



REFERENCE SYLLABUS

For

BRIEF FOURTH CLASS POWER ENGINEER'S

CERTIFICATE of COMPETENCY EXAMINATION

November 2017



REFERENCE SYLLABUS(2017)
For
FOURTH CLASS
POWER ENGINEER'S
CERTIFICATE of COMPETENCY
EXAMINATION

November 2017
PAGE 2 of 4

General Information

Introduction:

This syllabus has been approved by the Standardization of Power Engineer Examinations Committee (SOPEEC) and the Association of Chief Inspectors (ACI). The effective date will be November 1, 2017

This Syllabus is intended to assist candidates studying for the Fourth Class Power Engineer's Certificate of Competency Examination.

The requirements to qualify for a Fourth Class Power Engineer's Examination are outlined in the local Jurisdiction's Act and Regulations pertaining to Power Engineers.

Recommended Study Programme:

It is recommended that, before undertaking a Fourth Class Power Engineer's Examination, the candidate completes a Fourth Class Power Engineering Course offered through an approved Educator.

In addition to the foregoing course, it is recommended that the candidate becomes familiar with the publications listed in the reference material for Power Engineering Students and Examination Candidates posted on the SOPEEC and IPECC web sites. [Candidates should review the IPECC Curriculum document located on the www.sopec.org website for more detailed information on the covered materials.](#)

Application to Undertake Examination:

A candidate must submit an application according to the rules in effect for their Jurisdiction.

Examination Instructions:

The examination consists of two papers, each of 3½ hours duration. Each of the Paper A and Paper B examinations consists of 150 multiple-choice questions.

To pass a 4th Class Power Engineer's Certificate of Competency examination, a candidate must obtain at least 65% of the total marks allotted for each examination paper.

A candidate is allowed to use, and may be provided, the following items in the examination room:

- A non-technical English language dictionary provided by the local jurisdiction;
- Handbook of Formulae and Physical Constants, Steam Tables and Refrigeration Tables are normally provided;
- ASME Boiler & Pressure Vessel Codes except for Sections VI and VII;
- The 2007 ASME Boiler & Pressure Vessel Code Academic Extract and Supplement produced by PanGlobal Training Systems;
- ASME/ANSI B31.1 Pressure Piping Code and B31.3 Process Piping Code;
- CSA B51, Boiler, Pressure Vessel and Pressure Piping Code;
- CSA B52, Mechanical Refrigeration Code;
- Extract for CSA B51 and CSA B52 Codes;
- Act and Regulations for the examining Jurisdiction;
- Pens and pencils;
- Non-programmable calculator (see important note) and



REFERENCE SYLLABUS(2017)
For
FOURTH CLASS
POWER ENGINEER'S
CERTIFICATE of COMPETENCY
EXAMINATION

November 2017
PAGE 3 of 4

Drawing instruments and drawing templates.
(Normally, the above items are useful for all classes of examination.)

•

Note

- The candidate must provide picture ID to the Examiner prior to the examination.
- No cell phone or any electronic communication devices are allowed to be brought into the examination room.
- The items referenced above must be shown to the examiner for approval.
- No other reference material is allowed.
- **Important:** If your calculator is programmable, you must reset it in the company of the examiner so that the examiner is sure that all memories are clear. Or the examiner may request that you remove the battery to erase all memory. This may be done during your examination time, so be aware that you may have less time to complete your exam. If the memories do not clear by resetting the calculator or by removing the battery, the calculator shall not be used. Also, if your calculator fails to function after reset or battery removal, the examiner is not responsible and you may be at a significant disadvantage.
- The information in the 1983 and 2004 Edition of the ASME Boiler and Pressure Vessel Code Academic Extract is outdated. Using this 1983/2004 Edition of the ASME Extract for any power engineering examination is not recommended. Besides using the 2007 Edition of the ASME Academic Extract and Supplement, candidates may use the current edition of the ASME Code.

Contact your local jurisdiction to find out the details.



REFERENCE SYLLABUS(2017)
For
FOURTH CLASS
POWER ENGINEER'S
CERTIFICATE of COMPETENCY
EXAMINATION

November 2017
PAGE 4 of 4

PE4A Syllabus (2017)

- A1. Elementary Mechanics and Dynamics
- A2. Elementary Chemistry and Thermodynamics
- A3. Jurisdictional Legislation and Codes for Power Engineers
- A4. Power Plant / Heating Plant Safety
- A5. Environment
- A6. Material and Welding
- A7. Piping and Valves
- A8. Electricity
- A9. Energy Plant Controls and Instrumentation
- A10. Plant Communication
- A11. Boilers
- A12. Boiler Systems

PE4B Syllabus (2017)

- B1. Lubrication
- B2. Pumps and Compressors
- B3. Boiler Safety Devices
- B4. Plant (Boiler) Operations
- B5. Power Plant /Heating Plant Maintenance
- B6. Water Treatment
- B7. Prime Movers and Engines
- B8. Auxiliary Building Systems
- B9. Refrigeration
- B10. Heating Ventilating and Air Conditioning
- B11. Heating and Cooling Systems
- B12. Types of Plants

Note: A complete syllabus will be posted in the near future.