 3-3: FORM 03

APPENDIX 3-4: FORM 04

APPENDIX 3-5: FORM 05

APPENDIX 3-6: FORM 06

APPENDIX 3-7: FORM 07

APPENDIX 3-8: FORM 08

APPENDIX 3-9: FORM 09

APPENDIX 3-10: FORM 10

APPENDIX 3-11: FORM 11

APPENDIX 4-1: SAMPLE OF PAGE SETUP

APPENDIX 4-2: SAMPLE OF TABLE AND FIGURE

APPENDIX 5-1: SAMPLE OF DOCUMENTING SOURCES

APPENDIX 5-2: SAMPLE OF REFERENCE FORMATS

APPENDIX 6-1a & b: SAMPLE OF TITLE PAGE

APPENDIX 6-2: SAMPLE OF FRONT HARD COVER

APPENDIX 7-1: SAMPLE OF CERTIFICATION OF APPROVAL

APPENDIX 7-2: SAMPLE OF CERTIFICATION OF ORIGINALITY

APPENDIX 8-1: SAMPLE OF ABSTRACT

APPENDIX 9-1: SAMPLE OF TABLE OF CONTENTS

APPENDIX 10-1: SAMPLE OF TECHNICAL PAPER
1. INTRODUCTION

All final year students in UTP are required to undertake a Final Year Project (FYP) course, which is a design and/or research-based subject. This course is a compulsory element in all programmes offered in UTP.

It requires students to do research, design and/or development work in each discipline, especially on real-world problems which would motivate them to produce practical solutions. It is an opportunity for students to use the tools and techniques of problem-solving to solve the problems they have encountered. With this approach, the learning process is gained through 'by-doing' (practical) experience. Management concepts which provide students with skills required for managing a project are also incorporated. Thus, the students are expected to be well rounded by mastering various useful disciplines, which will enable them to participate and prepare for future employment.

Working under the guidance of a supervisor / supervisors, students may shape the direction of what they want to be, as well as gain better understanding of the responsibilities they have to shoulder when they undertake a project. Teamwork will be inculcated with the development of good and professional relationships with their supervisor(s) and colleagues. The undertaken project can also be used as a basis for job employment by fully exploiting the learning process they have gone through, the skills they have gathered and the experience they have gained from the project.

These guidelines are prepared for students and supervisors to enable them to execute their respective roles and responsibilities in an effective manner, hence benefiting both parties. With that, the successful implementation of this course can then be realised.
2. **PURPOSE**

The purpose of the project is to develop a framework, which will enhance students' skills in the process of applying knowledge, expanding thoughts, solving problems independently and presenting findings through minimum guidance and supervision.

3. **SCOPE OF WORK**

The project can be in the form of laboratory experiments, computer programming, modelling, simulations, analysis and product design. The area and scope of the project should be narrowed down so that the project is feasible and could be completed within the allocated time frame. The project work must exhibit an element of originality and indicates the maturity level for final year bachelor degree programme.

4. **RESPONSIBILITIES**

A team comprising of the FYP Committee, FYP Coordinator, Supervisor, Co-supervisor, Panel of Examiners and Students is formed to manage the Final Year Project. They should work closely with each other as shown in Appendix 1-1. It is the responsibility of each party to ensure that the project is completed and delivered within the project time frame. The team responsibilities are as indicated in the Project Process Flow in Appendix 1-2.

4.1 **FYP Committee**

The Chairman of the FYP Committee for each Programme is the respective Head of Department. The FYP Coordinator and committee members are appointed by the Head of Department.

4.1.1 The main tasks and responsibilities of the FYP Coordinator are as follows:
(a) To produce a milestone for the managing the final year project as shown in Appendix 2-1 and 2-2.

(b) To identify the students who have registered for the final year project.

(c) To distribute the *FYP Guidelines* to students and supervisors.

(d) To plan and manage the final year project process.

(e) To collect the suggestions of project title proposals from the lecturers, other staff and students. Please refer to Form 01 in Appendix 3-1.

(f) To submit all project proposals to the FYP Committee for approval and to assign supervisor(s).

(g) To release the list of approved projects for students' selection.

(h) To collect the list of project titles selected by students. Please refer to Form 02 in Appendix 3-2.

(i) To forward Form 02 to the FYP Committee for approval.

(j) To release the FYP Committee's decision on project titles and supervisor(s).

(k) To brief the students and supervisors on the project requirements based on the guidelines.

(l) To co-ordinate a committee meeting to appoint a panel of examiners.

(m) To endorse Form 03 and forward the form to the FYP Committee Chairman for approval to purchase consumables and equipment, technical support, nomination of advisors and other related resources for the project. Please refer to Form 03 in Appendix 3-3.
(n) To arrange students’ oral presentation at the end of the semester.

(o) To collect the interim report/dissertation final drafts from students and forward it to the examiner for evaluation during oral presentation at the end of the semester.

(p) To compile the students’ assessment marks.

(q) To collect two (2) hard cover copies and three (3) CD-ROMs of final dissertation from students.

(r) To compile and retain Forms 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, and 11 for at least one year after graduation for auditing purposes.

4.1.2 The tasks of the **FYP Committee Chairman** and **Committee Members** are as follows:

(a) The Chairman is responsible for all final decisions based on the committee’s recommendations.

(b) To ensure the initial project proposal is relevant to student’s field of study.

(c) To approve project title proposals.

(d) To assign project supervisor(s).

(e) To assign project titles to students.

(f) To appoint Panel of Examiners.

(g) To endorse final project grades.

(h) To approve proposal to purchase consumables and equipment, technical support, nomination of advisors and other resources related to projects.
4.2 Supervisor

Students will be supervised by one main supervisor, who is knowledgeable in the relevant field of expertise. Their responsibilities can be summarised as follows:

(a) To work together with students until the submission of the final report.

(b) To assist students on the accessibility of the tools needed for the project.

(c) To monitor the schedule and progress of the students and their projects.

(d) To assist and guide students on the project and the preparation of the preliminary report (initial proposal), progress report and interim report/dissertation according to the approved format.

(e) To assess students’ performance.

(f) To deliver their part of evaluation. Please refer to grading structure of Table 2 in Section 7.

(g) To nominate a co-supervisor and notify the FYP Coordinator.

(h) To forward a proposal to the FYP Coordinator for endorsement on purchasing of consumables and equipment, technical support, nomination of advisors and other related resources for the project. Please refer to Form 03 in Appendix 3-3.

(i) To nominate Examiner(s) to FYP Committee.

(j) To compile and retain all evaluation for at least one year after graduation for auditing purposes.
4.3 Co-Supervisor
The Co-Supervisor may be nominated by the Supervisor to assist students in very specialized areas. The Co-Supervisor can be internal or external (from outside UTP). The external Co-Supervisor must be officially appointed and is entitled for payment. The Co-Supervisor’s responsibility is to guide students in solving specific tasks within his/her expertise as and when necessary within the project time frame. In certain cases, the Co-Supervisor may represent the Supervisor in oral presentations, and evaluate the students’ progress and final dissertation.

4.4 Panel of Examiners
The FYP Committee appoints the Panel of Examiners. The Examiners will function as project evaluators who are responsible to evaluate the oral presentation and dissertation. Refer to Table 2 in Section 7. Examiners will be from the industry while the other will be an internal examiner. If it is not possible to get an External Examiner from the industry, the FYP Committee can appoint another lecturer from the same programme as a replacement.

4.5 Students
In completing the project, students are required to demonstrate their ability to integrate fundamental knowledge in developing techniques, methods and analyses. Students should take their own initiative by proposing a title for their project. They are also required to work independently through exercising self-discipline, self-management and job co-ordination while undertaking the project. If working in a group, the students are expected to exercise teamwork, co-operation, and trustworthiness to ensure the success of the project.
It is compulsory for students to complete ALL assessment processes as follows:

(a) Extended Proposal
(b) Proposal Defence
(c) Interim Report
(d) Progress Report
(e) Pre-SEDEX
(f) Technical Paper
(g) Dissertation
(h) Viva

Student will be given a grade of F for failing to do so.

Among the expected responsibilities are:

(a) To select a project topic on their own, or the one suggested by the Supervisor/s.
(b) To produce a preliminary report which clearly defines the objective(s) and the scope of project work.
(c) To plan meeting schedules with their Supervisor/s.
(d) To adhere to the meeting schedule with the Supervisor/s for the purpose of updating their progress and seeking advice on project matters.
(e) To be responsible in finding alternative solutions for problems encountered such as computer crashes and instrument failure.
(f) To submit all reports on time with no exception.
5. **PROJECT PROCESS FLOW**

The final year *Project Flow Sheet* is shown in **Appendix 1-2**.

5.1 **Submission of Titles and Project Synopsis**

(a) Lecturers will submit project proposals according to their interest and expertise to the FYP Coordinator

(b) Students are also encouraged to propose their own project proposals based on their interest and experience.

(c) All proposals must be submitted to the FYP Coordinator for each department using Form 01 as in Appendix 3-1 before the start of the new semester.

5.2 **Approval on Project Proposal and Assignment of Supervisor/s**

(a) The FYP Coordinator will forward the list to the FYP committee for approval.

(b) The project proposal will be reviewed by the FYP Committee to ensure the viability of the project.

(c) The proposer will be called by the FYP Committee, if any clarification is required.

(d) Once the project is approved, the FYP Committee will endorse a supervisor for the project.

(e) The FYP Coordinator will advertise the list of approved projects to the students.
5.3 Selection of Project Titles

(a) Students who do not submit a project proposal or have their proposals rejected by the FYP committee of the department, will have to select a maximum of three (3) titles from the given list in any order of preference and submit it to the FYP Coordinator using Form 02 in Appendix 3-2.

(b) The FYP Coordinator will forward the students’ selection to the FYP Committee for them to assign approved projects or Supervisors to students.

5.4 Allocation of Approved Project Title/ Assigned Supervisors

Students will be informed by the FYP Coordinator on the awarded project or assigned Supervisors.

5.5 Approval for Purchase and Usage of Resources and Services

(a) If required, the Supervisor will forward Form 03 (Appendix 3-3) to the FYP Coordinator for the purchase of consumables and equipment, nomination of Advisor(s), request for technical support, visit and other resources related to the project as necessary. The FYP Coordinator or Laboratory Executive will then forward the form to the FYP Chairman for approval.

(b) For projects involving experimental works, students are required to register with the Laboratory Facilities and Services Unit (LFSU). Students are expected to conduct risk assessment, comply with laboratory rules and regulations, and perform good laboratory practices.
5.6 Submission of Extended Proposal (FYP 1)

Towards this submission, student should be able to fulfil the criteria as in Form 04.

(a) Write an abstract of the study
(b) Identify the problem statement, objective and scope of the study
(c) Write the literature review
(d) Explain the methodology to be used in the study

The procedure of the submission is as follows:

(a) Students submit an Extended Proposal to the Supervisor for endorsement prior to submission to the FYP Coordinator.
(b) The Supervisor will evaluate the report and submit the marks to the FYP Coordinator using Form 04 (Appendix 3-4).

5.7 Proposal Defence (FYP 1)

In this seminar students should be able to verbally report the progress of their project to the supervisor, fellow students and other lecturers attending the seminar. The seminar is also an avenue for the student to get feedback on how to improve their project. The seminar can be organised in small or large groups. The students need to do the oral presentation to the supervisor and one internal examiner. The examiners will evaluate the presentation and submit the marks to the FYP Coordinator using Form 05 (Appendix 3-5). If the students fail to attend the oral presentation, the students will be barred and will not be able to continue the course.
5.8 Submission of Interim Report (FYP 1)

Towards the submission, students should be able to:

(a) Write an abstract of the study
(b) Identify the problem statement, objective and scope of the study
(c) Write the literature review
(d) Explain the methodology to be used in the study

The procedures for submission are as follows:

(a) Students will submit an Interim Report to the FYP Coordinator for endorsement prior to submission to the supervisor and internal examiner.
(b) The supervisor and internal examiner will evaluate the Interim Report and submit the marks to the FYP Coordinator using Form 06 as in Appendix 3-6.

5.9 Submission of Progress Report (FYP 2)

Towards the submission, students should be able to:

(a) Write an abstract of the study
(b) Identify the problem statement, objective and scope of the study
(c) Write the literature review
(d) Explain the methodology to be used in the study
(e) Report the findings of the study

The procedures for submission are as follows:

(a) Students will submit a Progress Report to the FYP Coordinator for endorsement prior to submission to the supervisor.
The Supervisor will evaluate the *Progress Report* and submit the marks to the FYP Coordinator using **Form 07** as in **Appendix 3-7**.

5.10 Pre-SEDEX

In this section, students should be able to:

(a) Explain verbally to the audience about their project, through the poster that they have designed.

(b) Demonstrate their ability to answer questions from the audience effectively.

The procedures of project exhibition are as follows:

(a) Students are required to produce a poster for an exhibition at departmental level.

(b) The appointed internal examiners within the department will evaluate the students’ posters and submit the marks to the FYP Coordinator using **Form 08** as in **Appendix 3-8**.

5.11 Submission of Technical Paper

Towards the submission, students should be able to explain in writing about the contents of the project and its significance, the problem statement, objectives, scope, literature review, methodology used, results, conclusions and recommendations. The technical paper format or guidelines are attached in **Appendix 10-1**.

The procedures for submission are as follows:

(a) Students are required to submit the *technical paper* to the Supervisor/s and send a copy to the FYP Coordinator.
(b) The Supervisor/s will evaluate the technical paper and submit the marks to the FYP Coordinator using Form 09 as in Appendix 3-9.

5.12 Submission of Dissertation (draft final report)

Towards the submission, students should be able to explain in writing about the contents of the project and its significance, the problem statement, objectives, scope, literature review, methodology used, results, conclusions and recommendations.

The procedures for submission are as follows:

(a) Students are required to submit a draft of the final report to the Supervisor/s and send a copy to the FYP Coordinator.

(b) The FYP Coordinator will distribute one copy to the Examiners.

(c) The Supervisor and Examiners will evaluate the draft final report and submit the marks to the FYP Coordinator using Form 10 as in Appendix 3-10 after the viva.

5.13 Viva

In this session, students should be able to:

(a) Verbally report the outcome of their final year project.

(b) Demonstrate how well they are able to explain and understand the project that they have been working on.

(c) Utilize their skills in oral presentation.

The procedures are as follows:

(a) The Viva evaluation will be conducted (at a scheduled time) using Form 11 in Appendix 3-11.
(b) The Supervisor/s and Examiners will give comments on the final draft of the report and the oral presentation of the project.

(c) Students have to defend their findings in the reports and make necessary amendments as suggested by the Supervisors and Examiners before submitting the final dissertation.

(d) The presentation contents may focus on the following items:
   - Problem Statement
   - Objectives and Scope of Study
   - Literature Review
   - Procedure/Methodology
   - Results and Findings
   - Conclusion and Recommendation

(e) The Panel of Examiners comprise the supervisor, an external examiner and an internal examiner.

(f) The Supervisor and Examiners will evaluate the viva and submit the marks to the FYP Coordinator by using Form 11 as in Appendix 3-11 after the viva.

5.14 Submission of Hard-Bound Copy of Project Dissertation

(a) Students must submit two (2) hard-bound copies and three (3) softcopies of the project dissertation in CD-ROM format to the FYP Coordinator.

(b) Students who fail to submit the hard-bound dissertation will not receive their results transcript from the Examination Unit.
5.15 Grading of Project

(a) The FYP Coordinator will compile all the marks and obtain endorsement from the FYP Chairman.

(b) The FYP Coordinator will submit the endorsed result or grading to the Exam Unit as mentioned in Section 8.

6. WRITING FORMAT

The writing of the extended proposal/interim report/progress report and dissertation should adhere to the following format. The report consists of many parts arranged in a certain order. It is recommended that the contents be arranged in the following order:

6.1 Extended Proposal

(a) Title Page

(b) Chapter 1: Introduction
   • Background
   • Problem Statement
   • Objectives and Scope of Study

(c) Chapter 2: Literature Review and/or Theory

(d) Chapter 3: Methodology/Project Work

(e) Chapter 4: Conclusion and Recommendation

(f) References

(g) Appendices

6.2 Interim Report

(a) Title Page

(b) Abstract

(c) Chapter 1: Introduction
   • Background
   • Problem Statement
6.3 Progress Report

(a) Title Page
(b) Abstract
(c) Chapter 1: Introduction
   - Background
   - Problem Statement
   - Objectives and Scope of Study
(d) Chapter 2: Literature Review and/or Theory
(e) Chapter 3: Methodology/Project Work
(f) Chapter 4: Results and Discussion
(g) Chapter 5: Conclusion and Recommendation
(h) References
(i) Appendices

6.4 Dissertation

(a) Title Page
(b) Certification
(c) Abstract
(d) Acknowledgements
(e) Table of Contents
(f) List of Figures
List of Tables
Abbreviations and Nomenclatures
Chapter 1: Introduction
- Background
- Problem Statement
- Objectives and Scope of Study
Chapter 2: Literature Review and/or Theory
Chapter 3: Methodology/Project Work
Chapter 4: Results and Discussion
Chapter 5: Conclusion and Recommendation
References
Appendices

6.5 General Writing Format

Students must follow specific guidelines for writing all the reports as indicated in Section 6.

(a) Language
The dissertation must be written in acceptable and formal English. Use the passive voice.

(b) Font and Spacing
All text should be 1.5 spacing between lines and 3 spacing between paragraphs (Times New Roman regular font-style, size 12) typed on a white A4 paper. Extended proposal/ interim report/ progress report should be in the form of double-sided printing. The hard-bound printed copy of the dissertation should be in the form of single sided printing.
The following however should be single spaced:

- Tables and figures
- Computer programs/source codes (must be reduced to font size 8)

(c) Length

The maximum length of the report, excluding appendices is as follows:

<table>
<thead>
<tr>
<th>Type of Report</th>
<th>Maximum Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended Proposal</td>
<td>10 pages</td>
</tr>
<tr>
<td>Interim Report</td>
<td>20 pages</td>
</tr>
<tr>
<td>Progress Report</td>
<td>30 pages</td>
</tr>
<tr>
<td>Dissertation</td>
<td>50 pages</td>
</tr>
</tbody>
</table>

Students are encouraged to use brief and straightforward wordings, use passive voice and avoid using jargon as much as possible.

(d) Pagination

All pages must be numbered in proper sequence from introduction to the end of the report including pages on figures, tables, computer programs and appendices. All front materials are numbered in small Roman numerals (e.g. i, ii, iii). Page numbers appear by themselves and are not to be enclosed in parenthesis, hyphens or other decorative symbols. Page numbers must be positioned at the bottom and must be centred. Please refer to Appendix 4-1.

(e) Margin

The top, bottom and right margins are 25 mm except the left margin, which is 40 mm. Please refer to Appendix 4-1. All paragraphs should start from the left margin.

(f) Mathematical Equations

Mathematical equations must be spaced out; superscript and subscript must be clearly shown and numbered.

(g) Heading
The report should not have more than three levels of numbered headings as follows:

1. **FIRST-LEVEL HEAD**
   
   1.1 **Second-Level Head**
   
   1.1.1 **Third-Level Head**

   All headings should be in Times New Roman and bold. Chapter and major headings should be in capitals and in 14 font size and 12 font size, respectively. Secondary and tertiary headings should be in title case and in 12 font size.

   *(h)* **Tables and Figures**

   Tables and figures are considered part of the report if it is within the main text. If it is of the size that is less than a page, it should be inserted into the text near the point of reference with a 3 spacing from the text. Tables should be on the same page. Margin limits of figures and tables should be the same as the full-page text. All tables and figures should be numbered consecutively. Table heading should be positioned at the top and centred. The numbers for figure should be positioned at the bottom and centred. Please refer to **Appendix 4.2.** Refer to each table or figure clearly in the text before placing it on the page. (For example, “Figure 1 shows ....)

   *(i)* **Documenting Sources**

   Students are required to cite the sources from which ideas were taken. Please refer to **Appendix 5-1. The documentation system to be used is the American Psychological Association (APA) or International Electrical Electronic Engineering (IEEE) format.**
(j) References

The method of writing references must follow the standard format. The sample reference format is in Appendix 5-2. This sample is using the APA and IEEE format.

(k) Title Page

The title page of the extended proposal, interim report, progress report and dissertation should be set out in accordance with the attached sample sheet in Appendix 6-1 and should include the following:

- The title of the reports/dissertation.
- The name of the candidate in FULL.
- The degree for which he/she is submitting the reports/dissertation.
- The semester in which the reports/dissertation is submitted.
- The University name and address.

Students must submit two (2) hard cover copies and three (3) softcopies (CD-ROM) of their dissertation to the FYP Coordinator. The hard cover colour for each programme is listed in Table 1. Please refer to Appendix 6-2 for the writing format for the front hard cover.

Table 1: Hard cover colour for each Programme

<table>
<thead>
<tr>
<th>Programme</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering</td>
<td>Dark Green</td>
</tr>
<tr>
<td>Electrical &amp; Electronic Engineering</td>
<td>Dark Brown</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>Maroon</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>Black</td>
</tr>
<tr>
<td>Information Technology/Information System</td>
<td>Dark Blue</td>
</tr>
<tr>
<td>Petroleum Engineering</td>
<td>Dark Red</td>
</tr>
<tr>
<td>Petroleum Geoscience</td>
<td>Dark Green</td>
</tr>
</tbody>
</table>
6.6 General Content

This section will elaborate the general content needed in each part for each report format.

(a) Title Page

The title of the report should reflect the focus on core issues of the project work or issued related to it.

(b) Certification

This section is divided into two: certification of approval and certification of originality, as in Appendix 7-1 and 7-2. The certification of approval should be signed by the Supervisor after he/she is satisfied with the corrections or amendments done by the student.

(c) Abstract

An abstract is a short version of a report. It covers the report’s purpose, scope, methodology, results and conclusion. Abstracts should be no longer than one page as in Appendix 8-1.

(d) Acknowledgements

Acknowledgements should include the names of the contributors to the project work, including the supervisors and the members of the group, preferably not more than one page.

(e) Table of Contents

Table of Contents lists all headings and sub-headings, tables, figures, appendices and, bibliography with page numbers. It also includes the certification, abstract and acknowledgement (if applicable). Please refer to the sample in Appendix 9-1.
(f) **Introduction**

The Introduction must include the background of the project, the problem statement, the objective(s) and scope of the study. The Problem statement needs to focus on the situation of the problem and research questions which lead to the objective(s) of the study. Students are required to clarify the boundary of the project work to ensure its feasibility within the given time frame.

(g) **Literature Review and/or Theory**

The Literature Review is the analytical, critical and objective review of written materials on the chosen topic and area. It provides the background information on the research question and identifies what others have said and/or discovered about the question. It contains all relevant theories, hypotheses, facts and data which are relevant to the objective and findings of the project.

(h) **Methodology/Project Work**

The Methodology refers to methods/procedures used by the student to achieve the objective(s) of the project. The methods/procedures must be relevant and acceptable.

(i) **Results and Discussion**

This section presents the findings or outcomes of the project work. All gathered data from the project work must be presented in the form of tables and figures such as graphs, diagrams or appropriate formats. The data needs to be analysed, and the results need to be discussed.
7. **Evaluation**

Students are evaluated based on their capability in undertaking the project, producing the written report and presenting the results. Overall commitment, as well as personal conduct, is also to be observed at all times. The main components of evaluation and the grading structure are given in Table 2.1 and Table 2.2.
Table 2.1: Grading Structure for FYP 1

<table>
<thead>
<tr>
<th>Assessment Contribution (%)</th>
<th>Supervisor</th>
<th>Panel of Examiner(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended Proposal</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Proposal Defence</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>FYP1 Interim Report</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

Table 2.2: Grading Structure for FYP 2

<table>
<thead>
<tr>
<th>Assessment Contribution (%)</th>
<th>Supervisor</th>
<th>Panel of Examiner(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress Report</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Pre-SEDEX</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Technical Paper</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Dissertation</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Viva</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

8. GRADING SCHEME

Students will be graded according to the UTP grading scheme as in Table 3.

Table 3: UTP Grading Scheme

<table>
<thead>
<tr>
<th>Score</th>
<th>Grade</th>
<th>Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 – 100</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>80 – 84.9</td>
<td>A-</td>
<td>3.75</td>
</tr>
<tr>
<td>75 – 79.9</td>
<td>B+</td>
<td>3.5</td>
</tr>
<tr>
<td>65 – 74.9</td>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>55 – 64.9</td>
<td>C+</td>
<td>2.5</td>
</tr>
<tr>
<td>50 – 54.9</td>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>45 – 49.9</td>
<td>D+</td>
<td>1.5</td>
</tr>
<tr>
<td>40 – 44.9</td>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>0 – 39.9</td>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>
9. CLAIMS

Students are entitled to final year project claims of RM 500 per semester for the following items.

(a) Consumables and equipment
(b) Testing/technical support
(c) Consultation or other support
(d) Travel/visit for data requisition (with the most economical mode of travel)
(e) Procurement of data
(f) Exhibition of posters

All claims shall be submitted using Form 03 to the Supervisor, requires support from the FYP Coordinator and must be endorsed by the FYP Chairman.

10. PLAGIARISM

Plagiarism is the act of obtaining or attempting to obtain credit for academic work by representing the work of another as one's own without the necessary and appropriate acknowledgment. More specifically, plagiarism is:

(a) The act of incorporating the ideas, words of sentences, paragraphs, or parts thereof without appropriate acknowledgment and representing the product as one's own work; and
(b) The act of representing another's intellectual work such as musical composition, computer program, photographs, painting, drawing, sculpture, or research or the likes as one's own.

(Source: www.sonoma.edu/uaaffairs/policies/cheatingpolicy.htm)

If a student is in doubt of the nature of plagiarism, he/she should discuss the matter with the supervisor. If a student is caught committing plagiarism, stern action will be taken against the student. This includes the student being given zero marks for the particular assessment in FYP1. However, for FYP2, the student will be given a grade of F.
11. COPYRIGHT

The university shall be the owner for all findings, designs, patents, and other intellectual property rights.
Organisation Chart on the Management of the Final Year Project

CHAIRMAN
(HEAD OF DEPARTMENT)

COORDINATOR &
COMMITTEE

EXAMINER(S)

INTERNAL EXAMINER
(WITHIN DEPARTMENT)

SUPERVISOR

EXTERNAL EXAMINER (FYP II only)

SUPERVISOR(S)

STUDENTS

CO-SUPERVISOR(S)
## FINAL YEAR PROJECT FLOW PROCESS

<table>
<thead>
<tr>
<th>Process</th>
<th>Responsibility / Action</th>
<th>Document</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>START</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5.1 Submission of Titles &amp; Project Synopsis</strong></td>
<td>Lecturer, Student (optional)</td>
<td>Form 01</td>
</tr>
<tr>
<td><strong>5.2 Approval on Project Proposal &amp; Supervisor</strong></td>
<td>FYP Coordinator/Committee</td>
<td>List of Approved Titles &amp; Supervisors</td>
</tr>
<tr>
<td><strong>5.3 Selection of Project Titles</strong></td>
<td>Student, Supervisor</td>
<td>Form 02</td>
</tr>
<tr>
<td><strong>5.4 Allocation of Approved Project Titles</strong></td>
<td>Student, Supervisor, FYP Committee</td>
<td>Form 02</td>
</tr>
<tr>
<td><strong>5.5 Purchase &amp; Usage of Resources and Services</strong></td>
<td>Student, Supervisor, FYP Coordinator, FYP chairman</td>
<td>Form 03</td>
</tr>
<tr>
<td><strong>5.6 Submission of Extended Proposal</strong></td>
<td>Student, Supervisor, FYP Coordinator</td>
<td>Extended Proposal</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Supervisor FYP Coordinator/Committee</td>
<td>Form 04</td>
</tr>
<tr>
<td><strong>5.7 Proposal Defence</strong></td>
<td>Student, Supervisor, Internal Examiner, FYP Coordinator</td>
<td>Form 05</td>
</tr>
</tbody>
</table>

---

### APPENDIX 1-2

5.1 Submission of Titles & Project Synopsis

5.2 Approval on Project Proposal & Supervisor

5.3 Selection of Project Titles

5.4 Allocation of Approved Project Titles

5.5 Purchase & Usage of Resources and Services

5.6 Submission of Extended Proposal

5.7 Proposal Defence
## FINAL YEAR PROJECT FLOW PROCESS

<table>
<thead>
<tr>
<th>Process</th>
<th>Responsibility / Action</th>
<th>Document</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Student, Supervisor, Internal Examiner, FYP Coordinator/Committee</td>
<td>Interim Report</td>
</tr>
<tr>
<td>5.8 Submission of Interim Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment</td>
<td>Supervisor, Internal Examiner, FYP Coordinator/Committee</td>
<td>Form 6</td>
</tr>
<tr>
<td>5.9 Submission of Progress Report (FYP 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment</td>
<td>Student, Supervisor, FYP Coordinator/Committee</td>
<td>Progress Report</td>
</tr>
<tr>
<td>5.10 Pre-SEDEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.11 Submission of Technical Paper</td>
<td>Student, Supervisor, FYP Coordinator</td>
<td>Technical Paper</td>
</tr>
<tr>
<td>Assessment</td>
<td>Student, Supervisor, FYP Coordinator</td>
<td>Form 9</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FINAL YEAR PROJECT FLOW PROCESS

<table>
<thead>
<tr>
<th>Process</th>
<th>Responsibility / Action</th>
<th>Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.12 Submission of Dissertation (Draft Final Report)</td>
<td>Student, Supervisor, FYP Coordinator/Committee</td>
<td>Draft Final Report</td>
</tr>
<tr>
<td>Assessment</td>
<td>Supervisor, Examiner, FYP Coordinator/Committee</td>
<td>Form 10</td>
</tr>
<tr>
<td>5.13 Viva</td>
<td>Student, Supervisor, Examiner, FYP Coordinator</td>
<td>Form 11</td>
</tr>
<tr>
<td>Amendment on the Draft Final as Advised</td>
<td>Student, Supervisor</td>
<td>Dissertation Final Report</td>
</tr>
<tr>
<td>5.14 Submission of Hard-Bound Copy of Project Dissertation</td>
<td>Student, FYP Coordinator/Committee</td>
<td>2 Copies and 3 CD-ROM of Project Dissertation</td>
</tr>
<tr>
<td>5.15 Grading of Project</td>
<td>FYP Coordinator, FYP Chairman, Exam Unit</td>
<td>PRISM</td>
</tr>
</tbody>
</table>

END
## Timelines for FYP 1

<table>
<thead>
<tr>
<th>No.</th>
<th>Detail/ Week</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selection of Project Topic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Preliminary Research Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Submission of Extended Proposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Proposal Defence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Project work continues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Submission of Interim Draft Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Submission of Interim Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Suggested milestone**
- **Process**
### Timelines for FYP 2

<table>
<thead>
<tr>
<th>No.</th>
<th>Detail/ Week</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Work Continues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Submission of Progress Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Project Work Continues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Pre-SEDEX</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Submission of Draft Final Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Submission of Dissertation (soft bound)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Submission of Technical Paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Viva</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Submission of Project Dissertation (Hard Bound)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
- **Purple Box:** Suggested milestone
- **Black Circle:** Process
FORM 01A

FINAL YEAR PROJECT TITLE PROPOSAL

Project Title:

Proposer’s Name: ___________________________ Student ID: ________

Proposer’s e-mail address: ___________________ H/P No: ______________

CGPA: ______ Total Credit Hours This Semester: ________________

Area / specialization: _______________________________________________

Suggested supervisor (if any): _________________________________________

Collaborator(s) (if any): _____________________________________________

Problem Statement:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Objectives:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Pre-requisite (if any):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Short summary of the research project:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Tools/equipment required:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
FORM 01B

FINAL YEAR PROJECT TITLE PROPOSAL

Project Title:

Supervisor Name : ________________________________

Area / specialization:

Collaborator(s) (if any) :

Co-Supervisor (s) (if any):

Project Background :

____________________________________________________________________________________

____________________________________________________________________________________

Problem Statement:

____________________________________________________________________________________

____________________________________________________________________________________

Objectives:

____________________________________________________________________________________

Tools/equipment required:

____________________________________________________________________________________

____________________________________________________________________________________

Project Deliverables:

____________________________________________________________________________________

____________________________________________________________________________________
(To be completed by student in 2 copies.)

Semester : __________________ Year: __________________
Name : __________________________________________
Student No : __________________ Programme: ____________

List of topic chosen (ranking in order of preference):

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Proj. Title</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Justification for the chosen topics:
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Students should return this form within three days on the first week of the semester to respective department Final Year Project Coordinator

COMMITTEE DECISION

Topic approved: __________________________________________

Approved by FYP Coordinator
(only for Supervisor-allocated titles)
Signature: __________________________________________

Official stamp: ________________________________________

Date: __________________________

35
### FINAL YEAR PROJECT REQUISITION FORM

(Note: Supervisor can use this form to request (a) purchasing consumables and equipment, (b) testing/technical support, (c) consultations fees and other related resources to the project, (d) visit for data collection.)

#### REQUESTED BY

<table>
<thead>
<tr>
<th>Supervisor’s Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title</td>
<td></td>
</tr>
<tr>
<td>Supervisor’s Signature</td>
<td></td>
</tr>
<tr>
<td>Student’s Name</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
</tbody>
</table>

#### No. | Description | Purpose | Quantity | Estimated Cost
---|-------------|---------|----------|-------------

#### ENDORSEMENT BY CO-ORDINATOR/LABORATORY EXECUTIVE

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme</td>
<td></td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
</tbody>
</table>

#### APPROVAL BY COMMITTEE CHAIRMAN

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme</td>
<td></td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Approval</td>
<td></td>
</tr>
<tr>
<td>Comment:</td>
<td></td>
</tr>
</tbody>
</table>

* Please attach this form with original receipt or any proof of purchase.
### FORM 04

**FYP I – EXTENDED PROPOSAL SCORE SHEET**

*(To be completed by Supervisor)*

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background of Study</strong></td>
<td>Irrelevant project with unclear and brief background of study (4 to &lt; 6.5)</td>
<td>Sufficiently relevant project with sufficiently clear and concise background of study (4 to 6.5)</td>
<td>Substantially relevant project with substantially clear and concise background of study (6.5 to &lt; 8)</td>
<td>Extremely relevant project with extremely clear and concise background of study (8 to 10)</td>
<td>8 to 10</td>
</tr>
<tr>
<td><strong>Problem Statement</strong></td>
<td>Irrelevant problem statement that is irrational and has insufficient impact on society (4 to &lt; 6.5)</td>
<td>Sufficiently relevant problem statement that is rational and has sufficient impact on society (4 to 6.5)</td>
<td>Substantially relevant problem statement that is rational and has substantial impact on society (6.5 to &lt; 8)</td>
<td>Extremely relevant problem statement that is rational and has high impact on society (8 to 10)</td>
<td>8 to 10</td>
</tr>
<tr>
<td><strong>Objective and Scope of Study</strong></td>
<td>Research objectives that are insufficient, immeasurable, irrelevant and unachievable within the time frame (4 to &lt; 6.5)</td>
<td>Research objectives that are sufficient, measurable, relevant and achievable within the time frame (4 to 6.5)</td>
<td>Research objectives are substantial, measurable, relevant and achievable within the time frame (6.5 to &lt; 8)</td>
<td>Research objectives are significant, measurable, relevant and achievable within the time frame (8 to 10)</td>
<td>8 to 10</td>
</tr>
<tr>
<td><strong>Critical analysis, relevancy, recentness of literature</strong></td>
<td>Insufficient literature review and inadequate analysis (12 to &lt; 19.5)</td>
<td>Sufficient literature review and adequate analysis (12 to 19.5)</td>
<td>In-depth and up-to-date literature review and has done substantial analysis (19.5 to &lt; 24)</td>
<td>Comprehensive and up-to-date literature review and has done critical analysis (24 to 30)</td>
<td>8 to 10</td>
</tr>
<tr>
<td><strong>Quality of references, citation and cross referencing</strong></td>
<td>Insufficient quality references with inadequate citation and cross referencing (8 to &lt; 13)</td>
<td>Sufficient quality references with adequate citation and cross referencing (8 to 13)</td>
<td>Substantial quality references with substantial citation and cross referencing (13 to &lt; 16)</td>
<td>Comprehensive and recent quality references with comprehensive citation and cross referencing (16 to 20)</td>
<td>8 to 10</td>
</tr>
<tr>
<td><strong>Research Methodology</strong></td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods (4 to &lt; 6.5)</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods (4 to 6.5)</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods (6.5 to &lt; 8)</td>
<td>Research method and project activities that are highly comprehensive, highly achievable with extremely appropriate methods (8 to 10)</td>
<td>8 to 10</td>
</tr>
</tbody>
</table>

---

**Student’s Name**: __________________________________________ **Student’s ID**: ____________ **Programme**: ___________________ **Project Title**: __________________________________________
<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Key Milestones</td>
<td>Identified project milestones are unachievable and irrelevant to the objectives (&lt; 2)</td>
<td>Identified project milestones are sufficiently achievable and adequately relevant to the objectives (2 to &lt; 3.3)</td>
<td>Identified project milestones are mostly achievable and relevant to the objectives (3.3 to &lt; 4)</td>
<td>Identified project milestones that are highly achievable, very satisfactory and extremely relevant to the objectives (4 to 5)</td>
<td></td>
</tr>
<tr>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project timeline (Gantt-Chart)</td>
<td>Unclear, unfeasible and unstructured study plans (&lt; 2)</td>
<td>Sufficiently clear, feasible and adequately structured study plans (2 to &lt; 3.3)</td>
<td>Substantially clear, feasible and well-structured study plans (3.3 to &lt; 4)</td>
<td>Exceptionally clear, very feasible and extremely structured study plans (4 to 5)</td>
<td></td>
</tr>
<tr>
<td>(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

______________________________________________________________________________________

______________________________________________________________________________________

...............................  Name:______________________________________ Date: ____________

Supervisor signature
## FYP I – PROPOSAL DEFENCE SCORE SHEET

*(To be completed by Supervisor/Examiner)*

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background of Study, Objective Scope of Study (10)</td>
<td>Irrelevant project with unclear and brief background of study. Research objectives that are insufficient, immeasurable, irrelevant and unachievable within the time frame (&lt;4)</td>
<td>A sufficiently relevant project with sufficiently clear and concise background of study. Research objectives are sufficient, measurable, relevant and achievable within the time frame (4 to 6.5)</td>
<td>Substantially relevant project with substantially clear and concise background of study. Research objectives are substantial, measurable, relevant and achievable within the time frame (6.5 to 8)</td>
<td>Extremely relevant project with extremely clear and concise background of study. Research objectives are significant, measurable, relevant and achievable within the time frame (8 to 10)</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>Problem Statement (10)</td>
<td>Irrelevant problem statement, irrational and has insufficient impact on society (&lt;4)</td>
<td>Sufficiently relevant problem statement, rational and has sufficient impact on society (4 to 6.5)</td>
<td>Substantially relevant problem statement, rational and has substantial impact on society (6.5 to 8)</td>
<td>Extremely relevant problem statement, rational and has high impact on society (8 to 10)</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>Critical analysis, relevancy &amp; recentness of the literature (10)</td>
<td>Carried out insufficient literature review and inadequate analysis (&lt;4)</td>
<td>Carried out sufficient literature review and adequate analysis (4 to 6.5)</td>
<td>Carried out an in-depth and up-to-date literature review and has done substantial analysis (6.5 to 8)</td>
<td>Carried out a comprehensive and up-to-date literature review and has done critical analysis (8 to 10)</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>Research Methodology (5)</td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods (&lt;2)</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods (2 to 3.3)</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods (3.3 to 4)</td>
<td>Research method and project activities are comprehensive, highly achievable with extremely appropriate methods (4 to 5)</td>
<td>(4 to 5)</td>
</tr>
<tr>
<td>Project Activities &amp; Key Project Milestones (10)</td>
<td>Identified milestones are unachievable and irrelevant to the objectives (&lt;4)</td>
<td>Identified milestones are sufficiently achievable and adequately relevant to the objectives (4 to 6.5)</td>
<td>Identified milestones are mostly achievable and relevant to the objectives (6.5 to 8)</td>
<td>Identified milestones are highly achievable, very satisfactory and extremely relevant to the objectives (8 to 10)</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>Project timeline Study Plan (Gantt-Chart) (5)</td>
<td>Unclear, unfeasible and unstructured study plans (&lt;2)</td>
<td>Sufficiently clear, feasible and adequately structured study plans (2 to 3.3)</td>
<td>Substantially clear, feasible and well-structured study plans (3.3 to 4)</td>
<td>Exceptionally clear, very feasible and extremely structured study plans (4 to 5)</td>
<td>(4 to 5)</td>
</tr>
<tr>
<td>Criteria for Judging Quality</td>
<td>Unsat satisfactory</td>
<td>Satisfactory</td>
<td>Good</td>
<td>Excellent</td>
<td>Marks</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------</td>
<td>--------------</td>
<td>------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Fluency &amp; choice of words</td>
<td>Unable to communi-</td>
<td>Sufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engage audience, confidence and presentable.</td>
<td>Substantial ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engage audience, confidence and presentable</td>
<td>Outstanding ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engage audience, confidence and presentable</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>&lt; 4</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Use of aids (graphs, diagrams)</td>
<td>&lt; 4</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Gesture</td>
<td>&lt; 2</td>
<td>(2 to &lt; 3.3)</td>
<td>(3.3 to &lt; 4)</td>
<td>(4 to 5)</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>&lt; 2</td>
<td>(2 to &lt; 3.3)</td>
<td>(3.3 to &lt; 4)</td>
<td>(4 to 5)</td>
<td></td>
</tr>
<tr>
<td>Questions &amp; Answers (20)</td>
<td>Unable to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples.</td>
<td>Sufficient ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples.</td>
<td>Substantial ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples.</td>
<td>Outstanding ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>(16 to &lt; 20)</td>
</tr>
<tr>
<td></td>
<td>&lt; 8</td>
<td>(8 to &lt; 13)</td>
<td>(13 to &lt; 16)</td>
<td>(16 to &lt; 20)</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

__________________________________________________________________________________________________________________________________________

Supervisor/ Examiner signature

Name: ___________________________ Date: __________
# FYP I – INTERIM REPORT SCORE SHEET

*(To be completed by Supervisor/ Examiner)*

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Abstract</strong> (5)</td>
<td>Poor abstract (Insufficient objective, problem statement, scope of study and/or methodology) (&lt; 2)</td>
<td>Sufficient abstract (Sufficient objective, problem statement, scope of study and/or methodology) (2 to &lt; 3.3)</td>
<td>Substantial abstract (Substantial objective, problem statement, scope of study and/or methodology) (3.3 to &lt; 4)</td>
<td>Comprehensive abstract (Comprehensive objective, problem statement, scope of study and/or methodology) (4 to 5)</td>
<td><strong>Marks</strong></td>
</tr>
<tr>
<td><strong>Background of study, problem statement, objective, scope of study, relevancy and feasibility</strong> (10)</td>
<td>Insufficient background of study, objectives, problem statement, scope of study, relevancy and feasibility (&lt; 4)</td>
<td>Sufficient background of study, objectives, problem statement, scope of study, relevancy and feasibility (4 to &lt; 6.5)</td>
<td>Substantial background of study, objectives, problem statement, scope of study, relevancy and feasibility (6.5 to &lt; 8)</td>
<td>Comprehensive background of study, objectives, problem statement, scope of study, relevancy and feasibility (8 to 10)</td>
<td><strong>Marks</strong></td>
</tr>
<tr>
<td><strong>Critical analysis, relevancy, recentness of the literature</strong> (20)</td>
<td>Insufficient literature review and inadequate analysis (&lt; 8)</td>
<td>Sufficient literature review and adequate analysis (8 to &lt; 13)</td>
<td>In-depth and up-to-date literature review and substantial analysis (13 to &lt; 16)</td>
<td>Comprehensive and up-to-date literature review and critical analysis (16 to 20)</td>
<td><strong>Marks</strong></td>
</tr>
<tr>
<td><strong>Quality of references, citation, cross referencing</strong> (10)</td>
<td>Inadequate quality of references with inadequate citation and cross referencing (&lt; 4)</td>
<td>Adequate quality of references with adequate citation and cross referencing (4 to &lt; 6.5)</td>
<td>Good quality references with substantial citation and cross referencing (6.5 to &lt; 8)</td>
<td>Excellent quality of recent references with comprehensive citation and cross referencing (8 to 10)</td>
<td><strong>Marks</strong></td>
</tr>
<tr>
<td><strong>Research Methodology</strong> (10)</td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods (&lt; 4)</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods (4 to &lt; 6.5)</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods (6.5 to &lt; 8)</td>
<td>Research method and project activities are comprehensive, highly achievable with extremely appropriate methods (8 to 10)</td>
<td><strong>Marks</strong></td>
</tr>
<tr>
<td><strong>Project Activities</strong> (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Marks</strong></td>
</tr>
<tr>
<td>Criteria for Judging Quality</td>
<td>Unsatisfactory</td>
<td>Satisfactory</td>
<td>Good</td>
<td>Excellent</td>
<td>Marks</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>-------------</td>
<td>------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Key Project Milestones</td>
<td>Identified key project milestones are unachievable and irrelevant to the objectives (≤ 2)</td>
<td>Identified key project milestones are sufficiently achievable and adequately relevant to the objectives (2 &lt; 3.3)</td>
<td>Identified key project milestones are mostly achievable and relevant to the objectives (3.3 &lt; 4)</td>
<td>Identified key project milestones are highly achievable, very satisfactory and extremely relevant to the objectives exceptionally clear (≥ 4)</td>
<td></td>
</tr>
<tr>
<td>Project timeline (Gantt-Chart)</td>
<td>Unclear, unfeasible and unstructured project timeline (≤ 2)</td>
<td>Sufficiently clear, feasible and adequately structured project timeline (2 &lt; 3.3)</td>
<td>Substantially clear, feasible and well-structured project timeline (3.3 &lt; 4)</td>
<td>Very feasible and extremely structured project timeline (≥ 4)</td>
<td></td>
</tr>
<tr>
<td>Summary of project progress &amp; future work</td>
<td>Insufficient conclusion and irrelevant with objective. Insufficient future work recommended (≤ 4)</td>
<td>Sufficient conclusion and sufficiently relevant with objective. Sufficient future work recommended (4 &lt; 6.5)</td>
<td>Substantial conclusion and substantially relevant with objective. Substantial future work recommended (6.5 &lt; 8)</td>
<td>Comprehensive conclusion and extremely relevant with objective. Significant future work recommended (≥ 8)</td>
<td></td>
</tr>
<tr>
<td>Standard guidelines and format</td>
<td>Report that has frequent major mistakes with the standard guidelines and format (≤ 4)</td>
<td>Report that has frequent minor mistakes with the standard guidelines and format (4 &lt; 6.5)</td>
<td>Report that has some mistakes with the standard guidelines and format (6.5 &lt; 8)</td>
<td>Report that complies with the standard guidelines and format (≥ 8)</td>
<td></td>
</tr>
<tr>
<td>English usage and writing skill</td>
<td>Poor English and writing skills (≤ 2)</td>
<td>Average English and writing skills (2 &lt; 3.3)</td>
<td>Good English and writing skills (3.3 &lt; 4)</td>
<td>Excellent English and writing skills (≥ 4)</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

______________________________________________________________

__________________________________________________________________________________________

..............................................

Supervisor/ Examiner signature

Name: ________________________________

Date: _______________
# FYP II – PROGRESS REPORT SCORE SHEET

*(To be completed by Supervisor/Examiner)*

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Abstract</strong></td>
<td>Poor abstract (Insufficient objective, problem statement, scope of study and/or methodology)</td>
<td>Sufficient abstract (Sufficient objective, problem statement, scope of study and/or methodology)</td>
<td>Substantial abstract (Substantial objective, problem statement, scope of study and/or methodology)</td>
<td>Comprehensive abstract (Comprehensive objective, problem statement, scope of study and/or methodology)</td>
<td><strong>(5)</strong></td>
</tr>
<tr>
<td><strong>Background of study, problem statement, objective, scope of study, relevancy and feasibility</strong></td>
<td>Insufficient background of study, objectives, problem statement, scope of study, relevancy and feasibility</td>
<td>Sufficient background of study, objectives, problem statement, scope of study, relevancy and feasibility</td>
<td>Substantial background of study, objectives, problem statement, scope of study, relevancy and feasibility</td>
<td>Comprehensive background of study, objectives, problem statement, scope of study, relevancy and feasibility</td>
<td><strong>(10)</strong></td>
</tr>
<tr>
<td><strong>Critical analysis, relevancy &amp; recentness of the literature and quality references</strong></td>
<td>Carried out insufficient literature review, inadequate analysis and insufficient references with inadequate citation and cross referencing</td>
<td>Carried out sufficient literature review, adequate analysis and sufficient references with adequate citation and cross referencing</td>
<td>Carried out an in-depth and up-to-date literature review and has done substantial analysis and references with substantial citation and cross referencing</td>
<td>Carried out a comprehensive and up-to-date literature review and has done critical analysis from comprehensive references with comprehensive citation and cross referencing</td>
<td><strong>(15)</strong></td>
</tr>
<tr>
<td><strong>Research Methodology</strong></td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods</td>
<td>Research method and project activities are comprehensive, highly achievable with extremely appropriate methods</td>
<td><strong>(5)</strong></td>
</tr>
<tr>
<td><strong>Project Activities</strong></td>
<td><strong>(&lt; 2)</strong></td>
<td><strong>(2 to &lt; 3.3)</strong></td>
<td><strong>(3.3 to &lt; 4)</strong></td>
<td><strong>(4 to 5)</strong></td>
<td><strong>(5)</strong></td>
</tr>
<tr>
<td>Criteria for Judging Quality</td>
<td>Unsatisfactory</td>
<td>Satisfactory</td>
<td>Good</td>
<td>Excellent</td>
<td>Marks</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Key Project Milestones</td>
<td>Identified milestones are unachievable and inadequately relevant to the objectives (&lt; 2)</td>
<td>Identified milestones are sufficiently achievable and adequately relevant to the objectives (2 to &lt; 3.3)</td>
<td>Identified milestones are mostly achievable and relevant to the objectives (3.3 to &lt; 4)</td>
<td>Identified milestones are highly achievable, very satisfactory and extremely relevant to the objectives (4 to 5)</td>
<td></td>
</tr>
<tr>
<td>Project timeline (Gantt-Chart) (10)</td>
<td>Unclear, unfeasible and unstructured study plan (&lt; 4)</td>
<td>Sufficiently clear, feasible and adequately structured study plan (4 to &lt; 6.5)</td>
<td>Substantially clear, feasible and well-structured study plan (6.5 to &lt; 8)</td>
<td>Very feasible and extremely structured study plan (8 to 10 )</td>
<td></td>
</tr>
<tr>
<td>Result and Discussion (35)</td>
<td>Major problems with presentation of results, data are poorly organized, limited discussion of theory or relevance of result (&lt; 14)</td>
<td>Result presented is not sufficient to meet objectives, lack professional presentation; result is not critically analyzed with respect to the theory (14 to &lt; 22.8)</td>
<td>Result presented is sufficient to meet objectives but problems with presentation; result is analyzed but does not link to the theory (22.8 to &lt; 28)</td>
<td>Result presented is sufficient to meet objectives, presented professionally, presentation is thorough and complete with important result presented in the text, result is critically analyzed with respect to the theory (28 to 35)</td>
<td></td>
</tr>
<tr>
<td>Conclusions and Recommendations (10)</td>
<td>Conclusions are not logical or are completely unrelated to the objectives, limited evaluation of significance and quality of results, recommendations are missing or irrelevant (&lt; 4)</td>
<td>Some of the conclusions are logical but are not necessarily related to the originally stated objectives, limited evaluation of significance and quality of results, recommendations are attempted but not justified or do not go beyond changing equipment (4 to &lt; 6.5)</td>
<td>Conclusions are logical, attempt to relate them to objectives, attempt to evaluate significance and quality of results, recommendations are clearly stated and justified, going beyond recommendations for equipment modifications (6.5 to &lt; 8)</td>
<td>Conclusions are logical and related to the objectives, clearly evaluate significance and quality of results, recommendations for future work are clearly stated and justified, going beyond recommendations for equipment modifications (8 to 10 )</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

_____________________________________________________________________________________________________________________________

_____________________________________________________________________________________________________________________________

Supervisor signature

Name: ___________________________________________ Date: ____________
## FYP II – Pre-SEDEX SCORE SHEET

*(To be completed by Supervisor/Examiner)*

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Poster : Expected Components</strong></td>
<td>Some of the expected components are present, but layout is untidy and confusing to follow in the absence of the presenter</td>
<td>Most expected components are present, but layout is confusing to follow in the absence of the presenter</td>
<td>All components are present, but layout is crowded or confusing to follow in the absence of presenter</td>
<td>All components are present, clearly laid out, and easy to follow in the absence of presenter</td>
<td><strong>(20)</strong></td>
</tr>
<tr>
<td><strong>Poster : Text</strong></td>
<td>Text is hard to read due to font size or colour, some spelling and typographical errors; background may be distracting</td>
<td>Text is relatively clear, but some spelling and typographical errors; background may be distracting</td>
<td>Text is relatively clear, mostly free of spelling and typographical errors; background is unobtrusive</td>
<td>Text is concise, free of spelling and typographical errors; background is unobtrusive</td>
<td><strong>(10)</strong></td>
</tr>
<tr>
<td><strong>Poster : Figures &amp; Tables</strong></td>
<td>Figures and tables not related to text, or are not appropriate, or poorly labelled</td>
<td>Figures and tables not always related to text, or are not appropriate, or poorly labelled</td>
<td>Most figures and tables are appropriate and labelled correctly</td>
<td>All figures and tables are appropriate and labelled correctly</td>
<td><strong>(10)</strong></td>
</tr>
<tr>
<td><strong>Poster : Visual Aids</strong></td>
<td>Photograph/table/graph limited and do not improve understanding</td>
<td>Photograph/table/graph sufficient and somehow improve understanding</td>
<td>Photograph/table/graph sufficient and able to improve understanding</td>
<td>Photograph/table/graph sufficient and improve understanding and enhance visual appeal</td>
<td><strong>(10)</strong></td>
</tr>
<tr>
<td><strong>Delivery : Introduction</strong></td>
<td>A questionable hypothesis was presented and was not well supported or the goal of the project was not clear</td>
<td>A questionable hypothesis or project goal was presented. Background information was relevant, but connections were not made</td>
<td>A logical hypothesis or goal was presented. Background information was relevant, but connections were not clear</td>
<td>Project had a goal or a logical hypothesis that was stated clearly and concisely, showed clear relevance.</td>
<td><strong>(10)</strong></td>
</tr>
<tr>
<td><strong>Delivery : Conclusion</strong></td>
<td>Conclusions were given. Little connection to hypothesis or goal was apparent</td>
<td>Reasonable conclusions were given. Conclusions were not compared to the hypothesis or project goal and their relevance was not discussed</td>
<td>Reasonable conclusions were given and supported with evidence. Conclusions were connected to hypothesis or project goals but their relevance was not discussed</td>
<td>Reasonable conclusions were given and strongly supported with evidence. Conclusions were connected to project goals or hypothesis and their relevance in a wider context was discussed</td>
<td><strong>(10)</strong></td>
</tr>
<tr>
<td>Criteria for Judging Quality</td>
<td>Unsatisfactory</td>
<td>Satisfactory</td>
<td>Good</td>
<td>Excellent</td>
<td>Marks</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>--------------</td>
<td>------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Delivery: Questions and Answers (10)</td>
<td>Has difficulty answering challenging questions (&lt; 4)</td>
<td>Has some difficulty answering challenging questions (4 to &lt; 6.5)</td>
<td>Answers most questions (6.5 to &lt; 8)</td>
<td>Answers complex questions clearly and sufficiently (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Delivery: Fluency, Choice of words (20)</td>
<td>Presentation unclear and illogical. Does not use the visual aid (poster) to enhance presentation effectively. Reads from poster or script most of the time. (&lt; 8)</td>
<td>Presentation is generally unclear and inconsistent. Uses some visual aid (poster) to enhance presentation. Reads from poster or script some of the time. (8 to &lt; 13)</td>
<td>Presentation is clear for the most part, but not consistently. Comfortably uses some visual aid (poster) to enhance presentation. Speaks clearly, naturally, makes eye contact. (13 to &lt; 16)</td>
<td>Presentation is consistently clear. Comfortably uses visual aid (poster) to enhance presentation. Speaks clearly, naturally and with enthusiasm, makes eye contact. (16 to 20)</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

----------------------------------------------------------------------------------------

----------------------------------------------------------------------------------------

Examiner signature

Name: ________________________________ Date: ____________
(To be completed by Supervisor/Examiner)

Student’s Name: __________________________________________  Student’s ID: ____________  Programme: __________________________________

Project Title: ___________________________________________________________________________________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>Poor abstract (Insufficient objective, problem statement, scope of study and/or methodology) (&lt; 4)</td>
<td>Sufficient abstract (Sufficient objective, problem statement, scope of study and/or methodology) (4 to &lt; 6.5)</td>
<td>Substantial abstract (Substantial objective, problem statement, scope of study and/or methodology) (6.5 to &lt; 8)</td>
<td>Comprehensive abstract (Comprehensive objective, problem statement, scope of study and/or methodology) (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Background of study, problem statement and objective</td>
<td>Insufficient background of study, objectives and problem statement (&lt; 4)</td>
<td>Sufficient background of study, objectives and problem statement (4 to &lt; 6.5)</td>
<td>Substantial background of study, objectives and problem statement (6.5 to &lt; 8)</td>
<td>Comprehensive background of study, objectives and problem statement (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Critical analysis, relevancy, recentness of the literature</td>
<td>Insufficient literature review and inadequate analysis (&lt; 4)</td>
<td>Sufficient literature review and adequate analysis (4 to &lt; 6.5)</td>
<td>In-depth and up-to-date literature review and substantial analysis (6.5 to &lt; 8)</td>
<td>Comprehensive and up-to-date literature review and critical analysis (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Research Methodology</td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods (&lt; 8)</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods (8 to &lt; 13)</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods (13 to &lt; 16)</td>
<td>Research method and project activities are comprehensive, highly achievable with extremely appropriate methods (16 to 20)</td>
<td></td>
</tr>
<tr>
<td>Result and Discussion</td>
<td>Major problems with presentation of results; data is poorly organized, limited discussion of theory or relevance of results (&lt; 12)</td>
<td>Result presented is not sufficient to meet objectives, lack professional presentation; result is not critically analyzed with respect to the theory (12 to &lt; 19.5)</td>
<td>Result presented is sufficient to meet objectives but problems with presentation; result is analyzed but does not link to the theory (19.5 to &lt; 24)</td>
<td>Result presented is sufficient to meet objectives, presented professionally; presentation is thorough and complete with important result presented in the text, result is critically analyzed with respect to the theory (24 to 30)</td>
<td></td>
</tr>
<tr>
<td>Criteria for Judging Quality</td>
<td>Unsatisfactory</td>
<td>Satisfactory</td>
<td>Good</td>
<td>Excellent</td>
<td>Marks</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>-------------</td>
<td>------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Conclusions</td>
<td>Conclusions are not logical or are completely unrelated to the objectives, limited evaluation of significance and quality of results</td>
<td>Some of the conclusions are logical but are not necessarily related to the originally stated objectives, limited evaluation of significance and quality of results</td>
<td>Conclusions are logical, attempt to relate them to objectives, attempt to evaluate significance and quality of results</td>
<td>Conclusions are logical and related to the objectives, clearly evaluate significance and quality of results</td>
<td>(10)</td>
</tr>
<tr>
<td>Standard guidelines and format</td>
<td>Report that has frequent major mistakes with the standard guidelines and format</td>
<td>Report that has frequent minor mistakes with the standard guidelines and format</td>
<td>Report that has some mistakes with the standard guidelines and format</td>
<td>Report that complies with the standard guidelines and format</td>
<td>(5)</td>
</tr>
<tr>
<td>English usage and writing skills</td>
<td>Poor English and writing skills</td>
<td>Average English and writing skills</td>
<td>Good English and writing skills</td>
<td>Excellent English and writing skills</td>
<td>(5)</td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

_____________________________________________________________________________________________________________________________

Supervisor signature

Name:______________________________

Date: ____________
# FYP II – DISSERTATION SCORE SHEET

(To be completed by Supervisor/Examiner)

Student’s Name: ______________________  Student’s ID: ____________  Programme: ______________

Project Title: _____________________________________________________________________________________

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>Poor abstract (Insufficient objective, problem statement, scope of study and/or methodology) (&lt; 4)</td>
<td>Sufficient abstract (Sufficient objective, problem statement, scope of study and/or methodology) (4 to &lt; 6.5)</td>
<td>Substantial abstract (Substantial objective, problem statement, scope of study and/or methodology) (6.5 to &lt; 8)</td>
<td>Comprehensive abstract (Comprehensive objective, problem statement, scope of study and/or methodology) (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>(10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background of study, problem statement, objectives, problem statement, scope of study, relevancy and feasibility</td>
<td>Insufficient background of study, objectives, problem statement, scope of study, relevancy and feasibility (&lt; 4)</td>
<td>Sufficient background of study, objectives, problem statement, scope of study, relevancy and feasibility (4 to &lt; 6.5)</td>
<td>Substantial background of study, objectives, problem statement, scope of study, relevancy and feasibility (6.5 to &lt; 8)</td>
<td>Comprehensive background of study, objectives, problem statement, scope of study, relevancy and feasibility (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>(10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical analysis, relevancy &amp; recentness of the literature and quality of references</td>
<td>Carried out insufficient literature review, inadequate analysis and insufficient references with inadequate citation and cross referencing (&lt; 4)</td>
<td>Carried out sufficient literature review, adequate analysis and sufficient references with adequate citation and cross referencing (4 to &lt; 6.5)</td>
<td>Carried out an in-depth and up-to-date literature review and has done substantial analysis and references with substantial citation and cross referencing (6.5 to &lt; 8)</td>
<td>Carried out a comprehensive and up-to-date literature review and has done critical analysis from comprehensive references with comprehensive citation and cross referencing (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>(10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Methodology</td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods (&lt; 8)</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods (8 to &lt; 13)</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods (13 to &lt; 16)</td>
<td>Research method and project activities are comprehensive, highly achievable with extremely appropriate methods (16 to 20)</td>
<td></td>
</tr>
<tr>
<td>(20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result and Discussion</td>
<td>Major problems with presentation of results; data is poorly organized, limited discussion of theory or relevance of results. (&lt; 12)</td>
<td>Result presented is not sufficient to meet objectives, lack professional presentation; result is not critically analyzed with respect to the theory. (12 to &lt; 19.5)</td>
<td>Result presented is sufficient to meet objectives but problems with presentation; result is analyzed but does not link to the theory. (19.5 to &lt; 24)</td>
<td>Result presented is sufficient to meet objectives, presentation is thorough and complete with important result presented in the text, result is critically analyzed with respect to the theory. (24 to 30)</td>
<td></td>
</tr>
<tr>
<td>(30)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criteria for Judging Quality</td>
<td>Unsatisfactory</td>
<td>Satisfactory</td>
<td>Good</td>
<td>Excellent</td>
<td>Marks</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------</td>
<td>-------------</td>
<td>------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Conclusions and Recommendations</td>
<td>Conclusions are not logical or are completely unrelated to the objectives, limited evaluation of significance and quality of results, recommendations are missing or irrelevant. (&lt; 4)</td>
<td>Some of the conclusions are logical but are not necessarily related to the originally stated objectives, limited evaluation of significance and quality of results, recommendations are attempted but not justified or do not go beyond changing equipment. (4 to &lt; 6.5)</td>
<td>Conclusions are logical, attempt to relate them to objectives, attempt to evaluate significance and quality of results, recommendations are clearly stated and justified, going beyond recommendations for equipment modifications. (6.5 to &lt; 8)</td>
<td>Conclusions are logical and related to the objectives, clearly evaluate significance and quality of results, recommendations for future work are clearly stated and justified, going beyond recommendations for equipment modifications. (8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Standard guidelines and format (5)</td>
<td>Report that has frequent major mistakes with the standard guidelines and format (&lt; 2)</td>
<td>Report that has frequent minor mistakes with the standard guidelines and format (2 to &lt; 3.3)</td>
<td>Report that has some mistakes with the standard guidelines and format (3.3 to &lt; 4)</td>
<td>Report that complies with the standard guidelines and format (4 to 5)</td>
<td></td>
</tr>
<tr>
<td>English usage and writing skill (5)</td>
<td>Poor English and writing skills (&lt; 2)</td>
<td>Average English and writing skills (2 to &lt; 3.3)</td>
<td>Good English and writing skills (3.3 to &lt; 4)</td>
<td>Excellent English and writing skills (4 to 5)</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

______________________________________________________________________________________________

______________________________________________________________________________________________

______________________________________________________________________________________________

Supervisor/ Examiner signature

Name: ____________________________

Date: ____________

50
## FYP II – VIVA SCORE SHEET

(To be completed by Supervisor/Examiner)

<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background of Study, Problem Statement, Objective &amp; Scope of Study</td>
<td>Irrelevant project with unclear problem statement and brief background of study. Research objectives that are insufficient, immeasurable, irrelevant and unachievable within the time frame</td>
<td>A sufficiently relevant project with sufficiently clear and concise background of study and problem statement. Research objectives are sufficient, measurable, relevant and achievable within the time frame</td>
<td>Substantially relevant project with substantially clear and concise background of study and problem statement. Research objectives are substantial, measurable, relevant and achievable within the time frame</td>
<td>Extremely relevant project with extremely clear and concise background of study and relevant problem statement. Research objectives are significant, measurable, relevant and achievable within the time frame</td>
<td>(5)</td>
</tr>
<tr>
<td>Critical analysis, relevancy &amp; recentness of the literature</td>
<td>Carried out insufficient literature review and inadequate analysis</td>
<td>Carried out sufficient literature review and adequate analysis</td>
<td>Carried out an in-depth and up-to-date literature review and has done substantial analysis</td>
<td>Carried out a comprehensive and up-to-date literature review and has done critical analysis</td>
<td>(2 to &lt; 3.3)</td>
</tr>
<tr>
<td>Research Methodology</td>
<td>Research method and project activities are insufficient, unachievable with inadequate methods</td>
<td>Research method and project activities are sufficient, moderately achievable with adequate methods</td>
<td>Research method and project activities are comprehensive, achievable with suitable methods</td>
<td>Research method and project activities are comprehensive, highly achievable with extremely appropriate methods</td>
<td>(2 to &lt; 3.3)</td>
</tr>
<tr>
<td>Project Activities &amp; Key Project Milestones</td>
<td>Identified milestones are unachievable and irrelevant to the objectives</td>
<td>Identified milestones are sufficiently achievable and adequately relevant to the objectives</td>
<td>Identified milestones are mostly achievable and relevant to the objectives</td>
<td>Identified milestones are highly achievable, very satisfactory and extremely relevant to the objectives</td>
<td>(2 to &lt; 3.3)</td>
</tr>
<tr>
<td>Result and Discussion</td>
<td>Major problems with presentation in content, data is poorly organized, figures and tables are included but not described in text, limited discussion of theory or relevance of results, deviations from literature not discussed</td>
<td>Data presented is not sufficient to meet objectives, lack professional presentation, significant figures are inconsistent, figure captions are not as effective in summarizing key results, material is not presented in appropriate place, data is not critically analyzed with respect to the theory, significance is not clear, deviations from literature mentioned but not analyzed thoroughly.</td>
<td>Sufficient data presented to meet objectives but problems with presentation, majority of significant figures are consistent, effective figure captions used, presentation is thorough, only important data presented, data is analyzed but does not link to the theory, significance of results mentioned but not clearly described, deviation from literature discussed but not in sufficient detail</td>
<td>Data presented is sufficient to meet objectives, presented professionally, significant figures are consistent, effective figure captions used, presentation is thorough and complete with important data presented in the text, data is critically analyzed with respect to the theory, significance of results is clear and deviations from literature are discussed in detail</td>
<td>(2 to &lt; 3.3)</td>
</tr>
</tbody>
</table>

---

51
<table>
<thead>
<tr>
<th>Criteria for Judging Quality</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusions and Recommendations</td>
<td>Conclusions are not logical or are completely unrelated to the objectives, limited evaluation of significance and quality of results, recommendations are missing or irrelevant</td>
<td>Some of the conclusions are logical but are not necessarily related to the originally stated objectives, limited evaluation of significance and quality of results, recommendations are attempted but not justified or do not go beyond changing equipment</td>
<td>Conclusions are logical, attempt to relate them to objectives, attempt to evaluate significance and quality of results, recommendations are clearly stated and justified, going beyond recommendations for equipment modifications</td>
<td>Conclusions are logical and related to the objectives, clearly evaluate significance and quality of results, recommendations for future work are clearly stated and justified, going beyond recommendations for equipment modifications</td>
<td>Marks</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Fluency, choice of words</td>
<td>Insufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Sufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Substantial ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Outstanding ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Use of aids (graphs, diagrams)</td>
<td>Insufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Sufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Substantial ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Outstanding ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Gesture</td>
<td>Insufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Sufficient ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Substantial ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>Outstanding ability to communicate clearly and fluently; present the data using appropriate graph, diagrams, table and other suitable aid; engaging audience, confidence and presentable</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Insufficient ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Sufficient ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Substantial ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Outstanding ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Technical and factual accuracy</td>
<td>Insufficient ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Sufficient ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Substantial ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Outstanding ability to defend his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
<tr>
<td>Creativity-use of example</td>
<td>Insufficient ability to define his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Sufficient ability to define his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Substantial ability to define his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>Outstanding ability to define his/her work by giving accurate factual and technical reasoning using appropriate theoretical knowledge or published examples</td>
<td>(8 to 10)</td>
</tr>
<tr>
<td>(10)</td>
<td>(&lt; 4)</td>
<td>(4 to &lt; 6.5)</td>
<td>(6.5 to &lt; 8)</td>
<td>(8 to 10)</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL SCORE /100

Comments:

.................................................................

.................................................................

Supervisor/ Examiner signature

Name: ____________________________ Date: ____________
CHAPTER 1

TITLE OF THE CHAPTER

1. MAJOR HEADING

The main objective of this programme is to prepare all students….

In order to fulfil the need of …. 

1.1 Secondary Heading

The main objective of this programme is to prepare all students….

1.1.1 Tertiary Heading

The main objective of this programme is to prepare all students….
SAMPLE OF TABLE AND FIGURE

FIGURE 1. Pre-Test Survey Result

TABLE 1. Table Type Styles

<table>
<thead>
<tr>
<th>Table Head</th>
<th>Table Column Head</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Table column subhead</td>
</tr>
<tr>
<td>text</td>
<td>text</td>
</tr>
</tbody>
</table>
SAMPLE OF DOCUMENTING SOURCES

A. The followings are the variations of APA Citations. For further reference, please refer to the internet under Documenting Sources.

1. The author’s name appears as part of the introduction to the quotation or paraphrase.

   Gilster (1993) is very definite: “Simply put, the Internet is changing so rapidly, with so many new databases, services, addresses, and projects, that it can’t be neatly encapsulated in any one set of commands or maxims” (p.2).

2. The author is not named in the introduction to the quotation or paraphrase.

   What is entirely clear is that the Internet “can’t be neatly encapsulated in any one set of commands or maxims” (Gilster, 1993, p.2).

3. The author has several works listed in the References. If they have different dates, no special treatment is necessary; if an author has two works dated the same year, differentiate them in the text and in the References with a lowercase letter after each date (1993a,1993b).

   Gilster (1993a) points out that the Internet “can’t be encapsulated in any one set of commands or maxims” (p.2).

4. Paraphrases are handled like quotations. Give the author’s last name, the date, and the appropriate page numbers.

   Gilster (1993) says that the Internet changes so fast that you must come to see your experience with it as daily learning process.
5. When citing block quotations, the period is placed before the page parentheses. Do not place quotation marks before and after a block quotation. Indent the left margin 5 spaces and double-space. Do not indent the right margin.

According to Gilster (1993)

There can be no complete printed directory of the Internet. Those who write about this globe-spanning network are destined to labor forever behind the technological wave. Simply put, the Internet is changing so rapidly, with so many new databases, services, addresses, and projects, that it can’t be neatly encapsulated in any one set of commands or maxims. The more you use the Internet, the more you will realize that each day is itself a learning process. (p. 2)

B. The followings are the variations of IEEE Citations. For further reference, please refer to the internet under Documenting Sources.

For IEEE referencing, please refer to Appendix 5-2
SAMPLE OF REFERENCE FORMATS

A. APA

The formats of references for the respective sources are as follows:

1. Journal


2. Book


3. Book in series


4. Article in book/conference proceedings


5. Thesis


6. Interview


7. Technical report

8. Website

Klein-Smith, Sarah. 6 Sept 1998 <http://members.aol.com/~sklein2/>

B. IEEE

The formats of references for the respective sources are as follows

Sample IEEE Documentation Style for References

References to sources should be numbered sequentially by order of mention in the text, with the number placed in brackets and printed on line (not as a super- or subscript) like [1]. The list of all references used in the text should appear in numerical order of mention at the end of the document. Further examples in this style can be found in the Institute of Electrical and Electronics Engineers site http://www.ieee.org/portal/site.

In-text references
Using this system, references are numbered in the order in which they are first cited in the text. If the same reference is cited later in the text, the same number is given. For example
"The theory was first put forward in 1987 [1]"
"Scholtz [2] has argued that......"
"Several recent studies [1], [3], [4], [15], [16] have suggested that..."

Preferred  Acceptable
[1], [3], [5]    [1, 3, 5]
[1-5]           [1-5]

1. Books

Elements of the citation:

Author(s) First name or initials. Surname, or name of organisation, Title of book followed by fullstop if no edition statement, or comma if there is an edition statement, ed., Edition (except the first). Place of publication City: Publisher, Year of Publication.

In addition, to the above citation details, provide page numbers if you have quoted specific facts or materials e.g. pp. 28-30.

Example:
2. Sections / chapters of books

Elements of the citation:
Author(s) First name or initials. Surname, "Title of the chapter," in *Title of the book*, ed., Edition (except the first) vol., volume if available, Ed. editor if available, Place of publication: Publisher, Year of Publication, pp. Chapter/s or First and Last pages of the article.

Example:

3. Papers from conferences

Elements of the citation:
Author(s) First name or initials. Surname, "Title of paper," in *Title of the Conference*, Editor/s firstname last name if available, Ed. Place of publication: Publisher if available, Date of publication, pp. first and last pages of the paper.

Example:

4. Journal articles

Elements of the citation:
Author(s) First name or initials. Surname, "Title of article," *Title of journal*, vol. volume, (issue number), pp. first and last pages of the article, Date of issue month if available year.

Example:

5. Theses or dissertations

The following example is taken from the IEEE Computer Society Style Guide <http://www.computer.org/author/style/index.htm>

Elements of the citation:
Author(s) First name or initials. Surname, "Title of thesis," Type of thesis PhD dissertation or doctoral dissertation or master's thesis, Department, University, Place, State, Country, Year of Publication.
Example:

6. Electronic sources (Electronic book)

Elements of the citation:

Author(s) First name or initials. Surname. (date of publication year, month day). Title. (ed. edition except the first) [Type of medium]. volume number if needed. (issue number if needed). Available: site/path/file

Example:

Note: Fictitious examples

7. Online journal article

Elements of the citation:

Author(s) First name or initials. Surname. (year, month). Title of article. Title of Journal. [Type of medium]. volume number (issue number), pp. pages. Available: site/path/file

Example:


8. Electronic conference paper

Elements of the citation:

Author(s) First name or initials. Surname. (year, month). Title. Presented at Conference title. [Type of Medium]. Available: site/path/file

Example:
9. Website

Elements of the citation:

Author. (year, month). Title. [Type of Medium]. Available: site/path/file

Example:

Reference list - sample format:

References must be listed in the order in which they were cited (numerical order) not in alphabetical order.


APPENDIX 6-1a

Project Title

by

Student name
Student ID number

Dissertation submitted in partial fulfilment of
the requirements for the
Degree of Study (Hons)
(Programme)

FYP II Semester and Year

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750 Tronoh
Perak Darul Ridzuan
Application of Collagen as a Filter Aid in Water Treatment Process

by

Ahmad Nawab Bin Ahmad Al-Bab
123456

Dissertation submitted in partial fulfilment of the requirements for the Bachelor of Engineering (Hons) (Chemical)

JANUARY 2006

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750 Tronoh
Perak Darul Ridzuan
EFFECT OF pH AND TEMPERATURE ON THE RATE OF MINERALS LEACHED FROM MINERAL STONES

INTAN BINTI A. RAHIM

CHEMICAL ENGINEERING
UNIVERSITI TEKNOLOGI PETRONAS
JANUARY 2006

*Font: 14 Times New Roman*
CERTIFICATION OF APPROVAL

Application Of Collagen As A Filter Aid In Water Treatment Process

by

Ahmad Nawab Bin Ahmad Al-Bab
123456

A project dissertation submitted to the
Chemical Engineering Programme
Universiti Teknologi PETRONAS
in partial fulfilment of the requirement for the
BACHELOR OF ENGINEERING (Hons)
(CHEMICAL)

Approved by,

(Name of Main Supervisor)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK

January 2006
This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

AHMAD NAWAB BIN AHMAD AL-BAB
The following abstract is taken from Ramos, Juan, Florentina Davalos, and Jorge Sandoval. High-brightness CMP from *Eucalyptus globulus* using a nitric acid pretreatment. TAPPI Journal 79 (12 December 1996): 169-177. Copyright TAPPI 1996.

A high-brightness, high-yield chemimechanical pulp was obtained from *Eucalyptus globulus* using low-environmental-impact chemical reagents. The pulping chemicals were nitric acid and sodium hydroxide, and bleaching chemical was hydrogen peroxide. Chips were impregnated for 24 h in nitric acid, cooked under variable conditions, washed, impregnated with soda for 24 h, cooked again, rewashed, defibrated, refined, screened, and finally bleached under variable conditions. Under the optimal pulping conditions identified in this study, pulp strength was not especially high (tensile strength 2.04 km, tear strength 3.9 mN m$^2$/g), but the ease of bleaching and final pulp brightness were impressive enough (light-scattering coefficient 49.3 m$^2$/kg, brightness 81.3% Elrepho) to warrant further research.
# TABLE OF CONTENTS

**CERTIFICATION** ................................................................. i

**ABSTRACT** ........................................................................ ii

**ACKNOWLEDGEMENT** ......................................................... iii

**CHAPTER 1: INTRODUCTION** .............................................. 1

1.1 Background of Study .................................................. 1

1.2 Problem Statement ...................................................... 2

1.3 Objectives and Scope of Study ....................................... 3

**CHAPTER 2: THEORY** ........................................................ 4

2.1 Leaching ........................................................................ 4

**CHAPTER 3: METHODOLOGY** ........................................... 5

3.1 Elements Determination ................................................. 5

3.2 Sample Preparation ...................................................... 7

3.3 Sample Testing ............................................................ 9

**CHAPTER 4: RESULTS AND DISCUSSION** ......................... 11

4.1 Data Gathering & Analysis ............................................ 11

4.2 Results and Discussion ................................................ 16

**CHAPTER 5: CONCLUSION AND RECOMMENDATION** ....... 23

5.1 Conclusion ................................................................. 23

5.2 Recommendations ..................................................... 24

**REFERENCES** ...................................................................... 25

**APPENDICES** ..................................................................... 27
LIST OF FIGURES

Figure 1.1  Rhyolite stone used for the study  3
Figure 1.2  Porphyritic-Rhyolite  5
Figure 1.3  Porphyritic texture  6
Figure 3.1  Process of leaching in the pores of stone  10
Figure 4.1  Concentration of elements extracted from the mineral stone  16
Figure 4.2  Concentration of elements against time in pH 5 solution  17
Figure 4.3  Concentration of elements against time in pH 6 solution  18
Figure 4.4  Concentration of elements against time in pH 8 solution  18
Figure 4.5  Concentration of elements against time in 30 °C solution  19
Figure 4.6  Concentration of elements against time in 35 °C solution  21
Figure 4.7  Concentration of elements against time in 40 °C solution  22

LIST OF TABLES

Table 1.1  Essential mineral elements for human consumption  2
Table 2.1  Recommended intake of elements by US RDA  4
Table 3.1  Range of standard solutions use for AAS testing  7
Table 4.1  Conditions for optimum amount of elements leached from the stone  8
Table 4.2  Concentration of elements adsorbed by the glass container  9
Table 4.3  Concentration of elements in the container after 4 hours  12
Table 4.4  Impurities in different materials  14
SAMPLE OF TECHNICAL PAPER

Paper Title (use style: paper title)
Subtitle as needed (paper subtitle)

Authors Name/s per 1st Affiliation (Author)
line 1 (of Affiliation): dept. name of organization
line 2: name of organization, acronyms acceptable
line 3: City, Country
line 4: e-mail address if desired

Authors Name/s per 2nd Affiliation (Author)
line 1 (of Affiliation): dept. name of organization
line 2: name of organization, acronyms acceptable
line 3: City, Country
line 4: e-mail address if desired

Abstract—This electronic document is a “live” template. The various components of your paper [title, text, heads, etc.] are already defined on the style sheet, as illustrated by the portions given in this document. (Abstract)

Keywords-component; formatting; style; styling; insert (key words)

I. INTRODUCTION (HEADING 1)

This template, modified in MS Word 2003 and saved as “Word 97-2003 & 6.0/95 – RTF” for the PC, provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

II. EASE OF USE

A. Selecting a Template (Heading 2)

First, confirm that you have the correct template for your paper size. This template has been tailored for output on the A4 paper size. If you are using US letter-sized paper, please close this file and download the file for “MSW_USltr_format”.

B. Maintaining the Integrity of the Specifications

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin in this template measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

III. PREPARE YOUR PAPER BEFORE STYLING

Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you.

Finally, complete content and organizational editing before formatting. Please take note of the following items when proofreading spelling and grammar:

A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

B. Units

- Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
C. Equations

The equations are an exception to the prescribed specifications of this template. You will need to determine whether or not your equation should be typed using either the Times New Roman or the Symbol font (please no other font). To create multileveled equations, it may be necessary to treat the equation as a graphic and insert it into the text after your paper is styled.

Number equations consecutively. Equation numbers, with in parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in

\[ \alpha + \beta = \gamma. \] (1)

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is . . .”

D. Some Common Mistakes

- The word “data” is plural, not singular.
- The subscript for the permeability of vacuum \( \mu_0 \), and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
- In American English, commas, semi-/colons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
- A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
- Do not use the word “essentially” to mean “approximately” or “effectively”.
- In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
- Do not confuse “imply” and “infer”.
- The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the “et” in the Latin abbreviation “et al.”.
- The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.
- Do not mix complete spellings and abbreviations of units: “Wb/m\(^2\)”, not “webers/m\(^2\)”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.
- Use a zero before decimal points: “0.25”, not “.25”.
- Use “cm\(^3\)”, not “cc”.

An excellent style manual for science writers is [7].

IV. USING THE TEMPLATE

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper; use the scroll down window on the left of the MS Word Formatting toolbar.

A. Authors and Affiliations

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization). This template was designed for two affiliations.

1) For author/s of only one affiliation (Heading 3): To change the default, adjust the template as follows.
   a) Selection (Heading 4): Highlight all author and affiliation lines.
   b) Change number of columns: Select the Columns icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.
   c) Deletion: Delete the author and affiliation lines for the second affiliation.
   d) For author/s of more than two affiliations: To change the default, adjust the template as follows.
   e) Selection: Highlight all author and affiliation lines.
f) Change number of columns: Select the “Columns” icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.

g) Highlight author and affiliation lines of affiliation 1 and copy this selection.

h) Formatting: Insert one hard return immediately after the last character of the last affiliation line. Then paste down the copy of affiliation 1. Repeat as necessary for each additional affiliation.

i) Reassign number of columns: Place your cursor to the right of the last character of the last affiliation line of an even numbered affiliation (e.g., if there are five affiliations, place your cursor at end of fourth affiliation). Drag the cursor up to highlight all of the above author and affiliation lines. Go to Column icon and select “2 Columns”. If you have an odd number of affiliations, the final affiliation will be centered on the page; all previous will be in two columns.

B. Identify the Headings

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads. Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table head” for your table title. Run-in heads, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level head (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheads should be introduced. Styles named “Heading 1”, “Heading 2”, “Heading 3”, and “Heading 4” are prescribed.

C. Figures and Tables

1) Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

We suggest that you use a text box to insert a graphic (which is ideally a 300 dpi TIFF or EPS file, with all fonts embedded) because, in an MSW document, this method is somewhat more stable than directly inserting a picture.

To have non-visible rules on your frame, use the MSWord “Format” pull-down menu, select Text Box > Colors and Lines to choose No Fill and No Line.

Figure 1. Example of a figure caption. (figure caption)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

ACKNOWLEDGMENT (HEADING 5)
The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression, “One of us (R. B. G.) thanks . . .”. Instead, try “R. B. G. thanks”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

REFERENCES
The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] was the first . . .”

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors' names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [4]. Papers that have been accepted for publication should be cited as “in press” [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].


TABLE I. TABLE TYPE STYLES

<table>
<thead>
<tr>
<th>Table Head</th>
<th>Table Column Head</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Table column subhead</td>
</tr>
<tr>
<td>copy</td>
<td>More table copy</td>
</tr>
</tbody>
</table>

a. Sample of a Table footnote. (Table footnote)


