

Branch: Computer Engineering

Semester: 5th

Subject: Web Programming

Session: Aug -Dec 2024

Teacher: Ritesh Avasthi

Laboratory: Yes

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks
1	08	UNIT 1: Dynamic Websites	Review of HTML5, CSS and JavaScript; HTTP, HTTP Request, HTTP Response, Working of a Web Server, Static Websites, Dynamic Websites, Web Applications, Form Data Submission Methods - GET and POST, HTTP Sessions, HTTP Cookies.	R1,R2	
2	10	UNIT 2: Introduction to PHP	Origin of PHP, Advantages of PHP, Embedding PHP Code in Webpages, LAMP Stack, Install and Configure PHP Environment, PHP Syntax, Comments, Variables, Naming Variables, Variable Scope, Constants, echo statement, PHP Data Types, String Literals - Single and Double Quoted Strings, PHP Operators, PHP Control Statements, PHP Arrays.	R2	
3	08	UNIT 3: PHP Functions	PHP Standard Library Functions: String Functions - htmlspecialchars(), ltrim(), rtrim(), trim(), strtoupper(), strtolower(), explode(), implode(), strlen(), strcmp(), strpos(); Math Functions - sqrt(), ceil(), floor(), log(), pow(), sin(), cos(), tan(); User-defined Functions.	R3	
4	10	UNIT 4: PHP Form Processing	HTML Form Element, action and method Attributes, submit and clear Buttons, Form Elements, name and id attributes, Hidden Input, Client-side Form Validation, PHP Superglobals - \$_GLOBALS, \$_SERVER, \$_REQUEST, \$_POST, \$_GET, \$_FILES, \$_ENV, \$_COOKIE, \$_SESSION; Server-side Validation, Handling Uploaded Files.	R3,R4	
5	12	UNIT 5 Using MySQL Database with PHP	Basic Database Concepts - Database, Table, Column, keys & Constraints, Connecting PHP to MySQL, Executing Simple SQL Statements - INSERT, UPDATE, DELETE and SELECT, Retrieving and Processing Query Results, mysqli_real_escape_string()function, Handling MySQL errors.	R4	

References:

- R1. Learning PHP, MySQL & JavaScript by Robin Nixon, O'Reilly Media.
- R2. PHP and MySQL Web Development by Luke Welling and Laura Thomson, Addison-Wesley Books.
- R3. <https://nptel.ac.in>
- R4. <https://www.w3schools.com> -

COURSE OUTCOMES:

After completing this course students will be able to:

- CO-1 Analyze the basic structure of a web application.
- CO-2 Distinguish between static and dynamic websites.
- CO-3 Understand the components of the LAMP stack.
- CO-4 Develop dynamic websites using LAMP stack.

Ritesh Avasthi
01/08/2024
Signature of Teacher with Date

Sax
Signature of HOD

GOVT. POLYTECHNIC, HAMIRPUR (H.P.)
Lesson Planning and Coverage

Branch: Computer Engineering

Semester: 5th

Subject: Renewable Energy Technologies

Session: Aug -Dec 2024

Teacher: Ritesh Avasthi

Laboratory: Yes

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks
1	12	UNIT 1: Introduction	World Energy Use; Reserves of Energy Resources; Environmental Aspects of Energy Utilization; Renewable Energy Scenario in India and around the World; Potentials; Achievements/Applications; economics of renewable energy systems.	R1,R2	
2	13	UNIT 2: Solar energy	Solar Radiation; Measurements of Solar Radiation; Flat Plate and Concentrating Collectors; Solar direct Thermal Applications; Solar thermal Power Generation; Fundamentals of Solar Photo Voltaic Conversion; Solar Cells; Solar PV Power Generation; Solar PV Applications.	R1,R2	
3	13	UNIT 3: Wind Energy	Wind Data and Energy Estimation; Types of Wind Energy Systems; Performance; Site Selection; Details of Wind Turbine Generator; Safety and Environmental Aspects.	R1,R2	
4	13	UNIT 4: Bio-Energy	Biomass direct combustion; Biomass gasifiers; Biogas plants; Digesters; Ethanol production; Biodiesel; Cogeneration; Biomass Applications.	R1,R2	
5	13	UNIT 5: Other Renewable Energy Sources	Tidal energy; Wave Energy; Open and Closed OTEC Cycles; Small Hydro-Geothermal Energy; Hydrogen and Storage; Fuel Cell Systems; Hybrid Systems.	R1,R2	

References:

- R1. O.P. Gupta, Energy Technology, Khanna Publishing House, Delhi.
R2. Online resources.

COURSE OUTCOMES:

After completing this course students will be able to:

- CO1: Understand present and future energy scenario of the world.
CO2: Understand various methods of solar energy harvesting.
CO3: Identify various wind energy systems.
CO4: Evaluate appropriate methods for Bio-energy generations from various Bio-wastes.
CO5: Identify suitable energy sources for allocation.


Signature of Teacher with Date 01/08/2024


Signature of HOD