Department of Electrical and Electronics Engineering

Lesson Plan & Work-done Diary for AY:2024-25, EVEN Semester

Course with Code: Technologies of Renewable Energy Sources_ BEE654B				Faculty: Dr Sathish K R			Semester & Section: VI	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-1								
1	10.02.25	**Introduction:** Causes of Energy Scarcity, Solution to Energy Scarcity	PPT with Chalk and Talk ICT	1				
2	12.02.25	Factors Affecting Energy Resource Development, Energy Resources and Classification		2				
3	14.02.25	Renewable Energy – Worldwide Renewable Energy Availability, Renewable Energy in India.		3				
4	17.02.25	Energy from Sun: Sun- earth Geometric Relationship		4				
5	19.02.25	Layer of the Sun, Earth – Sun Angles and their Relationships		5				
6	21.02.25	Solar Energy Reaching the Earth's Surface		6				
7	24.02.25	Solar Thermal Energy Applications		7				
8	28.02.25	Discussion on VTU QP /SRS Activity.		8				

Department of Electrical and Electronics Engineering

Course with Code: Technologies of Renewable Energy Sources _ BEE654B				Faculty: Dr Sathish K R			Semester & Section: VI	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-2								
1	03.03.25	**Solar Thermal Energy Collectors:** Types of Solar Collectors, Configurations of Certain Practical Solar Thermal Collectors	PPT with Chalk and Talk ICT	1				
2	05.03.25	Material Aspects of Solar Collectors, Concentrating Collectors, Parabolic Dish – Stirling Engine System		2				
3	07.03.25	Working of Stirling or Brayton Heat Engine, Solar Collector Systems into Building Services		3				
4	10.03.25	Solar Water Heating Systems, Passive Solar Water Heating Systems, Applications of Solar Water Heating		4				
5	12.03.25	Active Solar Space Cooling, Solar Air Heating, Solar Dryers, Crop Drying, Space Cooing, Solar Cookers,		5				
6	14.03.25	**Solar Cells:** Components of Solar Cell System, Elements of Silicon Solar Cell, Solar Cell materials		6				
7	17.03.25	Practical Solar Cells, I – V Characteristics of Solar Cells, Efficiency of Solar Cells, Photovoltaic panels		7				
8	19.03.25	Discussion on VTU QP /SRS Activity.		8				

Department of Electrical and Electronics Engineering

Course with Code: Technologies of Renewable Energy Sources_ BEE654B				Faculty: Dr Sathish K R			Semester & Section: VI	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-3								
1		**Hydrogen Energy:** Benefits of Hydrogen Energy, Hydrogen Production Technologies.	PPT with Chalk and Talk ICT	1				
2		Use of Hydrogen Energy, Advantages and Disadvantages.		2				
3		**Wind Energy:** Windmills, Wind Turbines, Wind Resources, Wind Turbine Site Selection.		3				
4		**Geothermal Systems**, Classifications, Geothermal Resource Utilization, Resource Exploration.		4				
5		Geothermal Based Electric Power Generation, Associated Problems, environmental Effects.		5				
6		Waste is Wealth, Key Issues, Waste Recovery Management Scheme		6				
7		Advantages and Disadvantages of Waste Recycling		7				
8		Sources and Types of Waste, Recycling of Plastics.		8				

Department of Electrical and Electronics Engineering

Course with Code: Technologies of Renewable Energy Sources_ BEE654B				Faculty: Dr Sathish K R			Semester & Section: VI	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-4								
1		**Biomass** Production, Energy Plantation, Biomass Gasification, Theory of Gasification.	PPT with Chalk and Talk ICT	1				
2		Chemistry of Reaction Process in Gasification, Updraft, Downdraft and Cross-draft Gasifiers		2				
3		Applications of Biomass Gasifier, Cooling and Cleaning of Gasifiers		3				
4		**Biogas Energy:** Introduction, Biogas and its Composition, Anaerobic Digestion, Biogas Production		4				
5		Benefits of Biogas, Factors Affecting the Selection of a Particular Model of a Biogas Plant.		5				
6		Biogas Plant Feeds and their Characteristics.		6				
7		**Tidal Energy:** Introduction, Tidal Energy Resource, Tidal Energy Availability		7				
8		Tidal Power Basin, Turbines for Tidal Power, Advantages and Disadvantages		8				

Department of Electrical and Electronics Engineering

Course with Code: Technologies of Renewable Energy Sources_ BEE654B				Faculty: Dr Sathish K R			Semester & Section: VI	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-5								
1		**Sea Wave Energy:** Introduction, Motion in the sea Waves, Power Associated with Sea Waves	PPT with Chalk and Talk	1				
2		Devices for Harnessing Wave Energy, Advantages and Disadvantages of Wave Power.		2				
3		**Ocean Thermal Energy:** Introduction, Principles of Ocean Thermal Energy Conversion (OTEC)		3				
4		Ocean Thermal Energy Conversion plants, Basic Rankine Cycle and its Working		4				
5		Closed Cycle, Open Cycle and Hybrid Cycle		5				
6		Carnot Cycle, Application of OTEC in Addition to Produce Electricity		6				
7		Advantages, Disadvantages and Benefits of OTEC.		7				
8		Discussion on VTU QP /SRS Activity.		8				

Department of Electrical and Electronics Engineering

Sl. No.	Activity	Planned	Actual	Remarks
1	Theory Classes	40		
2	Assignments/Quizzes/Self-study	3		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT-based Teaching. (% of usage in Curriculum)	20		
Planning			**Execution**	
Faculty Signature:			**Faculty Signature:**	
HoD Signature:			**HoD Signature:**	