



Bhoj Reddy Engineering College for Women

Sponsored by Sangam Laxmibai Vidyapeet, Accredited by NAAC with A Grade,
Approved by AICTE and affiliated to JNTUH, Recognized by UGC under section 2(f) of the UGC Act, 1956
Vinaynagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana. www.brecw.ac.in



Department of Electrical and Electronics Engineering

Name of the Lab : Simulation of Renewable Energy Systems Lab

Academic Year : 2026-27

Subject Code : EE703PC

Semester : I

Name of the Faculty Member : Dr B Dhanadeepika

Class & section : IV EEE

S. No.	Date	Name of the Topic	No. of Classes required	Cumulative number of periods	Teaching AID
CYCLE- I					
1	7,9 July 2026	Introduction to the Components of MATLAB SIMULINK	04	04	Chalk & talk
2	14,16 July 2026	Modelling the steady state and dynamic characteristics of the following (i) (ii) (iii) Fuel cell and Wind energy sources	04	08	Practice & Execution
3	21,23 July 2026	Analysis, Measurement and Mitigation of EMI in Electronic and Power electronic systems	04	12	Practice & Execution
4	28,30 July 2026	Maximum Power Point Tracking Schemes	04	16	Practice & Execution
5	4,6 August 2026	Power factor correction techniques for AC to DC systems	04	20	Practice & Execution
6	11,13 August 2026	Switched capacitor DC – DC power converters	04	24	Practice & Execution
7	18,20 August 2026	Revision of Lab Experiments	04	28	Practice & Execution
8	25, 27 August 2026	Revision of Lab Experiments	04	32	Practice & Execution
CYCLE-2					
9	8,10 September 2026	ZVS, ZCS configurations	04	36	Practice & Execution
10	15,17 September 2026	Compensation Schemes for VAR, harmonics and phase imbalance Power conversion and Electric Drives	04	40	Practice & Execution
11	22,24 September 2026	New power converter topologies and their analysis, modelling and simulation	04	44	Practice & Execution
12	29 September 2026	High frequency link power conversion	04	48	Practice & Execution
13	6, 8 October 2026	Microgrid Power Quality	04	52	Practice & Execution
14	13,15 October 2026	Revision of Lab Experiments	04	56	Practice & Execution,
15	22,27 October 2026	Revision of Lab Experiments	04	60	Practice & Execution

16	29 October 2026	Lab Internal Exam	04	64	Test
		Total number of classes	64	64	

TEACHING METHODS:

C&T:-Chalk & Talk; S/P:-Slides/PPT; RTCS: Real time case studies; RW: Report Writing, MM: Model making

TEXT / REFERENCE BOOKS

S. No.	TEXT / REFERENCE BOOKS	BOOK TITLE/AUTHORS/PUBLICATION
1	Text Book	S. N. Bhadra, D. Kastha, S. Banerjee, “Wind Electrical Systems”, Oxford University Press, 2005.
2	Text Book	S. N. Bhadra, D. Kastha, & S. Banerjee “Wind Electrical Systems”, Oxford University Press, 2009.
3	Text Book	Rai. G. D, “Non-conventional energy sources”, Khanna Publishers, 1993.
4	Reference Book	Rai. G.D,” Solar energy utilization”, Khanna Publishes, 1993.
5	Reference Book	Gray, L. Johnson, “Wind energy system”, Prentice Hall of India, 1995.
6	Reference Book	B.H.Khan "Non-conventional Energy sources", Mc Graw-hill, 2nd Edition, 2009
7	Reference Book	M. H. Rashid, Simulation of Electric and Electronic circuits using PSPICE – by M/s PHI Publications

WEB SOURCE REFERENCES:

S. No.	Web Resource	Link
1	Virtual Labs-SRES	https://ep-iitb.vlabs.ac.in/exp/characteristics-solar-cell/theory.html
2	Coursera – Exploring Renewable Energy Schemes	https://www.coursera.org/learn/exploring-renewable-energy
3	Technologies for Simulation of Renewable Energy Conversion System (YouTube Playlist)	https://www.youtube.com/watch?v=VS7ovhpeLPM&t=1968s

Signature of Faculty

HoD-EEE