KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE &Affliliated to Anna University

Anand Nagar, Nellikuppam Main Road, Kumarapuram, Cuddalore– 607 109.

Phone no.(04142) 285 601- 604 www.kcet.in info@kcet.in

DEPARTMENT OF ECE

30.10.2019

CIRCULAR

Ref.: KCET/ECE/VAC/CIRCULAR/2019-20/02.

The following Value Added Course will be conducted during the academic year 2018-2019. The course will be conducted from 13.12.2019 to 18.12.2019 for final year and 23.12.2019 to 28.12.2019 for third year. 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	EC-VAC2001	OPTICAL ELECTRONICS	IV	30	Er.R.Ravi,AP/ECE
2	EC-VAC2002	OPTO ELECTRONIC DEVICES	III	30	Er.S.Nandhini,AP-ECE

HOD/ECE

Copy to:

Class Room

Class In charge

Department File

KRISHNASAMY COLLEGE OF ENGG. & TECH
CUDDALORE
607 109.

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE &Affliliated to Anna University

Anand Nagar, Nellikuppam Main Road, Kumarapuram, Cuddalore– 607 109.

Phone no.(04142) 285 601- 604 www.kcet.in info@kcet.in

SYLLABUS

Subject Code/ Subject Name: EC-VAC2001- OPTICAL ELECTRONICS Duration: 30 Hours

Objectives:

Understand the basic optoelectronics including electromagnetism, light propagation in waveguides, light amplification and detection, lasers, modulators, and detectors.

Be familiar with recent trends in optoelectronics.

Module 1: ELEMENTS OF LIGHT AND SOLID STATE 6

Wave nature of light – Polarization – Interference – Diffraction – Light source – Review of quantum mechanical concept – Review of solid state physics – Review of semiconductor physics and semiconductor junction device.

Module 2: DISPLAY DEVICES AND LASERS 6

Introduction – Photo luminescence – Cathode luminescence – Electro luminescence – Injection luminescence – Injection luminescence – LED – Plasma display – Liquid Crystal Display (LCD).

Module 3: OPTICAL DETECTION DEVICES 6

Photo detector – Thermal detector – Photo devices – Photo conductors – Photo diodes – Detector performance.

Module 4: OPTOELECTRONIC MODULATOR 6

Introduction – Analog and digital modulation – Electro-optic modulators – Magneto optic devices – Acoustoptic devices – Optical – Switching and logic devices.

Module 5: OPTOELECTRONIC INTEGRATED CIRCUITS 6

Introduction – Hybrid and monolithic integration – Application of opto electronic integrated circuits – Integrated transmitters and receivers – Guided wave devices.

Duration: 30 Hours

Course Outcomes: At the end of the course the student will be able to

CO1: Understand and analyze the constructional parameters of optical fibres.

CO2: Be able to design an optical system.

CO3: Estimate the losses due to attenuation, absorption, scattering and bending.

HoD/ECE 29/10/19

KRISHNASAMY COLLEGE OF ENGG. & TECH. CUDDALORE 607 109.