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REFERENCE SYLLABI

For

Refrigeration Plant Operator

Introduction

This Syllabus is intended to assist candidates studying for the Refrigeration Plant Operator (2nd Class) Examination.

Recommended Study Program:

It is recommended that, before undertaking this examination, the candidate completes Power Engineering Course of study, offered through a recognized and approved technical institute or training provider which addresses the Syllabus Outline.

Refrigeration Plant Operator (1st Class)

Syllabus

Reference Syllabus for Refrigeration Plant Operator (1st Class) Examination Candidates

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REFERENCE SYLLABUS

For

Refrigeration Plant Operator
(2nd Class)

Introduction

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Refrigeration Plant Operator (2nd Class)

Syllabus

Reference Syllabus for Refrigeration Plant Operator (2nd Class) Examination Candidates

Major Topic: Heating Systems and Human Comfort

Topic 1 Heat Gains and Losses
Topic 2 Steam Heating Equipment
Topic 3 Steam Heating Systems
Topic 4 Hot Water Heating Systems
Topic 5 Hot Water Heating System Equipment and Operation
Topic 6 Warm Air Heating System Equipment
Topic 7 Warm Air Furnace Components and Maintenance
Topic 8 Ventilation and Air Filters
Topic 9 Infrared and Electric Heating
Topic 10 Humidification
Topic 11 Electric Controls for Heating Systems

Major Topic: Refrigeration

Topic 12 Refrigeration Theory
Topic 13 Refrigerants
Topic 14 Compression Refrigeration Systems
Topic 15 Refrigeration Compressors
Topic 16 Heat Exchangers for Refrigeration Systems
Topic 17 Refrigeration Accessories
Topic 18 Cooling Towers
Topic 19 Air Conditioning Systems

Major Topic: Refrigeration and AC System Controls

Topic 20 Refrigeration Metering Devices and Capacity Controls
Topic 21 Refrigeration Cycle Controls
Topic 22 Compression Refrigeration System Pre-Startup Procedures
Topic 23 Compression Refrigeration System Operations
Topic 24 Air Compression
Topic 25 Introduction to Electricity

Major Topic: Introduction to Plant and Fire Safety

Topic 26 Introduction to Plant Safety
Topic 27 Plant Safety Programs
Topic 28 Handling of Dangerous Materials
Topic 29 Plant Fire Safety
Topic 30 Fire Extinguishing Methods and Equipment

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REFERENCE SYLLABUS

For

Refrigeration Plant Operator Recreation

Refrigeration Plant Operator Recreation

Syllabus

Introduction

This Syllabus is intended to assist candidates studying for the Refrigeration Plant Operator Recreation Examination.

Recommended Study Program:

It is recommended that, before undertaking this examination, the candidate completes Power Engineering Course of study, offered through a recognized and approved technical institute or training provider which addresses the Syllabus Outline.

Refrigeration Plant Operator Recreation

Syllabus

Reference Syllabus for Refrigeration Plant Operator Recreation Examination Candidates

Major Topic: Acts, Regulations, and Codes

Topic 1 Boiler and Pressure Vessels Act
Topic 2 Introduction to CSA and ASME Codes for Boilers
Topic 3 Introduction to Plant Safety
Topic 4 Refrigeration Plant Safety

Major Topic: Basic Communication

Topic 1 Technical Communications
Topic 2 Plant Communications

Major Topic: Elementary Science

Topic 1 SI Units
Topic 2 Basic Arithmetic Operations
Topic 3 Transposition
Topic 4 Areas and Volumes of Solids
Topic 5 Application of Basic Mechanics
Topic 6 Introduction to Thermodynamics
Topic 7 Introduction to Matter and Chemistry
Topic 8 Introduction to Electricity

Major Topic: Safety

Topic 1 Fire Safety and Site Hazards
Topic 2 Building Safety

Major Topic: Environmental

Topic 1 Gas Detection and Monitoring
Topic 2 Environmental Impact of Refrigerants

Refrigeration Plant Operator Recreation

Syllabus

Major Topic: Principles of Refrigeration

Topic 1 Applied Thermodynamics
Topic 2 Refrigerants
Topic 3 Basic Refrigeration Cycles

Major Topic: Refrigeration Equipment and Components

Topic 1 Refrigeration Compressors
Topic 2 Oil Separators
Topic 3 Compressor Lubrication
Topic 4 Condensers
Topic 5 Cooling Towers
Topic 6 Evaporators
Topic 7 Metering Devices
Topic 8 Cooling Coils

Major Topic: Refrigeration Controls and Instrumentation

Topic 1 Fundamentals Measuring Devices
Topic 2 Basic Operational Controls
Topic 3 Basic Safety Controls

Major Topic: Refrigeration System Operation and Maintenance

Topic 1 Checks
Topic 2 Safety Devices and Functions
Topic 3 Troubleshooting
Topic 4 Procedures