

# 1-Day Course

## A QUICK GUIDE TO BEM PROFESSIONAL COMPETENCY EXAMINATION FOR AIR CONDITIONING & MECHANICAL VENTILATION SYSTEM



The Institution of Engineers, Malaysia  
(Penang Branch)

BEM Approved  
CPD/PDP Hours: 7  
Ref: IEM23/PG/3/S



**25 Sept 2023 (Mon)**



**8.30am – 5.30pm**



**IEM Secretariat Office  
E-Gate, Penang**



**REGISTER ONLINE @**  
[event.iempenang.org](http://event.iempenang.org)

**IEM G&S Member: RM 400**  
**IEM Member : RM 450**  
**Non-IEM Member: RM 550**



**Speaker:**  
**Ir. Ng Yong Kong**  
**P.Eng. GBIF, MASHRAE**

Time	Programme
08.30 am – 09.00 am	Registration
09.00 am – 10.30 am	Guide to Air Conditioning and Mechanical Ventilation (ACMV)
10.30 am – 10.45 am	Morning Tea Break
10.45 am – 12.30 pm	Guide to ACMV
12.30 pm – 01.30 pm	Lunch
01.30 pm – 03.30 pm	Guide to ACMV
03.30 pm – 03.45 pm	Afternoon Tea Break
01.30 pm – 03.30 pm	Guide to ACMV
05.00 pm – 05.30 pm	Q & A Session and Discussion

### Synopsis

The Board of Engineers, Malaysia (BEM) does not endorse any courses conducted or provide material as study aids for the Professional Competency Examination. However, in view of the many request especially by Mechanical Engineers to IEM to conduct course in preparation for the PCE in Mechanical Engineering, the speaker attempts to give a quick and brief guide to BEM PCE on Air Conditioning and Mechanical Ventilation. This course will cover Air Conditioning and Mechanical Ventilation (ACMV) portion and the participants are expected to know some basic knowledge on ACMV or HVAC. The topics to be covered include:

#### (i) Relevant Regulations

- (a) Uniform Building By-Laws, 1984.
- (b) Environmental Quality (Refrigerant Management Regulations)

#### (ii) Applicable Standards

- (a) ASHRAE Standards
- (b) MS 1525 : 2019: Code of Practice on Energy Efficiency & Renewable Energy for Non-Residential Buildings
- (c) MS 2449 : Performance rating of water-chilling packages using the vapor compression cycle
- (d) MS 2578-2 : Cooling tower

#### (iii) Type of Systems and Local Applications

- (a) Air-cooled Split Systems
- (b) VRF Systems
- (c) Package Units – Air-cooled & Water-cooled
- (d) Centralized Chilled Water Systems
- (e) District Cooling Systems

#### (iv) Design Considerations

- (a) Design Parameters – Temperatures, Air movement etc.
- (b) Energy Efficiency & Building Energy Intensity
- (c) Sustainability and Green Building Index
- (v) Others

### About the Speaker

**Ir. Ng Yong Kong** is a PEPC registered with the Board of Engineers, Malaysia (BEM) has a B.Eng. (Hons. in Mech.) from University of Malaya, Kuala Lumpur and an MBA (Hull, UK) 1998. He has over 39 years' experience in the HVAC industry having worked as a System and Application Engineer in two major chiller manufacturers, an air diffusion and a Control company.

He is the Council member (mechanical representative) for the Institution of Engineers, Malaysia (IEM) for 2023-2026, was ASHRAE Director and Regional Chair (DRC) for Region XIII. He is also the Council Member of the Malaysia Green Building Council 2023-2025.

He was a working group member for JKR/SIRIM Standard for IEQ in office Buildings 2021, Guidance Note on Ventilation and IAQ for Non-Residential Setting for JKKP/JKR and the MS1525-2019: Energy Efficiency and use of Renewable Energy for Non-Residential Buildings – Code of Practice (3rd Edition).

He is the Facilitator, trainer and examiner for the Malaysia Green Building Index Facilitator (GBIF) Course and is a frequent lecturer on HVAC System Design Course since 1990s for ACEM, JKR, JKR Sarawak and ASHRAE Malaysia Chapter.

Ir. Ng is the Director of NYKK Engineering Group Sdn Bhd. He was also the Past President for Malaysia Air-Conditioning and Refrigeration Association (MACRA) 2001-2003 and is also a qualified Trainer under the HRDF since 2014.

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