

KRISHNASAMY

College of
ENGINEERING & TECHNOLOGY

Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
☎ (04142) 285 601 - 604 🌐 www.kcet.in ✉ info@kcet.in

DEPARTMENT OF EEE

11.01.2022


CIRCULAR

Ref.: KCET/EEE/VAC/CIRCULAR/2021-22/01.

The following Value Added Course will be conducted during the academic year 2021-2022. The course will be conducted from 18.01.2022 to 22.01.2022. Students are instructed to register their names in the course allotted to them.

Note: Students are instructed to attend the program without fail.

S.No.	Course Code	Name of the Course	Year	No. of Period	Course Coordinator
1	EE-VAC2101	SMPS	IV	30	Mr.R.Srinivasan ASP/EEE
2	EE-VAC2102	UPS	III	30	Dr.D.Periyazhagar AP/EEE


HOD/EEE
- 11/1/22

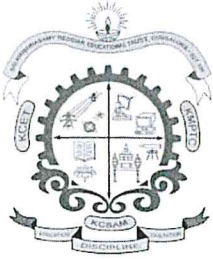
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DEPARTMENT OF EEE

Subject Code: EE-VAC2101

Subject Name: SMPS

Duration: 30 Hours

OBJECTIVES:

- Modern power electronic converters and its applications in electric power utility.
- Resonant converters

MODULE -I **8**

Principles of step down and step up converters – Analysis and state space modeling of Buck, Boost, Buck- Boost and Cuk converters.

MODULE - II **8**

Analysis and state space modeling of fly back, Forward, Push pull, Luo, Half bridge and full bridge converters- control circuits and PWM techniques.

MODULE - III **7**

Introduction- classification- basic concepts- Resonant switch- Load Resonant converters- ZVS , Clamped voltage topologies- DC link inverters with Zero Voltage Switching- Series and parallel Resonant inverters

MODULE - IV **7**

Single phase and three phase inverters, control using various (sine PWM, SVPWM and PSPWM) techniques, various harmonic elimination techniques- Multilevel inverters- Concepts - Types: Diode clamped- Flying capacitor- Cascaded types- Applications

TOTAL: 30 PERIODS



COURSE OUTCOMES:

On Completion of the course, the students should be able to:

- Ability to analyze the state space model for DC – DC converters
- Ability to analyze the PWM techniques for DC-AC converters
- Ability to acquire knowledge on modern power electronic converters and its applications in electric power utility.
- Ability to acquire knowledge on filters.


TEXT BOOKS:

1. Simon Ang, Alejandro Oliva, "Power-Switching Converters", Third Edition, CRC Press, 2010.
2. KjeldThorborg, "Power Electronics – In theory and Practice", Overseas Press, First Indian Edition 2005.
3. M.H. Rashid – Power Electronics handbook, Elsevier Publication, 2001

REFERENCES:

1. Philip T Krein, "Elements of Power Electronics", Oxford University Press
2. Ned Mohan, Tore.M.Undeland, William.P.Robbins, Power Electronics converters, Applications and design- Third Edition- John Wiley and Sons- 2006
3. M.H. Rashid – Power Electronics circuits, devices and applications- third edition Prentice Hall of India New Delhi, 2007.
4. Erickson, Robert W, "Fundamentals of Power Electronics", Springer, second edition, 2010




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