



Certified Clean Energy
Professional
VS-1134

Vskills Certifications

Vskills Brochure



Skills for a secure future

Certified Clean Energy Professional

Certification Code VS-1134

Vskills certification for Clean Energy Professional assesses the candidate as per the company's need for assessing, implementing and managing clean energy initiatives. The certification tests the candidates on various areas in climate change, energy resources, energy utilization, environmental aspects, solar radiation basics, different forms of clean energy (solar thermal or photovoltaic, wind, hydropower, geothermal, biomass, oceanic), fuel cells, Closed Rankin Cycle, bio-diesel, ethanol, Gibbs-Helmholtz Equation, hydrogen energy and hybrid energy systems.

Why should one take this certification?

This Course is intended for professionals and graduates wanting to excel in their chosen areas. It is also well suited for those who are already working and would like to take certification for further career progression.

Earning Vskills Clean Energy Professional Certification can help candidate differentiate in today's competitive job market, broaden their employment opportunities by displaying their advanced skills, and result in higher earning potential.

Who will benefit from taking this certification?

Job seekers looking to find employment in sustainability, CSR or energy departments of various companies, students generally wanting to improve their skill set and make their CV stronger and existing employees looking for a better role can prove their employers the value of their skills through this certification.

Test Details

- **Duration:** 60 minutes
- **No. of questions:** 50
- **Maximum marks:** 50, Passing marks: 25 (50%)

There is no negative marking in this module.

Fee Structure

Rs. 3,499/- (Excludes taxes)*

*Fees may change without prior notice, please refer <http://www.vskills.in> for updated fees

Companies that hire Vskills Clean Energy Professional

Clean Energy Professionals are in great demand. Companies specializing in clean energy or consulting are constantly hiring skilled Clean Energy Professionals. Various public and private companies also need Clean Energy Professionals for their sustainability, CSR or energy departments.

Table of Contents

1. Introduction

- 1.1 Energy Basics and Parameters
- 1.2 Energy Resources
- 1.3 Conventional and Non Conventional Sources
- 1.4 Non Renewable Energy Sources
- 1.5 Renewable Energy Sources
- 1.6 India's Power Potential
- 1.7 Indian Government Authorities
- 1.8 Distributed Energy Generation
- 1.9 Microgrid
- 1.10 Environmental Impact of Electricity Generation
- 1.11 Energy Conservation

2. Solar Radiation

- 2.1 Solar Constant
- 2.2 Solar Radiation and Measurement
- 2.3 Terrestrial Solar Radiation
- 2.4 Solar Radiation Geometry
- 2.5 Solar Radiation Data for India

3. Solar Thermal Energy Collectors

- 3.1 Solar Thermal Energy
- 3.2 Solar Thermal Collector
- 3.3 Laws of Thermal Radiation
- 3.4 Radiation Optics
- 3.5 Types of Collectors
- 3.6 Solar Concentrating Collectors
- 3.7 Compound Parabolic Concentrators (CPC)

4. Solar Thermal Energy

- 4.1 Solar Thermal Energy Storage Technologies
- 4.2 Solar Thermal Energy Conversion Systems
- 4.3 Thermodynamic Cycles And Solar Plants
- 4.4 Solar Thermal Power Plants
- 4.5 Solar Ponds
- 4.6 Solar Pumping System
- 4.7 Solar Air Heaters
- 4.8 Collector types
- 4.9 Solar Crop Drying
- 4.10 Solar Kilns
- 4.11 Solar Cookers
- 4.12 Energy Efficient Buildings
- 4.13 Other Applications

5. Solar Photovoltaic System

- 5.1 Basic Concepts
- 5.2 Semiconductor Materials For Solar Cells
- 5.3 PV Hybrid System
- 5.4 Grid Interactive Solar PV Power System
- 5.5 Solar Power Plant Using A Satellite
- 5.6 Plastic Solar Cells With Nanotechnology
- 5.7 Peltier Cooler
- 5.8 Solar Energy And India

6. Wind Energy

- 6.1 Historical Development
- 6.2 Characteristics of Wind
- 6.3 Classification of Wind Turbines
- 6.4 Design and functioning of a wind turbine
- 6.5 Types of Rotors
- 6.6 Wind Farm
- 6.7 Aerodynamic Operations of Wind Turbines
- 6.8 Wind Energy Extraction
- 6.9 Weibull Probability Density Function

7. Wind Energy Farms

- 7.1 Wind Resource Assessment
- 7.2 Wind Energy Availability
- 7.3 Wind Energy Generator
- 7.4 Grid Connectivity
- 7.5 Microprocessor-Based Control System
- 7.6 Wind Farms Economics
- 7.7 Potential in India

8. Small Hydropower

- 8.1 Power Equation
- 8.2 Classifications
- 8.3 Components of Hydro Project
- 8.4 Applications of Turbines For A Small Hydropower Project
- 8.5 Small Hydro Scenario

9. Geothermal Energy

- 9.1 Geothermal Energy Basics
- 9.2 Structure of The Earth's Interior
- 9.3 Plate Tectonic Theory
- 9.4 Geothermal Fields
- 9.5 Geothermal Gradient
- 9.6 Geothermal Resources
- 9.7 Geothermal Power Generation
- 9.8 Indian and Global Potential

10. Ocean Energy

- 10.1 Tidal Energy
- 10.2 Wave Energy
- 10.3 Ocean Thermal Energy (OTEC)

11. Biomass Energy

- 11.1 Biomass Resources
- 11.2 Bio Fuels
- 11.3 Biogas
- 11.4 Producer Gas
- 11.5 Biomass Conversion Technologies
- 11.6 Biomass Gassification
- 11.7 Energy Recovery From Urban Waste
- 11.8 Power Generation From Liquid Waste
- 11.9 Biomass Cogeneration
- 11.10 Biomass Energy and India

12. Fuel Cells

- 12.1 Principle and Working Of Fuel Cell
- 12.2 Types of Fuel Cells
- 12.3 Fuel Cell Setup
- 12.4 System Efficiency
- 12.5 Comparison between Acidic and Alkaline
- 12.6 Electrolysis and The Fuel Cell Process

13. Hydrogen Energy

- 13.1 Emergence of Hydrogen
- 13.2 Hydrogen Applications
- 13.3 Hydrogen Production
- 13.4 Hydrogen Storage
- 13.5 Economics of Hydrogen Fuel And It's Use

14. Hybrid Energy Systems

- 14.1 Need for Hybrid System
- 14.2 Hybrid System Types
- 14.3 Hybrid Electric Vehicles
- 14.4 Hydrogen Powered Vehicles

15. Environment, Energy And Global Climate Change

- 15.1 Environmental Studies
- 15.2 Environment
- 15.3 Pollution
- 15.4 Climate Change
- 15.5 Global Warming
- 15.6 Sustainable Development
- 15.7 Ecological Succession

15.8 Population Explosion

Sample Questions

1. Which of the following is a nonrenewable energy resource?
 - A. Solar
 - B. Solar
 - C. Hydroelectric
 - D. Coal

2. The amount of oil that may become available for use is called oil _____.
 - A. Reserves
 - B. Reservoirs
 - C. Resources
 - D. Traps

3. A coal deposit that is not economical to mine today would be considered part of our _____.
 - A. Coal reserves
 - B. Coal resources
 - C. Coal reservoirs
 - D. None of these

4. What is the leading source of energy used in the United States today?
 - A. Coal
 - B. Oil resources
 - C. Natural gas
 - D. Nuclear power

5. The first oil well was drilled in the United States in _____.
 - A. 1829
 - B. 1859
 - C. 1929
 - D. 1959

Answers: 1 (D), 2 (C), 3 (B), 4 (B), 5 (B)

Certifications

➤ Accounting, Banking and Finance

- Certified AML-KYC Compliance Officer
- Certified Business Accountant
- Certified Commercial Banker
- Certified Foreign Exchange Professional
- Certified GAAP Accounting Standards Professional
- Certified Financial Risk Management Professional
- Certified Merger and Acquisition Analyst
- Certified Tally 9.0 Professional
- Certified Treasury Market Professional
- Certified Wealth Manager

➤ Big Data

- Certified Hadoop and Mapreduce Professional

➤ Cloud Computing

- Certified Cloud Computing Professional

➤ Design

- Certified Interior Designer

➤ Digital Media

- Certified Social Media Marketing Professional
- Certified Inbound Marketing Professional
- Certified Digital Marketing Master

➤ Foreign Trade

- Certified Export Import (Foreign Trade) Professional

➤ Health, Nutrition and Well Being

- Certified Fitness Instructor

➤ Hospitality

- Certified Restaurant Team Member (Hospitality)

➤ Human Resources

- Certified HR Compensation Manager
- Certified HR Staffing Manager
- Certified Human Resources Manager
- Certified Performance Appraisal Manager

➤ Office Skills

- Certified Data Entry Operator
- Certified Office Administrator

➤ Project Management

- Certified Project Management Professional

➤ Real Estate

- Certified Real Estate Consultant

➤ Marketing

- Certified Marketing Manager

➤ Quality

- Certified Six Sigma Green Belt Professional
- Certified Six Sigma Black Belt Professional
- Certified TQM Professional

➤ Logistics & Supply Chain Management

- Certified International Logistics Professional
- Certified Logistics & SCM Professional
- Certified Purchase Manager
- Certified Supply Chain Management Professional

➤ Legal

- Certified IPR & Legal Manager
- Certified Labour Law Analyst
- Certified Business Law Analyst
- Certified Corporate Law Analyst

➤ Information Technology

- Certified ASP.NET Programmer
- Certified Basic Network Support Professional
- Certified Business Intelligence Professional
- Certified Core Java Developer
- Certified E-commerce Professional
- Certified IT Support Professional
- Certified PHP Professional
- Certified Selenium Professional
- Certified SEO Professional
- Certified Software Quality Assurance Professional

➤ Mobile Application Development

- Certified Android Apps Developer
- Certified iPhone Apps Developer

➤ Security

- Certified Ethical Hacking and Security Professional
- Certified Network Security Professional

➤ Management

- Certified Corporate Governance Professional
- Certified Corporate Social Responsibility Professional

➤ Life Skills

- Certified Business Communication Specialist
- Certified Public Relations Officer

➤ Media

- Certified Advertising Manager
- Certified Advertising Sales Professional

➤ Sales, BPO

- Certified Sales Manager
- Certified Telesales Executive

& many more job related certifications

Contact us at :

Vskills

011-473 44 723 or info@vskills.in

www.vskills.com