

S.S. JAIN SUBODH P.G. COLLEGE, JAIPUR
VALUE-ADDED COURSE
COURSE TITLE: SOLAR ENERGY AND APPLICATIONS
NODAL DEPARTMENT: ENVIRONMENTAL SCIENCE
COURSE CODE: 23VAC_5105T

MARKING SCHEME

Tutorial (Hours)	Time Allowed ESE (Hrs)	Course Credits	Total Marks	End Semester Exam (Max. Marks)	Assignment	Minimum Marks
30	2	2	50	35	15	20

COURSE OBJECTIVES:

1. To enable the students to acquire knowledge of solar energy fundamentals.
2. To develop a comprehensive technological understanding in solar energy applications.

COURSE CONTENTS:

Introduction to Renewable energy, Sun as an energy source, Structure and composition, Solar energy, its importance, Solar radiation, Sun-earth angles, Solar radiation data calculation, Electricity from solar energy, Solar Collectors and types.

(15 Hours)

Storage of solar energy, Passive and active thermal applications of solar energy, solar pond, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning, Success stories on its application and present scenario in India.

(15 Hours)

SUGGESTED READINGS:

1. Fundamentals of Solar Energy; Dr. R. Suresh Kumar; Edu creation Publishing; 2019.
2. Basics of Solar Energy - Renewable Energy; Sandeep Kumar Chaubey; Notion Press; 2022.
3. Solar Energy for Everyone: A Beginner's Guide to Solar Energy; Dr Jyoti Prakash Srivastava; Notion Press; 2023
4. Fundamentals of Renewable Energy Systems; D. Mukherjee; New Age International Private Limited; 2004.

COURSE OUTCOMES:

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On successful completion of the course the students will be able to:

1. Graduates will be equipped to conduct advanced research in solar energy, contributing to the development of new technologies, materials, and methods to enhance the efficiency and accessibility of solar energy.
2. Graduates will be prepared for careers in the renewable energy sector, including roles in solar energy project management, system design, policy-making, and research and development.

MARKING SCHEME

Internal	External	Total	Grade	Percentage
Theory	Practical	Marks	Mark	Marks

(Prof. K. B. Sharma)

Principal

Head of the Department