VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF PHYSICS

FUNDAMENTALS OF THIN FILM TECHNOLOGY

Open elective Course (One Credit)

w.e.f academic year 2018-2019

Instruction:1 Hour/week	SEE Marks: 50	Course Code: **OE490PH**
Credits: 01	CIE Marks: 30	
Duration of CIE: 1.5 Hrs	Duration of SEE: 2 Hrs	

UNIT-I:

Classification of thin films- nucleation and growth- nucleation theories, substrate effect, types of target materials (boat, hair pin, helix) , film thickness effect.

Thin film deposition techniques- simple thermal evaporation- flash evaporation, Laser ablation

UNIT-II:

Epitaxial process- quartz crystal oscillator technique to measure thickness of thin film. Fabrication of thin film resistor, capacitor, diode, anti-reflection coatings, gas sensors and temperature sensors.

SUGGESTED BOOKS:

1. Kasturi Chopra Thin Film Device Applications, Mac Graw Hill, New York, 2012
2. A. Goswami, thin film fundamentals, New age international, 2006
3. K.L. Chopra, thin film phenomenon, Mac Graw Hill, New York, 1990