

NCEES

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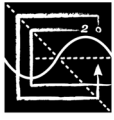
NCEES Principles and Practice of Engineering Examination ELECTRICAL AND COMPUTER—POWER CBT Exam Specifications

Effective beginning with October 2025 examination

- The PE Power exam is computer based. It is closed book with an electronic reference. Codes and standards applicable to the PE Power exam are shown on the last page.
- Examinees have 9 hours to complete the exam, which contains 80 questions. The 9-hour time includes a tutorial and an optional scheduled break. Examinees work all questions.
- The exam uses both the International System of units (SI) and the US Customary System (USCS).
- The exam is developed with questions that will require a variety of approaches and methodologies, including design, analysis, and application.
- The knowledge areas specified as examples of kinds of knowledge are not exclusive or exhaustive categories.

	Number of Questions
1. Measurement and Instrumentation	6–9
A. Instrument transformers and metering	
B. Insulation testing	
C. Ground resistance testing	
2. General Applications	8–12
A. Lightning protection	
B. Surge protection	
C. Illumination/lighting	
D. Energy management and demand calculations	
E. Grounding	
3. Electrical Safety	10–15
A. Wiring methods and installations	
B. Hazardous locations	
C. Special occupancies and systems	
D. Shock and burns	
4. Circuit Analysis	10–15
A. Three-phase circuits	
B. Symmetrical components	
C. Per-unit system	
D. Phasor diagrams	
E. Single-phase circuits	
F. Direct current circuits	

5. Power Electronic Circuits and Control Devices	5–8
A. Power electronics (converters, inverter-based resources, and variable frequency drives)	
B. Relays, switches, Boolean and ladder logic	
6. Rotating Machines	5–8
A. Machine types and applications	
B. Motor starting	
7. Electric Power Devices	8–12
A. Transformers	
B. Capacitors	
C. Electrical energy storage (e.g., battery, ultra capacitor)	
D. Alternative power generation (e.g., photovoltaics [PV], wind)	
E. Testing	
8. Transmission and Distribution Analysis (High, Medium, and Low Voltage)	8–12
A. Voltage drop	
B. Voltage regulation and support	
C. Power factor correction	
D. Power quality	
E. Fault current analysis	
F. Transformer connections	
G. Power flow	
H. Power system stability	
9. Protection	10–15
A. Overcurrent protection	
B. Protective relaying (e.g., differential, distance, undervoltage, pilot)	
C. Protective devices (e.g., fuses, breakers, reclosers)	
D. Coordination	



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NCEES Principles and Practice of Engineering Examination ELECTRICAL AND COMPUTER—POWER Codes and Standards

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In addition to the NCEES *PE Electrical and Computer: Power Reference Handbook*, the following codes and standards will be supplied in the exam as searchable, electronic pdf files with links for easy navigation. This NCEES [YouTube video](#) shows how standards will be presented on the exam. Standards will be provided as individual chapters on the exam, and only one chapter at a time can be opened and searched. This ensures the exam software runs large files effectively. The handbook and design standards will be available the entire exam.

Solutions to exam questions that reference a standard of practice are scored based on this list and the revision year shown. Solutions based on other standards will not receive credit.

NCEES does not sell design standards or printed copies of the NCEES handbook. The NCEES handbook is accessible from your [MyNCEES](#) account.

STANDARD	TITLE
NFPA 30B-2023	Code for the Manufacture and Storage of Aerosol Products
NFPA 70-2020	National Electrical Code®
NFPA 70E-2021	Standard for Electrical Safety in the Workplace
NFPA 497-2021	Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas
NFPA 499-2021	Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas
ANSIC2-2017	2017 National Electrical Safety Code®