BEM webinar SERIES

ENGINEERING THE FUTURE

TOPIC:

INTRODUCTION OF THE NEW OUTCOME-BASED PAE: ROUTE TO PROFESSIONAL ENGINEER

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BEM Working Group on Professional Assessment Examination

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Venue : Zoom

Outline of Presentation

- Introduction
- Differences between current PAE & outcome-based PAE
- Competence areas and elements
- Revised interview process

INTRODUCTION

International Benchmarking

PAE underwent a review in line with the **global move** in the international engineering community towards an **outcome-based competence assessment** for international recognition and cross-border mobility.

With this assessment method, the **Outcome-based PAE** would be **on par with international best practices**.

Legal Implication:

Under the *2015 Amendments to the Registration of Engineers Act* -

there was a need to harmonise with Revised Role of the PE:

BEM now Registers 5 Categories of Registered Persons : *(new in red)*

"Two-tier registration" system

1. Accredited Checker
2. **Professional Engineer with Practising Certificate**
3. **Professional Engineer**
4. Graduate Engineer
5. Engineering Technologist
6. Inspector of Works

REASONS FOR INTRODUCTION OF THE PEPC

- The big majority of engineers, including Professional Engineers, are not Consultants – they are employed in Contracting, Maintenance, Factories, Government, Academia, Sales, etc.
- Only a small fraction wish to be a 'Submitting Person' in engineering consultancy, i.e. a PEPC. He/she is legally being responsible for the plans and documents submitted to authorities.
- The activities of PEPC acting as 'Submitting Person' has a direct and critical impact on public safety and interest. They would need to be examined on their competency.
- Hence the PEPC category has to sit for a PCE – Professional Competency Examination – to secure the submitting license called a Practicing Certificate.

PE & PEPC : “Two-tier registration” system

- Previously (prior to 2015 Amendments), a PE is entitled to submit plans & documents
  - The PAE was designed for this role.
    - hence the assessment criteria for PAE needs to change to allow for this change in role.
- A PE who is not intending to be ‘submitting person’ need not become a PEPC.
- Hence to be a PE, he just needs to pass the PAE; only the PEPC needs to sit for the Professional Competency Exam.
  - but the PE can still retain their professional status and the title of “Ir.” .

IN THE CONTEXT OF THE NEW "2-TIER" LANDSCAPE, THERE IS DIFFERENCE IN FOCUS BETWEEN ASSESSMENTS FOR P.E. & P.E.P.C.

PE : THE PROFESSIONAL ASSESSMENT EXAMINATION (PAE) in a nutshell:

"…tests a candidate on what he "knows" from his area of training & experience, and NOT from areas he did not go through."

PEPC: THE PROFESSIONAL COMPETENCY EXAMINATION (PCE) in a nutshell…

"…tests a candidate on what he ought to know".

OUTCOME-BASED PAE IN LINE WITH PROVISIONS OF THE ACT & REGULATIONS

OUTCOME-BASED PAE IN LINE WITH EXISTING PROVISIONS OF THE ACT & REGULATIONS

Components of the PAE (REGULATION 38)	OUTCOME-BASED PAE
(a) a professional interview conducted by not less than two examiners appointed by the Board;	YES
(b) a written paper on any relevant subject related to the practical experience which he has obtained;	YES (b) Candidate to prepare and submit a written paper in the form of a *competency report* narrating his practical experience demonstrating *competence categories A, B, C & D*. *(The PAE measures the outcome of practical training and development for independent practice. This paper is used as evidence for assessment of competencies attained.)*

OUTCOME-BASED PAE IN LINE WITH EXISTING PROVISIONS OF THE ACT & REGULATIONS

Components of the PAE (REGULATION 38)	OUTCOME-BASED PAE
(c) a written paper on his understanding of the Code of Professional Conduct; and	YES (c) A sit-in written examination detailing the candidate's understanding of the Code of Professional Conduct and professionalism in line with competence category E.
(d) any other examination, written or otherwise, to be determined by the Board.	**YES** **(d) A sit-in written examination on candidate's technical competency, for "border-line cases where he is unable to justify his competence satisfactorily during the presentation and interview. This shall be decided by the examiners for "border-line" cases at the end of the interview.**

DIFFERENCES BETWEEN OLD PAE AND OUTCOME-BASED PAE

Why the word

“OUTCOME”?

-BASED PAE

Focus is on

“outcome” in the form of competencies

attained by candidate

DIFFERENCES BETWEEN Old AND OUTCOME-BASED PAE

Old PAE	Outcome-Based PAE
Out-of-date in that it was developed many decades back mainly from the perspective of consulting engineers.	Bench-marked to current international best practices for professional engineering assessment.
Practicing engineers not in the consulting line find it difficult to meet the requirements for (Design) and (Site) experiences.	Opens up to all engineering professions with the comprehensive definition of “practical application of engineering” beyond traditional design.
Emphasises lengths of time.	Emphasises competence covering five (5) Competence Areas A, B, C, D, E – i.e. it is competence-based.

DIFFERENCES BETWEEN OLD AND OUTCOME-BASED PAE	
Old PAE	**Outcome-Based PAE**
Does not prescribe the need for evidence on competence; hence the necessity and difficulty for Examiners to search through the application form and reports to get or guess needed but hidden information.	Asks the applicants to provide self testimony of competence to be used as a basis for assessment. It is evidence-based, where the evidence is in the form of narratives of the work experiences which demonstrate attainment of competence.
Requires the Examiners to judge subjectively by questioning whether the working experience is satisfactory based on whatever information that could be elicited from the application form and reports – it is more subjective.	Has assessment rubrics and threshold statement guides to help Examiners to match the evidence provided by Applicants to the most appropriate competence level – it is more objective.

Old PAE requires one of 4 different types of Technical Report

1) Design of an engineering work
   – calculations & drawings.
2) A project report:
   Feasibility study report, system design report, or comprehensive report of a major engineering project.
3) A technical report for an engineering plant/system/works:
   Installation report, operation report, or maintenance report.
4) An engineering research report (excluding Masters/PhD thesis)

Removal of Time-based Requirements

The following minimum requirements for design and site experience in the old PAE, which are time-based, are no longer required.

Engineering Branch and Related Sub Branches	Design Experience (Month)	Site Experience (Month)
Civil Engineering	12	12
Mechanical Engineering	6	12
Electrical Engineering	12	6
Electronic Engineering	6	12
Chemical Engineering	6	6
Other Branches of Engineering	6	6

The removal of this outdated time-based criteria is consistent with the outcome-based approach and international best practices, where none of the renowned international engineering bodies have this restriction.

Removal of Time-based Requirements

- "Design" and "site work" been replaced with Competence Area B with three Elements which comprehensively cover all aspects of the "practical application of engineering".
  - ✓"Design" has now been incorporated in B1-2, "development of ..solutions..."
  - ✓…and "Site work" in B3, "Implementation of … solutions…".

“Design” & “Site” experience is now part of….

Competency Element	Competency Area B: **PRACTICAL APPLICATION OF ENGINEERING:**
B1	**Review and/or identification of project requirements, problems, opportunities and/or engineering techniques.**
B2	**Investigations, analysis, design and development of engineering solutions.**
B3	**Implementation of design solutions or other engineering tasks, and evaluating their effectiveness**

Removal of Time-based Requirements - Background

- Following the 2015 Amendments of the Act, on 9.4.2019 BEM decided to omit the requirements of specific time spent on office design & site/field experience requirements for graduate engineers applying for the PAE.
- With the introduction of the so called “two-tier” system, the Amendments had resulted in a landscape change where public safety safeguard for UBBL submissions (or similar) are no longer at PAE level for the PE, but at PCE level (with the rigour and strictness it deserves) for the PEPC.
- The time-based requirements were introduced more than 40 years ago when the PAE was introduced mainly for UBBL submission purposes. It was appropriate then more for engineers in consultancy firms in the construction industry. Engineering in Malaysia has since expanded beyond traditional construction, to cover energy, manufacturing, plant, etc.

Removal of Time-based Requirements - Background

- With BEM opening up to the other areas of industry, the old requirement has become inappropriate.
- Practicing engineers not in the consulting line found it difficult to meet the time-based requirements. Hence those in the oil & gas industry, government (JKR, JPS, etc.), factories & plants, contractors, developers, etc. are generally left out not being able to apply.
- Its removal has ensured that engineers working in these various areas become eligible to apply for the PAE.

Structure of

The New

OUTCOME-BASED PAE

Compared with

OLD PAE

BEM OLD PAE

1. Preparation of documents for submission :

Allocate 2 weeks

   a) **Career History** (Experience) **Report**
   b) **Project/Design Report**
   c) Relevant forms

2. **Examination by two examiners**

   a) **Interview** (30 minutes – 1 hour)
   b) **Essay** writing (2 questions, 1.5 hrs each)
      i. On candidate's training & experience, 2 questions to be given by interviewer after interview, candidate to select one of the 2.
      ii. On Code of ethics, 8 questions available on website, interviewer will select 2 of the 8 for candidate to choose one.

BEM **OUTCOME-BASED** PAE

Allocate 2 weeks

1. Preparation of documents for submission :
   a) **Application Form (includes career history/experience write-up)**
   b) ~~**Project/Design R**~~ Training & Experience Report (Self Testimony of Competence)
   c) Relevant forms

2. **Examination by two examiners**
   a) **Interview** (30 minutes – 1 hour) — 15 minute powerpoint presentation of selected technical work/project
   b) **Essay** writing (2 questions, 1.5 hrs each)
      i. ---------- Essay (i) Removed ----
      ii. Essay (ii) on ethics - new format based on personal experience

- **Written exam on Technical Competency if failed the ppt presentation**

You have to prepare **three major documents** for submission:

PHASE 1 – For Online submission

1. **Application Form** *(do this first)*
   - includes career history/experience.

2. **Training & Experience Report** *(do this, based on the above)*
   – A self testimony of competence attained by candidate

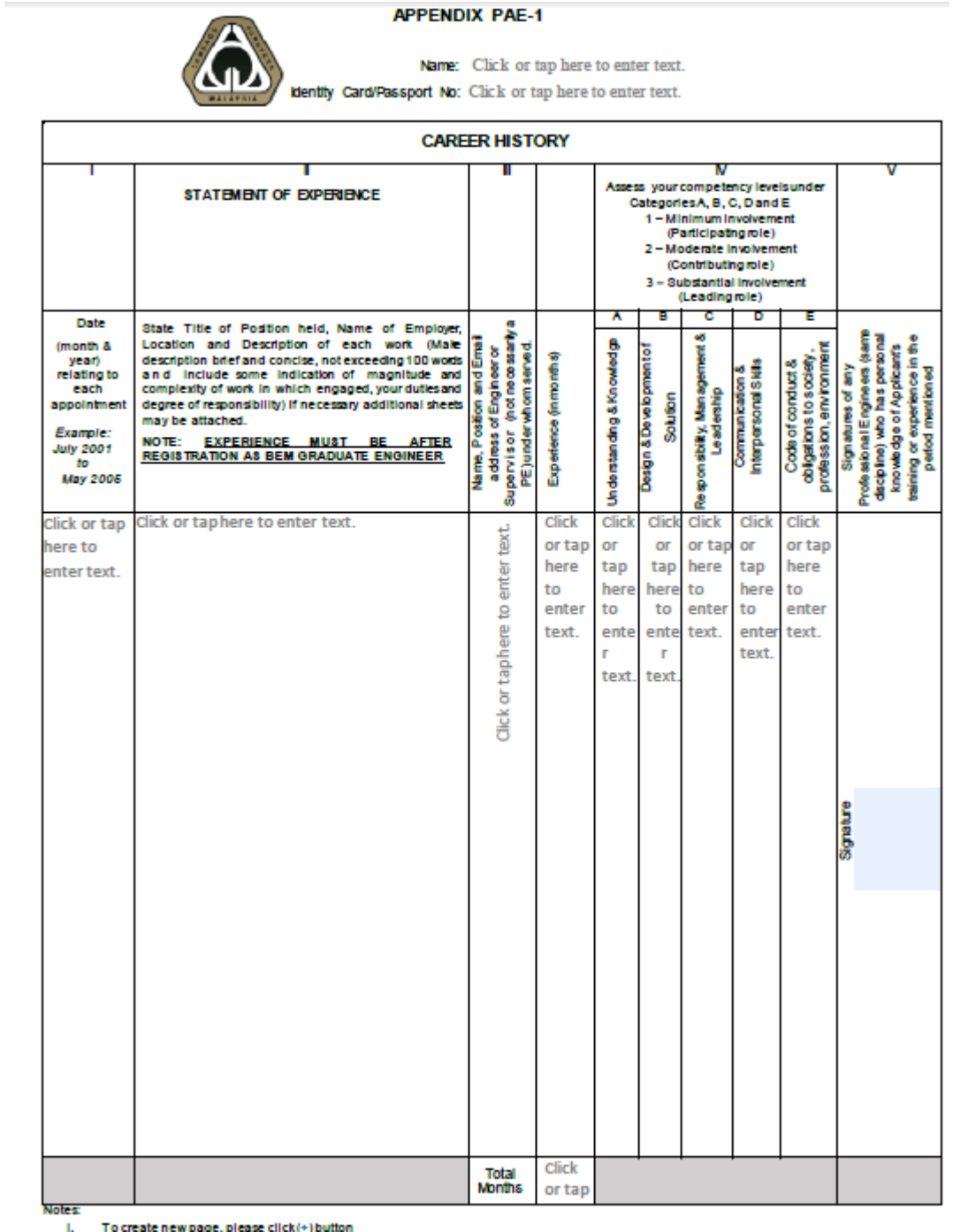
Phase 2 - To be submitted later, but not later than two days before interview.

3. **Powerpoint presentation of selected technical work**
   - *Maximum eight slides*

(Actually you should prepare a 4th, not for submission,
but as "dummy/trial" document to prepare for the sit-in Code of Conduct paper)

1. Application Form

APPENDIX PAE-1



APPENDIX PAE-1

Name: Click or tap here to enter text.

Identity Card/Passport No: Click or tap here to enter text.

CAREER HISTORY

I	II	III		IV					V
	STATEMENT OF EXPERIENCE			Assess your competency levels under Categories A, B, C, D and E 1 – Minimum involvement (Participating role) 2 – Moderate involvement (Contributing role) 3 – Substantial involvement (Leading role)					
Date (month & year) relating to each appointment *Example: July 2001 to May 2006*	State Title of Position held, Name of Employer, Location and Description of each work (Make description brief and concise, not exceeding 100 words and include some indication of magnitude and complexity of work in which engaged, your duties and degree of responsibility) If necessary additional sheets may be attached. NOTE: EXPERIENCE MUST BE AFTER REGISTRATION AS BEM GRADUATE ENGINEER	Name, Position and Email address of Engineer or Supervisor (not necessarily a PE) under whom served.	Experience (in months)	A Understanding & Knowledge	B Design & Development of Solution	C Responsibility, Management & Leadership	D Communication & Interpersonal Skills	E Code of conduct & obligations to society, profession, environment	Signatures of any Professional Engineers (same discipline) who has personal knowledge of Applicant's training or experience in the period mentioned
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Signature
		Total Months	Click or tap						

Notes:

i. To create new page, please click(+) button

1. Application Form *- includes career history/experience*

When filling up the **Application form**, you are required to (a) describe concisely each job task or project work you have **personally** performed; (b) indicate the size and complexity of the job task or project work; and (c) specify the role you have played in the job task or project work as follows:

1. ***Participating role*** (participate and learn in the job task or project work)
   (Candidate has minimum involvement but does not have sufficient evidence)
2. ***Contributing role*** (gain better experience and contribute to the job task or project work)
   (Candidate has moderate involvement and sufficient evidence to show his exposure)
3. ***Leading role*** (lead the job task or project work and account for the outcome)
   (Candidate has substantial involvement and is able to strongly indicate his exposure)

Against each job task or project work described in the application form, just put in the role you played in terms of 1, 2, or 3 under the related competence elements (A, B, C, D, E). This is to enable the PAE assessors to know all the job tasks or project works that are related to each and every competence element.

2. Training & Experience Report

Self testimony of competence gained

Four competence areas will be self-reported:

A. **KNOWLEDGE AND UNDERSTANDING OF ENGINEERING**
B. **PRACTICAL APPLICATION OF ENGINEERING**
C. **MANAGEMENT AND LEADERSHIP**
D. **COMMUNICATION AND INTERPERSONAL SKILLS**

The four areas above will be assessed during the ***oral interview***

A fifth competence area:

E. **ETHICAL & PROFESSIONAL CONDUCT**

will be assessed by a ***sit-in written examination***

Training & Experience Report

Fill up this form

TRAINING·&·EXPERIENCE·REPORT

BASED·ON·COMPETENCE·GAINED

Name:

Branch of registration:

Graduate Registration number:

How should you use this sectio

The four areas of C… e, A, B, C and D, must be demo… order to practice professionally. … are subdivided further into thirteen (13) Competenc… nts, i.e. A(1-3), B(1-3) … and D(1-3).

For ea… the Competency Elements, you are required to explain in a narrative y… work exp… nces as evidence which has contributed to the competency.

…se narratives will be the evidence used for demonstration by you and as the basis … sessment by examiners during the Professional Assessment Examination (PAE).

Please ensure the narrative, or evidence, for each of the Competency Element has around 300 - 500 words depending on the amount and variety of your experience.

What are the levels of competency expected?

While a Professional Engineer is expected to be able to demonstrate his/her competence in all of the areas listed, the depth and extent will vary with the nature and requirements of his/her experience.

Hence you are expected to demonstrate a degree of competence in each area at a level which is consistent with your actual specific role/s. You may have a higher level of competence in some areas than others, and possibly the levels may be quite limited in certain … as.

H… ver, you need to demonstrate an understanding of, and familiarity with, the key aspe… of c… etence in all areas as a minimum requirement while demonstrating higher le… of compe… e in those areas which are critical to your role. Overall, you need to de… trate an appro… balance of competencies.

What constitute evide… competencies?

Evidence that need to be demonstrated are narratives of your work experiences and proficiencies which has contributed to the competency as you engaged in various engineering activities and/or encountered engineering problems in your career.

The given examples of acti… nt, listed in the template which follows, are examp… nce that demonstrate the spec… mpetency. They provide guidance to help … only those appropriate for the particular Comp… y Element.

They are i… ed as examples only, since the most appropriate activities … vary with each individu… e. The list is not exhaustive and other types of activities might … lid.

Nor… there is no necessity to refer to all of your activities for evidence in … area of c… etence. If you have had many roles, select those which are most relevan… best … rate the Competency Element. Examples from two or several projects or task… ould … ually be appropriate, being very specific in the descriptions of each.

The objective is to convince the interviewers such that, before you walk into the intervie… they already think you are indeed "PE material" and all they have to do is confirm your competence.

How should you do the write-up?

You need to do the write-up in this template carefully and concisely, highlighting your key role and responsibilities (not merely a job description) and achievements as evidence for each Competency Element.

Some example points that you can elaborate as evidence are:-

- Explanation of the context and justifications in which you made decisions.
- Benefits of presenting technical information for review by others.
- Explanation of investigation results, and how you ensured the quality of the data used.
- Justification on choice of techniques, software, etc that guided your technical decisions.
- Description of how you reached to particular outcome.
- Technological changes which affected your methods or decisions.

Further guidance when writing-up:-

- Focus on your individual achievements, not what the team did. Try as much as possible to use phrases such as "I designed", "I negotiated", "I led a construction team", "I participated in ", "I implemented", "I achieved", etc.
- Use terms which can be understood by a non-specialist in your field. Avoid u… jargon and unnecessary or unexplained abbreviations.
- … ate the size and complexity of the projects or tasks for which you h… had direct o… ial responsibility; for example, numbers of people supervised … the value in finan… erms of the activity.

Your write-up will … be the main reference during the intervie… efore it is in your own interest to present your … clearly.

--------Page Break--------

COMPETENCY·AREAS·&·ELEMENTS	
Competency Element	Competency Area **A:** **KNOWLEDGE AND UNDERSTANDING OF ENGINEERING** Comprehension of advanced engineering knowledge of the widely-applied principles underpinning good practice
A1	Broadening personal knowledge, understanding and technical skills in applicant's own and/or allied fields of specialisation *Exa… activities as evidence to demonstrate this competency:* • *Formal training or post-graduate study related to your role* • *Learning and/or developing new engineering knowledge in a different industry or role* • *Learning current and/or emerging technology and technical best practice in your area* • *Developing a broader and deeper knowledge base through research and experimentation* • *Learning and developing new engineering techniques and theories in the workplace*
A2	Broadening personal knowledge and experience in relation to products or services engaged by … possibly with a view to improvem… *E… es of activities as evidence to demonstrate this competency:* • *Carrying out technical research and development* • *Learning, analysing and/or developing solutions involving complex, non-standard, multidisciplinary or safety-critical problems* • *Learning and/or developing new applications, designs, processes or systems based on new, established or evolving technology* • *Learning, developing and/or evaluating continuous improvement systems* • *Identify constraints and exploit opportunities for development and transfer of … ology*

COMPETENCE AREAS AND THEIR COMPETENCE ELEMENTS

PERSONAL COMPETENCE STATEMENTS

What do we mean by competence?

Professional competence is the **ability to carry out a task to an effective standard**, of which the achievement requires the combination of **knowledge, understanding, skills, values, as well as professional attitudes**. It means being able to perform a specific task **correctly, safely, effectively and consistently**.

What characteristics are we looking for?

Professional Engineers are characterized by their **ability to develop appropriate solutions to engineering problems**, using new or existing technologies, **through innovation, creativity and change.**

They might develop and apply **new technologies**, promote **advanced designs and design methods**, introduce new and more **efficient production techniques**, marketing and construction concepts, or pioneer new engineering services and management methods.

Professional Engineers are variously engaged in **technical and commercial leadership** and possess **effective interpersonal skills**. They must also demonstrate **professional commitment.**

TRAINING & EXPERIENCE REPORT

BASED ON COMPETENCE GAINED

How should you use this section?

- The four **Competency Areas**, A, B, C and D, must be demonstrated in order to practice professionally. These are subdivided further into thirteen (13) **Competency Elements**, i.e. A(1-3), B(1-3), C(1-4) and D(1-3).
- For each of the Competency Elements, you are required to **explain in a narrative your work experiences** as evidence which has contributed to the competency element.
- These narratives will be the evidence used for demonstration by you and as the basis for assessment by examiners during the interview.

COMPETENCY AREAS (4)

&

COMPETENCY ELEMENTS (13)

COMPETENCY AREAS & ELEMENTS

Competency Element	Competency Area A: **KNOWLEDGE AND UNDERSTANDING OF ENGINEERING**
A1	**Broadening personal knowledge, understanding and technical skills in applicant's own and/or allied fields of specialisation.**
A2	**Broadening personal knowledge and experience in relation to products or services engaged by applicant, possibly with a view to improvement.**
A3	**Learning, comprehension and application of relevant engineering codes, standards, specifications and/or guidelines, especially those appropriate to local context, requirements, and application.**

Competency Element	Competency Area B: **PRACTICAL APPLICATION OF ENGINEERING:**
B1	**Review and/or identification of project requirements, problems, opportunities and/or engineering techniques.**
B2	**Investigations, analysis, design and development of engineering solutions.**
B3	**Implementation of design solutions or other engineering tasks, and evaluating their effectiveness**

Competency Element	Competency Area **C:** **MANAGEMENT AND LEADERSHIP**
C1	**Planning to enable effective implementation of projects or engineering tasks.**
C2	**Managing budget, people and other resources for an engineering task or project.**
C3	**Leadership of teams in the workplace, developing and assisting colleagues to meet changing technical and managerial needs.**
C4	**Promotion of continuous quality improvement and best practices**

Competency Element	Competency Area D: **COMMUNICATION AND INTERPERSONAL SKILLS**
D1	**Effective communication in the National Language and/or English Language with others, at all levels.**
D2	**Effective presentation and discussion of proposals, justifications and conclusions.**
D3	**Personal and social skills, with awareness of diversity and inclusion issues.**

How should you do the write-up?

- You need to do the write-up in this template carefully and concisely, highlighting your **key role and responsibilities** (not merely a job description), and **achievements,** as evidence for each Competency Element.
- The length of the narratives, or evidence, should be around **<u>300 - 500 words for each of the Competency Elements,</u>** depending on the amount and variety of your experience.

What constitute evidence of your competencies?

- Evidence that need to be demonstrated are **narratives of your work experiences and proficiencies which has contributed to the competency** as you engaged in various engineering activities, and/or as you encountered engineering problems in your career.
- Normally there is **no necessity to refer to all** of your activities for evidence in each area of competence. If you have had many roles, select those which are most relevant and best illustrate the Competency Element. Examples from two or several projects or tasks would usually be appropriate, being very specific in the descriptions of each.
- The objective is to convince the interviewers such that, before you walk into the interview, they already think you are indeed "PE material" and all they have to do is confirm your competence.

What is meant by EVIDENCE?

So for the purpose of the PAE documents:

- Evidence mainly refer to narratives of your work experiences, i.e. as self-testimonies of competences gained by you.
- Evidence does not normally refer to records, documents or objects;
  - i. however you may wish to include these as supporting materials in the form of:-
    - softcopy appendices (with links to remote files), or
    - loose items brought during the interview.
  - ii. examiners may request to view specific items

What are the levels of competency expected?

- While a Professional Engineer is expected to be able to demonstrate his/her competence in all of the areas listed, the **depth and extent will vary** with the nature and requirements of his/her experience.
- Hence you are expected to demonstrate a **degree of competence in each area at a level which is consistent with your actual specific role/s**. You may have a higher level of competence in some areas than others, and possibly the levels may be quite limited in certain areas.
- However, you need to demonstrate an **understanding of, and familiarity with, the key aspects of competence in all areas** as a minimum requirement while demonstrating higher levels of competence in those areas which are critical to your role.
- Overall, you need to demonstrate a **balance** of competencies that is appropriate for your role as a Professional Engineer.

EXAMPLES

For

NARRATIVES

OF

COMPETENCY ELEMENTS

General example elaborations that you can use for the narratives

- Explanation of the context and/or justifications in which you made decisions.
- Benefits of presenting technical information for review by others.
- Explanation of investigation results; and how you ensured the quality of the data used.
- Justification on choice of techniques, software, etc that guided your technical decisions.
- Description of how you reached to particular outcome.
- Technological changes which affected your methods or decisions.

EXAMPLES OF SPECIFIC EVIDENCE GIVEN IN TEMPLATE

- **The given examples of activities for each Competency Element are example evidence that demonstrate the specific competency element**.
- They provide guidance to help you identify those appropriate for your experience.
- They are intended as examples only, since the most appropriate activities will vary with each individual role. The list is not exhaustive and other types of activities might be valid.

Training & Experience Report - **Examples of Competence**

TRAINING·&·EXPERIENCE·REPORT
BASED·ON·COMPETENCE·GAINED

Name:

Branch of registration:

Graduate Registration number:

How should you use this section?

The four areas of Competence, A, B, C and D, must be demonstrated in order to practice professionally. These are subdivided further into thirteen (13) Competency Elements, i.e. A(1-3), B(1-3), C(1-4) and D(1-3).

For each of the Competency Elements, you are required to explain in a narrative your work experiences as evidence which has contributed to the competency.

These narratives will be the evidence used for demonstration by you and as the basis for assessment by examiners during the Professional Assessment Examination (PAE).

Please ensure the narrative, or evidence, for each of the Competency Element has around 300 - 500 words depending on the amount and variety of your experience.

What are the levels of competency expected?

While a Professional Engineer is expected to be able to demonstrate his/her competence in all of the areas listed, the depth and extent will vary with the nature and requirements of his/her experience.

Hence you are expected to demonstrate a degree of competence in each area at a level which is consistent with your actual specific role/s. You may have a higher level of competence in some areas than others, and possibly the levels may be quite limited in certain areas.

However, you need to demonstrate an understanding of, and familiarity with, the key aspects of competence in all areas as a minimum requirement while demonstrating higher levels of competence in those areas which are critical to your role. Overall, you need to demonstrate an appropriate balance of competencies.

What constitute evidence of your competencies?

Evidence that need to be demonstrated are narratives of your work experiences and proficiencies which has contributed to the competency as you engaged in various engineering activities and/or encountered engineering problems in your career.

The given examples of activities for each Competency Element, listed in the template which follows, are example evidence that demonstrate the specific competency. They provide guidance to help identify those appropriate for the particular Competency Element.

They are intended as examples only, since the most appropriate activities will vary with each individual role. The list is not exhaustive and other types of activities might be valid.

Normally there is no necessity to refer to all of your activities for evidence in each area of competence. If you have had many roles, select those which are most relevant and best illustrate the Competency Element. Examples from two or several projects or tasks would usually be appropriate, being very specific in the descriptions of each.

The objective is to convince the interviewers such that, before you walk into the interview, they already think you are indeed "PE material" and all they have to do is confirm your competence.

How should you do the write-up?

You need to do the write-up in this template carefully and concisely, highlighting your key role and responsibilities (not merely a job description) and achievements as evidence for each Competency Element.

Some example points that you can elaborate as evidence are:-

- Explanation of the context and justifications in which you made decisions.
- Benefits of presenting technical information for review by others.
- Explanation of investigation results, and how you ensured the quality of the data used.
- Justification on choice of techniques, software, etc that guided your technical decisions.
- Description of how you reached to particular outcome.
- Technological changes which affected your methods or decisions.

Further guidance when writing-up:-

- Focus on your individual achievements, not what the team did. Try as much as possible to use phrases such as "I designed", "I negotiated", "I led a construction team", "I participated in ", "I implemented", "I achieved", etc.
- Use terms which can be understood by a non-specialist in your field. Avoid use of jargon and unnecessary or unexplained abbreviations.
- Indicate the size and complexity of the projects or tasks for which you have had direct or partial responsibility; for example, numbers of people supervised, or the value in financial terms of the activity.

Your write-up will become the main reference during the interview, therefore it is in your own interest to present your points clearly.

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COMPETENCY·AREAS·&·ELEMENTS

Competency Element	
	Competency Area **A:** **KNOWLEDGE AND UNDERSTANDING OF ENGINEERING** Comprehension of advanced engineering knowledge of the widely-applied principles underpinning good practice
A1	Broadening personal knowledge, understanding and technical skills in applicant's own and/or allied fields of specialisation
	Examples of activities as evidence to demonstrate this competency:
	- *Formal training or post-graduate study related to your role*
	- *Learning and/or developing new engineering knowledge in a different industry or role*
	- *Learning current and/or emerging technology and technical best practice in your area*
	- *Developing a broader and deeper knowledge base through research and experimentation*
	- *Learning and developing new engineering techniques and theories in the workplace*
A2	Broadening personal knowledge and experience in relation to products or services engaged by applicant, possibly with a view to improvement
	Examples of activities as evidence to demonstrate this competency:
	- *Carrying out technical research and development*
	- *Learning, analysing and/or developing solutions involving complex, non-standard, multidisciplinary or safety-critical problems*
	- *Learning and/or developing new applications, designs, processes or systems based on new, established or evolving technology*
	- *Learning, developing and/or evaluating continuous improvement systems*
	Identify constraints and exploit opportunities for development and transfer of technology

EXAMPLES OF POINTS FOR THE WRITE-UP

Competency Element	Competency Area A: **KNOWLEDGE AND UNDERSTANDING OF ENGINEERING**
A1	**Broadening personal knowledge, understanding and technical skills in applicant's own and/or allied fields of specialisation.** Examples of activities as evidence to demonstrate this competency: • Formal training or post-graduate study related to your role • Learning and/or developing new engineering knowledge in a different industry or role • Learning current and/or emerging technology and technical best practice in your area • Developing a broader and deeper knowledge base through research and experimentation • Learning and developing new engineering techniques and theories in the workplace
A2	**Broadening personal knowledge and experience in relation to products or services engaged by applicant, possibly with a view to improvement.** Examples of activities as evidence to demonstrate this competency: • Carrying out technical research and development • Learning, analysing and/or developing solutions involving complex, non-standard, multidisciplinary or safety-critical problems • Learning and/or developing new applications, designs, processes or systems based on new, established or evolving technology • Learning, developing and/or evaluating continuous improvement systems • Identify constraints and exploit opportunities for development and transfer of technology
A3	**Learning, comprehension and application of relevant engineering codes, standards, specifications and/or guidelines, especially those appropriate to local context, requirements, and application.** Examples of activities as evidence to demonstrate this competency: • Understanding and applying the relevant codes and standards relevant to engaged projects • Development of codes, standards, specifications and/or guidelines • Localisation of international codes, standards, specifications and/or guidelines

Competency Element	Competency Area B: **PRACTICAL APPLICATION OF ENGINEERING:** Application of appropriate theoretical and practical methods to the analysis, design and/or solution of engineering problems
B1	**Review and/or identification of project requirements, problems, opportunities and/or engineering techniques.** Examples of activities as evidence to demonstrate this competency: • Identifing/defining engineering problems or future needs in work place • Reviewing/identifying technical improvements to services, products, processes or systems • Preparing specifications, taking account of functional and other requirements • Establishing user requirements for solution of engineering problems • Reviewing specifications and tenders to identify technical issues and potential improvements • Carrying out technical risk analysis and identifying mitigation measures • Reviewing and selecting techniques to undertake engineering tasks. • Exploring and assessing opportunities relating to new and emerging technologies
B2	**Investigations, analysis, design and development of engineering solutions.** Examples of activities as evidence to demonstrate this competency: • Selecting appropriate investigation and research methodologies needed to undertake engineering tasks • Investigating a technical issue, identifying potential solutions and determining the factors needed to compare them • Identifying and carrying out tests or trials, and analysing and evaluating the results • Carrying out technical design, simulations, analysis or value engineering. • Preparing, presenting and deciding on design recommendations, with appropriate analysis of risk, and taking account of cost, quality, safety, reliability, accessibility, appearance, fitness for purpose, security (including cyber security), intellectual property constraints and opportunities, and environmental impact
B3	**Implementation of design solutions or other engineering tasks, and evaluating their effectiveness** Examples of activities as evidence to demonstrate this competency: • Implementing solutions to engineering tasks. This includes construction, fabrication, supervision and/or commissioning of projects in accordance to design and specifications. The implementation takes account of critical constraints, including due concern for safety, sustainability and disposal or decommissioning. • Identifying lessons learned • Ensuring that the implementation will result in the appropriate practical outcome • Evaluating existing designs or processes and identifying faults or potential improvements including risk, safety and life cycle considerations • Actively learning from feedback on results to improve future design solutions and contributing to accepted best practices

Competency Element	Competency Area **C: MANAGEMENT AND LEADERSHIP** Responsibility, management and leadership in relation to technical, commercial and financial matters.
C1	**Planning to enable effective implementation of projects or engineering tasks.** Examples of activities as evidence to demonstrate this competency: • Preparing budgets and associated work programmes for projects or tasks • Systematically reviewing the factors affecting the project implementation including safety, sustainability and disposal or decommissioning considerations • Carrying out a task or project risk assessment and identifying mitigation measures • Leading on preparing and agreeing implementation plans and method statements • Negotiating and agreeing arrangements with customers, colleagues, contractors and other stakeholders, including regulatory bodies • Ensuring that information flow is appropriate and effective
C2	**Managing budget, people and other resources for an engineering task or project.** Examples of activities as evidence to demonstrate this competency: • Setting up appropriate management systems • Establishing and maintaining quality standards and budget within legal and statutory requirements • Organising/coordinating/directing work teams and project activities • Managing the balance between quality, cost and time • Scheduling, monitoring and control of work progress and costs , taking appropriate corrective actions when required • Interfacing effectively with customers, contractors and other stakeholders • Gather and evaluate feedback and recommend improvements.
C3	**Leadership of teams in the workplace, developing and assisting colleagues to meet changing technical and managerial needs.** Examples of activities as evidence to demonstrate this competency: • Agreeing objectives and work plans with teams and individuals • Reinforcing team commitment to professional standards • Leading and supporting team and individual development • Assessing team and individual performance, and providing feedback • Seeking input from other teams or specialists where needed and managing the relationship • Providing specialist knowledge, guidance and input to engineering teams, engineers, customers, management and relevant stakeholders • Leading a research programme • Leading an undergraduate university programme • Developing and delivering a teaching module/course at Masters or PhD level
C4	**Promotion of continuous quality improvement and best practices** Examples of activities as evidence to demonstrate this competency: • Promoting quality throughout the organisation as well as its customer and supplier networks • Developing and maintaining operations to meet accepted quality standards • Supporting or directing project evaluation and proposing recommendations for improvement • Implementing and sharing the results of lessons learned

Competency Element	Competency Area D: **COMMUNICATION AND INTERPERSONAL SKILLS** Ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and constructively
D1	**Effective communication in the National Language and/or English Language with others, at all levels.** Examples of activities as evidence to demonstrate this competency: • Preparing reports, specifications and other documentation on complex matters • Leading, chairing, contributing to and recording meetings and discussions • Exchanging information and providing advice to colleagues • Engaging or interacting with professional networks
D2	**Effective presentation and discussion of proposals, justifications and conclusions.** Examples of activities as evidence to demonstrate this competency: • Contributing to scientific papers or articles as an author • Preparing and delivering presentations on substantive matters • Preparing and/or presenting bids, proposals, plans, studies, etc • Leading and sustaining debates with audiences • Feeding back results of discussion to improve proposals, papers, etc
D3	**Personal and social skills, with awareness of diversity and inclusion issues.** Examples of activities as evidence to demonstrate this competency: • Knowing and managing own emotions, strengths and weaknesses • Being confident and flexible in dealing with new and changing interpersonal situations • Identifying, agreeing and working together towards collective goals • Creating, maintaining and enhancing productive working relationships • Resolving conflicts • Being supportive of the needs and concerns of others, especially where this relates to issues of diversity and inclusion

Let’s look in detail the examples for

Competency B

Application of Engineering Knowledge

Competency Area B:

PRACTICAL APPLICATION OF ENGINEERING:

Application of appropriate theoretical and practical methods to the analysis, design and/or solution of engineering problems

Competency Element B1

Review and/or identification of project requirements, problems, opportunities and/or engineering techniques

Examples of activities as evidence to demonstrate this competency:

1. **Identifing/defining engineering problems or future needs in work place**
2. **Reviewing/identifying technical improvements to services, products, processes or systems**
3. **Preparing specifications, taking account of functional and other requirements**
4. **Establishing user requirements for solution of engineering problems**
5. **Reviewing specifications and tenders to identify technical issues and potential improvements**
6. **Carrying out technical risk analysis and identifying mitigation measures**
7. **Reviewing and selecting techniques to undertake engineering tasks.**
8. **Exploring and assessing opportunities relating to new and emerging technologies**

Competency Area B:

PRACTICAL APPLICATION OF ENGINEERING:

Application of appropriate theoretical and practical methods to the analysis, design and/or solution of engineering problems

Competency Element B2

Investigations, analysis, design and development of engineering solutions.

Examples of activities as evidence to demonstrate this competency:

1. **Selecting appropriate investigation and research methodologies needed to undertake engineering tasks**
2. **Investigating a technical issue, identifying potential solutions and determining the factors needed to compare them**
3. **Identifying and carrying out tests or trials, and analysing and evaluating the results**
4. **Carrying out technical design, simulations, analysis or value engineering.**
5. **Preparing, presenting and deciding on design recommendations**
   (with appropriate analysis of risk, and taking account of cost, quality, safety, reliability, accessibility, appearance, fitness for purpose, security (including cyber security), intellectual property constraints and opportunities, and environmental impact)

Competency Area B:

PRACTICAL APPLICATION OF ENGINEERING:

Application of appropriate theoretical and practical methods to the analysis, design and/or solution of engineering problems

Competency Element B3

Implementation of design solutions or other engineering tasks, and evaluating their effectiveness

Examples of activities as evidence to demonstrate this competency:

1. **Implementing solutions to engineering tasks.**
   This includes construction, fabrication, supervision and/or commissioning of projects in accordance to design and specifications.
   The implementation takes account of critical constraints, including due concern for safety, sustainability and disposal or decommissioning.
2. **Identifying lessons learned**
3. **Ensuring that the implementation will result in the appropriate practical outcome**
4. **Evaluating existing designs or processes and identifying faults or potential improvements including risk, safety and life cycle considerations**
5. **Actively learning from feedback on results to improve future design solutions and contributing to accepted best practices**

Further guidance when writing-up :-

- Focus on your individual achievements, not what the team did.
- Try as much as possible to use phrases such as
  “I designed”, “I negotiated”, “I led a construction team”, “I participated”, “I implemented”, “I achieved”, etc.
- Use terms which can be understood by a non-specialist in your field. Avoid use of jargon and unnecessary or unexplained abbreviations.
- Indicate the size and complexity of the projects or tasks for which you have had direct or partial responsibility.
  For example, highlight numbers of people supervised, or the value in financial terms of the activity.

Your write-up of the Training & Experience Report will be evidence of your competencies.

It will become the main reference during the interview, therefore it is in your own interest to present your points clearly.

REVISED INTERVIEW PROCESS

Format of the Interview

is normally as follows:

- **Introductions**
- **15 Minute Presentation from Candidate**
- **45 Minute Q&A Session**
- **Opportunity for final statement**
- **Conclusion**

- The interview will be conducted in English
  (or Bahasa Malaysia upon request by candidate).
- After the interview, candidate will be required to write an essay relating his experience on Code of Conduct and professionalism

Presentation guideline

The 15 minute presentation at the start of the interview, provides you with the opportunity to explain **example/s of technical work** that you have led and/or contributed to.

The content of the presentation should be based on either:

(i) A single piece of work or project that you consider best highlight your **competencies A and B** *(engineering knowledge & its application)*, or;

(ii) Examples from your experience/s in your career that you consider best highlight your **competences A and B**.

Design the slides:

- To 'talk' direct to the examiners.
- To be informative about your own capability....
- Talk about your technical competence in a certain project that you are 'good' at...

Presentation guideline *(cont.)*

- You are not required to go into a deep technical description.
- It will be sufficient to just demonstrate the key points of your personal technical contribution to the work/project presented.
- The examiners will explore this further during the main part of the interview.

The preferred mode is PowerPoint presentation, limited to ***maximum of 8 slides****.*

Presentation material should be sent by email to the examiners, with a copy to the BEM's agent two days before the interview.

Assessment

The purpose of the interview is to confirm that you have demonstrated the overall level of competence and commitment expected of a professional engineer.

The examiners will generally use the practical experience section of your application form as an agenda for the interview and will encourage you to talk about your experience, **drawing out evidence of competence** during the interview.

The examiners will triangulate the evidence gained during the interview to the attainment of competence. They will give you the opportunity to expand on the information in your application and clarify any points.

Documents/Reports/Drawings presented should be certified by a PEng/PEPC.

CODE OF CONDUCT ESSAY

- **Carried out after the oral interview**
  to assess attainment achieved in Competence Area E.

Competency Area **E:**

ETHICAL AND PROFESSIONAL CONDUCT.

Personal commitment to ethical conduct, professional standards, recognizing obligations to society, the profession and the environment.

CODE OF CONDUCT ESSAY

Instructions:

- You are required to demonstrate your competence in area E by writing an essay to share your **PERSONAL EXPERIENCE** covering the five Competency Elements in Area E.
  - *If you have not encountered significant personal experience for any of the five Competency Elements listed, you may demonstrate your understanding in those Elements by means of narrating hypothetical or other real life example cases not necessarily experienced by you.*
- You may write in either the English language or Bahasa Malaysia.

Competency Area E

is subdivided further into

5 Competency Elements, E1 to E5.

E1. Compliance with relevant codes of conduct and ethical principles.

Examples of activities as evidence to demonstrate this competency:

- *Understanding the ethical issues that you encounter in your role*
- *Demonstrating compliance with relevant codes of conduct/ethics*
- *Identifying aspects of the code which are particularly relevant to your role*
- *Handling problems of ethical or moral nature*
- *Upholding ethical principles as defined by your organisation or company, giving example/s.*

E2. Managing and applying safe systems of work.

Examples of activities as evidence to demonstrate this competency:

- *Identifying and taking responsibility for your own obligations and ensuring that others assume similar responsibility (for health, safety and welfare issues)*
- *Ensuring that systems satisfy health, safety and welfare requirements*
- *Developing and implementing (including evaluating and improving) appropriate hazard identification and risk management systems and culture*
- *Applying health and safety legislation, codes, guidelines and/or relevant company policies*

E3. Undertaking engineering activities consistent with principles of sustainable development with due care to the environment.

Examples of activities as evidence to demonstrate this competency:

- *Applying principles of sustainable development in your day-to-day work*
- *Acting responsibly, taking account of environmental, social and economic issues simultaneously*
- *Providing products and services which maintain and enhance the quality of the environment and community, and while meeting financial objectives*
- *Understanding and securing stakeholder involvement in sustainable development*
- *Minimising wastage and environmental impact while using resources efficiently and effectively.*

E4. Continuing professional development (CPD) to maintain and enhance competence in your own area of practice.

Examples of activities as evidence to demonstrate this competency:

- *Undertaking reviews of your own development needs*
- *Planning how to meet personal and organisational CPD objectives*
- *Carrying out planned and unplanned CPD activities such as training or attending courses & seminars*
- *Maintaining evidence of competence development*
- *Evaluating CPD outcomes against any plans made*
- *Assisting others with their own CPD*

E5. Understanding the legal matters pertaining to the engineering profession.

Examples of activities as evidence to demonstrate this competency:

- *Being aware of the Registration of Engineers Act, including attending seminars, workshops, etc*
- *Being aware of other laws and regulations relevant to your role (such as contract law, construction law, environmental law, health/safety law), including attending seminars, workshops, etc*
- *Ensuring compliance to relevant laws and regulations in your work involvement, giving examples*
- *Involved with work within relevant legislation and regulatory frameworks, including social and employment*

- **Time allocated for the essay writing covering all the 5 items above is 1½ hours**
- **If you fail the Code of Conduct paper, you will be allowed another TWO attempts.**

OVERALL EXAMINER'S GUIDELINES

EXAMINER'S GUIDELINES

In assessing the Competence Attainment Level for each discrete competency element, the following threshold scores are used:

Level 0 (0 point) – No evidence of competence
Level 1 (1 point) – Little evidence of competence
Level 2 (2 points) – Adequate evidence with shortfalls
Level 3 (3 points) – Satisfactory level of evidence
Level 4 (4 points) – Good level of evidence

EVIDENCE refer to facts/information available from the application documents and the interview to support assessment of the candidate's competence gained from his training.

EXAMINER'S GUIDELINES *(cont.)*

The marks (points) allocated will be based on the **evidence as given by the candidate in the application form** as well as the **training & experience report**, and **verified during the interview.**

It should be measured mainly by taking into account:-

(a) each job task or project work performed by the candidate;
(b) the size and complexity of each job task or project work;
(c) the role played by the candidate in each job task or project work; and
(d) all job tasks or project works done by the candidate related to a discrete competence element.

SAMPLE ASSESSMENT FOR CATEGORY A

PAE Interview – Part I (a)						
Competency Area A – Knowledge and Understanding						
Assessment Element	**Attainment Level**					**Justification**
A1 **Candidate has maintained and extended personal knowledge, understanding and technical skills in own and allied fields of specialization.**	0	1	2	3	4	
A2 **Candidate has learnt and broadened personal knowledge and experience in the technology, products or services related to own specialization, preferably with a view to improvement.**	0	1	2	3	4	
A3 **Candidate has comprehended and applied knowledge and understanding of the relevant engineering codes, standards, specifications, applications, especially those appropriate to local context, requirements, and application.**	0	1	2	3	4	
Average Area A Score						3

Recommendation of a PASS in PAE Interview Part I (a) is conditioned on fulfilling all the following mandatory requirements:

a) An overall average of 2.5 or more; and

b) Each competence area minimum average score of 2.0.

PAE Part I -- Interview Part I (b) -- 15-Min Presentation Rubrics and Rules			
Competency Area		**Assessment**	**Justifications and Comments**
A	**Knowledge and understanding of engineering within the context of the project or work presented**	**Satisfactory / Unsatisfactory**	
B	**Practical application of engineering in terms of design & development of solution within the context of the project or work presented**	**Satisfactory / Unsatisfactory**	
		Overall Assessment	**Pass / Fail**

Marking Procedure and Passing Criteria

- For each of the competency areas A and B, mark the assessment as either Satisfactory or Unsatisfactory, based on the evidence demonstrated in the presentation.
- Provide brief justifications and/or comments for each assessment.

Passing of the 15-Min Presentation is conditioned upon fulfilling all the following mandatory requirements:

- Both competency areas A and B must be assessed as Satisfactory.

Note (1)

Take note of the presentation skills and triangulate it with other related evidence in assessing competency area D.

Note (2)

If the Candidate fails the 15-min Presentation, he/she may be given another chance to demonstrate competence in technical presentation by way of writing a Technical Essay. However, this chance is only given provided the candidate passes PAE Interview Part I (a).

PAE Part I -- Interview Part I (b) -- Technical Essay as an Alternative Assessment Rubrics and Rules						
Technical Knowledge and Application (T)						
Assessment Element	Rated Threshold					Justifications
T1 -- Understand the scientific & engineering fundamentals of related discipline and own specialisation (Competence Element A1)	0	1	2	3	4	Average Category T Score:
T2 -- Apply the appropriate theoretical and practical methods to the analysis and solution of engineering problems (Competence Element B2)	0	1	2	3	4	
T3 – Apply the engineering knowledge related to local practices, codes, standards, specifications, materials, products, environments, etc. (Competence Element A3)	0	1	2	3	4	
Writing Proficiency (W)						
Assessment Element	Rated Threshold					Justifications
W1 - Understand the question clearly and answer it with suitable technical contents and relevant examples (Competence Element D1)	0	1	2	3	4	Average Category W Score:
W2 - Present the answer concisely and coherently with proper heading and paragraphing (Competence Element D2)	0	1	2	3	4	
W3 - Present the answer legibly with acceptable grammar, lexicon, spelling, and punctuation (Competence Element D1)	0	1	2	3	4	
Overall Average Score = (T + W) / 2						**Pass / Fail**

Assessment Rules of Technical Essay

(i) Average Score of T -- add up the rated scores of T1, T2 and T3, and divide it by 3. The average score should be rounded to one decimal.

(i) Average Score of W -- add up the rated scores of W1, W2 and W3, and divide it by 3. The average score should be rounded to one decimal.

Overall Average Score -- ***add up the average scores of T and W, and divide it by 2. The average score should be rounded to one decimal.***

Recommendation of a Pass in Technical Essay is conditioned on fulfilling all the following requirements:

- ***An overall average of 2.5 or more; and***
- ***Average score of 2.0 or more for T and W respectively***.

Note –

(1)Examiners are required to set two technical essay questions for the Candidate to choose one to answer;

(2) The set questions should be relevant to the engineering branch and specialisation of the Candidate;

(3) Each question should be set in such a manner that the Candidate can answer it in terms of T1, T2 and T3 so as to facilitate marking

PAE Part II -- Code of Conduct Essay Rubrics and Rules						
Assessment Element	Rated Threshold					Justifications
E1 -- Comply with the relevant codes of conduct	0	1	2	3	4	
E2 -- Manage and apply safe systems of work	0	1	2	3	4	
E3 -- Undertake engineering activities in a way that contributes to sustainable development	0	1	2	3	4	
E4 – Carry out CPD necessary to maintain and enhance competence in own area	0	1	2	3	4	
E5 -- Understand the legal matters of engineering profession and be able to communicate with legal personnel on these issues	0	1	2	3	4	
Average Score of Category E						**Pass / Fail**

Recommendation of a Pass in the Code of Conduct Essay is conditioned upon fulfilling all the following mandatory requirements:

- ***An average score of 2.5 or more; and***
- ***A rated score of 2.0 or more for each of the E1, E2, E3, E4 and E5 respectively.***

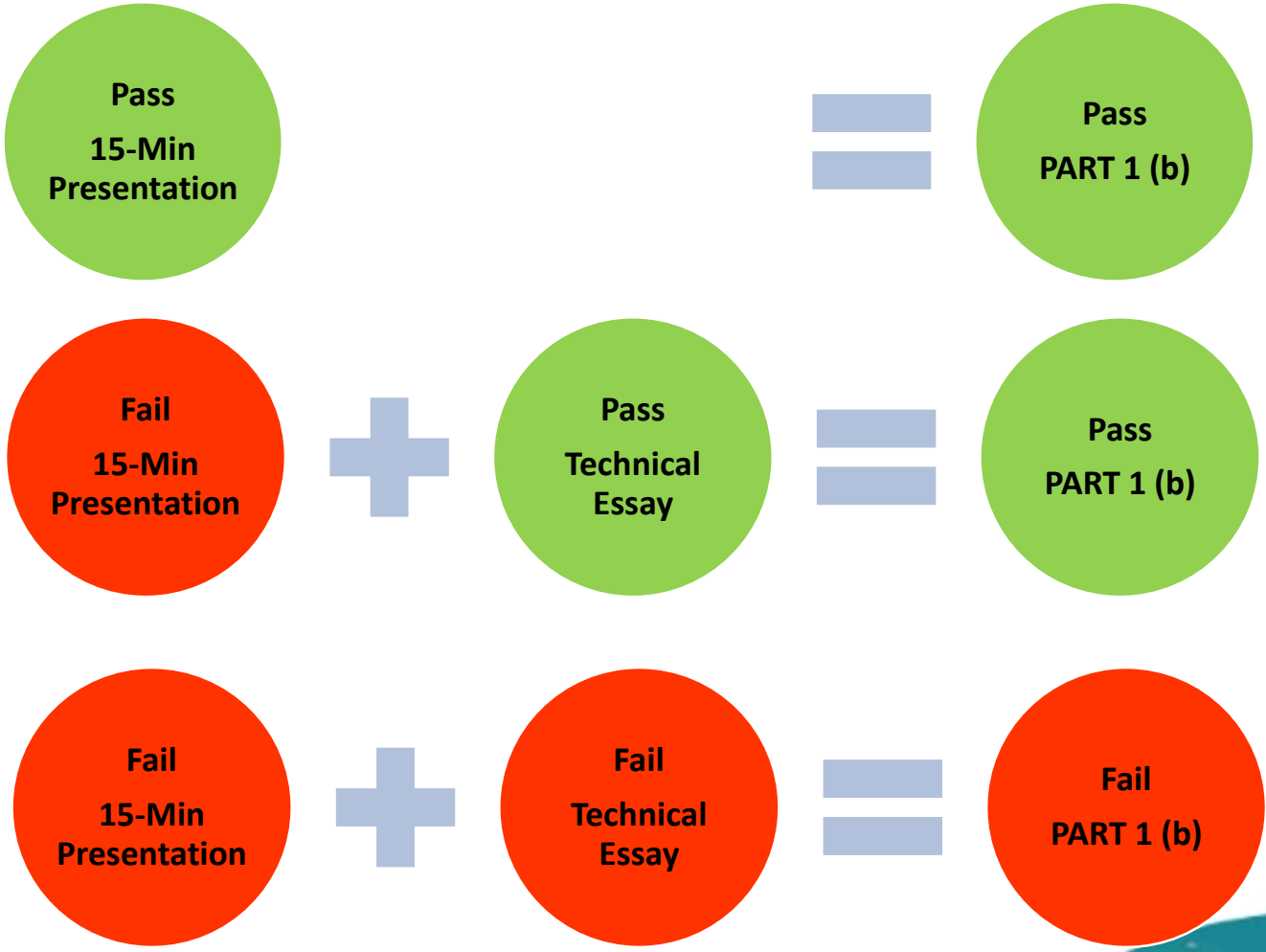
Summary of

PAE Evaluation Results

PAE Evaluation Results - Summary

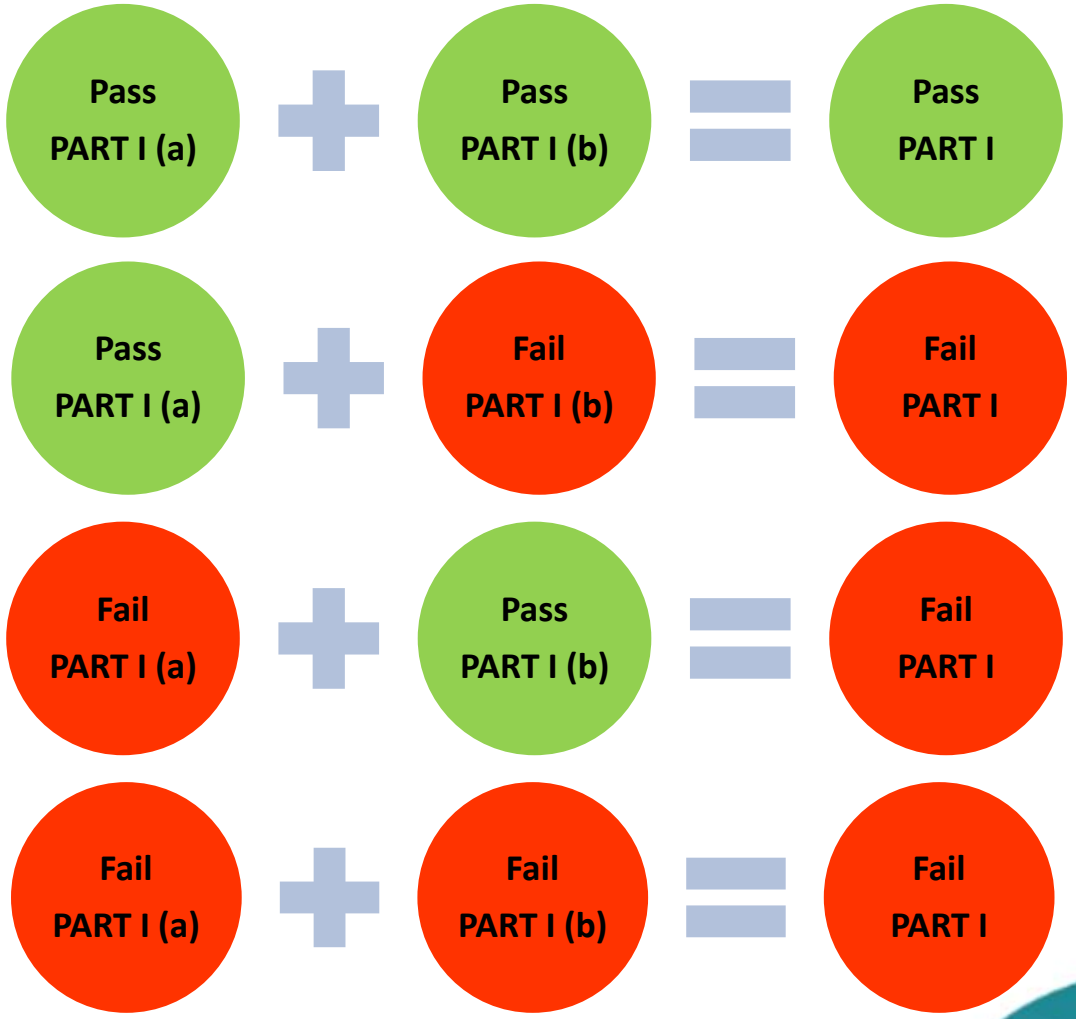
Part I – Interview Result		
Part I (a) – Assessment of Competence Areas A, B, C, and D *(Refer to the assessment result of the interview in Part I (a)).*		**Pass / Fail**
Part I (b) – Assessment of Technical Presentation		**Pass / Fail**
15-Min Presentation *(Refer to the assessment result of 15-Min Presentation)*	Satisfactory / Not Satisfactory	
Technical Essay (If required by the Examiners) *(Refer to the assessment result of Technical Essay)*	Pass / Fail	
Overall Part I - Interview Result		**PASS / FAIL**
Part II – Code of Conduct Essay Result		
Code of Conduct Essay *(Refer to the assessment result of Code of Conduct essay)*		**PASS / FAIL**

Part I (b) - Evaluation Result



To pass Part 1(b), Candidates should pass either the 15-Min Presentation or the Technical Essay (if required).

Part I - Evaluation Result



To pass Part I, Candidates must pass both Part I(a) and Part I(b).

PAE Evaluation Results - Summary

Assessment Rules and Procedure for Part I

- The **core of the interview** is the assessment of Competence Areas A, B, C, and D – **Part I (a).**
- If the candidate fails Part I (a), he will straightaway fail the entire Interview. In this case, there is no need for the candidate to write a technical essay if he/she fails the presentation.
- If the candidate passes Part I (a) but fails the 15-Min presentation, he/she will be given a chance to write a technical essay as an alternative means of assessing his/her competence in technical presentation.

PAE Evaluation Results - Summary

Assessment Rules and Procedure for Part I

- The candidate is considered to have passed Part I (b) if he/she passes the 15-Min Presentation; or failing which passes the Technical Essay.
- **Recommendation of a Pass** in the Interview (Part I) is conditioned upon fulfilling all the following mandatory requirements:
  - ✓ A pass in **Part I (a)** -- Assessment of Competence Categories A, B, C, and D; and
  - ✓ A pass in **Part I (b)** -- Assessment of 15-Min Presentation; or Technical Essay if required.

PAE Overall Recommendation

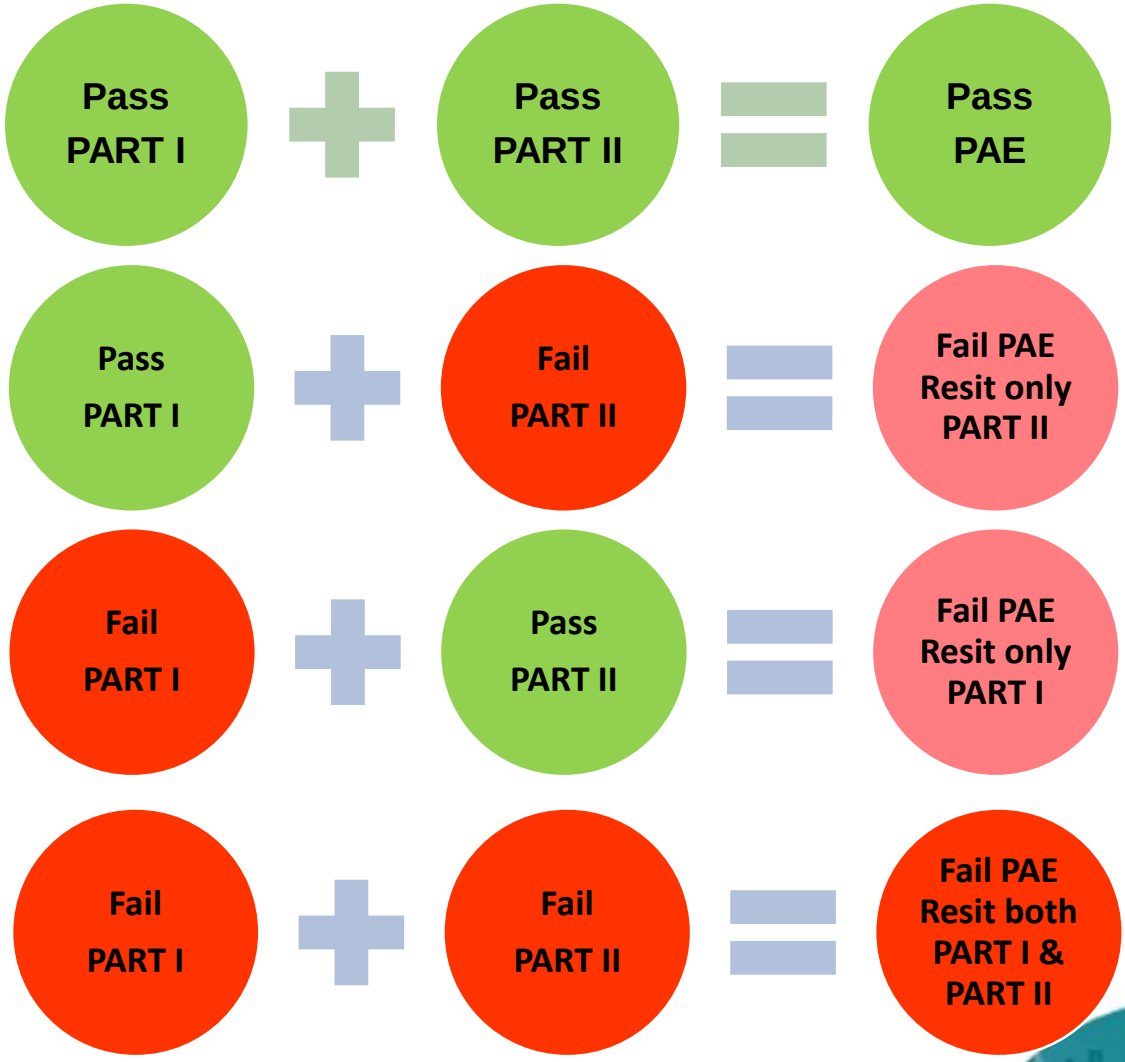
Assessment Rules for Overall Recommendation

- **Part I and Part II are assessed independently.**
- **If the candidate passes the Interview but fails the Code of Conduct Essay, he will be required to re-sit only the Code of Conduct Essay.**
- **If the candidate fails the Interview but passes the Code of Conduct Essay, he will be required to re-sit only the Interview.**

Recommendation of a Pass in PAE is conditioned upon fulfilling all the following mandatory requirements:

- *A pass in **Part I – the Interview**; and*
- *A pass in **Part II – the Code of Conduct Essay**.*

Overall Evaluation Result



To pass PAE, Candidates must pass both Part I and Part II.

For partial failure, Candidates only have to re-sit the part they failed.

For total failure, Candidates have to re-sit the entire PAE.

PAE Overall Recommendation

Overall Recommendation	
Refer to Guidelines	**Tick only one box**
Pass PAE via passing the Interview (Part I) and the Code of Conduct Essay (Part II)	
Pass the Interview (Part I) only and has to re-sit the Code of Conduct Essay (Part II)	
Pass the Code of Conduct Essay (Part II) only and has to re-sit the Interview (Part I)	
Fail both the Interview (Part I) and the Code of Conduct Essay (Part II), and has to re-sit the entire PAE.	
Overall Comment by Examiners: (Especially on areas of weaknesses for candidates who have failed)	

Name of Examiners	BEM Registration No.	Signature
1)		
2)		

Acknowledgement:

BEM acknowledges the Engineering Council of the UK for their leading role in the development of outcome-based criteria for professional assessments of competences. A significant part of this presentation is adapted from publicly-accessible information and documentation from the EC-UK website, in particular The UK Standard for Professional Engineering Competence (UK-SPEC) 4th Ed.

BEM webinar 2023 SERIES

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