

Small Hydro Power (SHP) Module

Students Workbook



Study materials in Renewable Energy Areas
for ITI students

Ministry of New and Renewable Energy
Government of India

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for
Small Hydro Power (SHP) Module

Ministry of New and Renewable Energy
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Unit 1: Introduction to Renewable

Q 1. Write a note on: Water Cycle?

Q 2. Explain Small Hydro Power as a viable option?

Unit 2: Small Hydro power - Basic Working Principles

Q 1. Explain how Micro Hydro power works?

Q 2. What are Impulse turbines and Reaction turbines?

Unit 3: Working of an SHP

Q 1. Explain in brief the main parts of an SHP?

Unit 4: Electrical and Mechanical Equipment in a small Hydro Power Plant

Q 1. What are the types of Reaction turbines? Explain them in brief?

Q 2. What are the parts of an SHP drive system?

Q 3. What are the types of generators? Explain them in brief?

Q 4. What is a speed governor?

Q 5. Why is a speed increaser required?

Unit 5: Measuring Head and Flow

Q 1. How would you select the best water source site?

Q 2. List the different methods of measuring the head for a closed diversion system. Explain them in brief.

Unit 6: Generating Power

Q 1. How does one calculate the flow?

Q 2. What is the benefit of a draft tube?

Q 3. Write down the causes of head loss?

Q 4. How would you calculate the overall efficiency of an SHP?

Unit 7: Economics of Using an SHP

Q 1. Write down the advantages and shortcomings of an SHP.

Unit 8: Water Mills

Q 1. Write a short note on water mills?

Q 2. Write down the installation procedure for new improved water mills?

Q 3. Write a note on maintenance of water mills?

Q 4. List down in detail impacts of water mill upgrades?

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial data. This includes not only sales and purchases but also expenses and income. The document provides a detailed list of items that should be tracked, such as inventory levels, employee salaries, and utility bills. It also outlines the procedures for recording these transactions, including the use of specific accounting software and the importance of double-checking entries for accuracy.

The second part of the document focuses on the analysis of the recorded data. It explains how to use various financial statements, such as the balance sheet, income statement, and cash flow statement, to gain insights into the company's financial health. The document provides step-by-step instructions on how to interpret these statements and identify trends and potential areas of concern. It also discusses the importance of comparing the company's performance against industry benchmarks and setting realistic financial goals for the future.

The final part of the document offers practical advice on how to use the information gathered from the financial records to make informed business decisions. It suggests ways to optimize operations, reduce costs, and increase revenue. The document also highlights the importance of regular communication with stakeholders, such as investors and creditors, to ensure transparency and build trust. Overall, the document serves as a comprehensive guide for anyone looking to improve their financial management and achieve long-term success.