

# OUTCOME-BASED PROFESSIONAL ASSESSMENT EXAMINATION

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# Outline of Presentation

Introduction

Competence areas and elements (Area A to Area D)

Revised interview process

Competency Area E



# 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**.



# 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: <b>PRACTICAL APPLICATION OF ENGINEERING:</b>
<b>B1</b>	Review and/or identification of project requirements, problems, opportunities and/or engineering techniques.
<b>B2</b>	Investigations, analysis, design and development of engineering solutions.
<b>B3</b>	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 Area D:	
Competency Element	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.



# 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**.

## **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.**



# Q & A

# THANK YOU



*"Committed To Engineering Excellence"*

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