

SEMESTER - I			
ELECTIVE – I	A. CRYSTAL GRO	WTH & THIN FILMS	
Code: 21PPHE11	Hrs/Week: 6	Hrs/Semester:90	Credits: 4

## Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO	CL
	all a star is and in the set of t	addressed	
CO 1	generate an understanding of self-assembly during the process	1	Un
CO 2	apply the processskills of scientific inquiry during experimentation	4	Ар
CO 3	Classify the arrangement of SEM, TEM	4	Ev
CO 4	apply the techniques of SEM and TEM to their own research projects	5	Ap
CO 5	distinguish the differences and similarities between different deposition techniques.	1	An
CO 6	categorize selection of deposition techniques for various applications	1	An
CO 7	use more techniques for the preparation of crystals and thin films	4	Ap
CO 8	recognize appropriate material for the fabrication of a device	4	Re

Criterion I

SSR Cycle V

		SEMES'	FER - II	
CORE VI T	HER	MODYNAMICS ANI	O STATISTICAL MEC	CHANICS
Code: 21PPHC	23	Hrs/Week: 6	Hrs/Semester: 90	Credits:5

## **Course Outcomes:**

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	CO No.	Upon completion of this course, students will be able to	PSOs addressed	CL
and a second	CO 1	Understand working knowledge of the zeroth, first, second and	1	Un
Citato -		third law of thermodynamics		
	CO 2	Apply statistics in different systems containing atoms and molecules	2	Ap
	CO 3	Inspect the partition function for the microcanonical,	1	An
444		canonical, grand canonical ensemble		
	CO 4	Recall the loss of thermodynamics and equipartition theorem	1	Re
-		from the statistical description using microstates		
	CO 5	Assess about phase transitions and black body radiation	5	Ev
	CO 6	Apply energy changes in chemical reaction using the first law	2	Ар
1		of thermodynamics		
and the second	CO 7	Estimate the Statistical properties of Random Walks and fluctuations in ensembles	1	Cr
AN NO	CO 8	Determine the physical properties of the system using various	6	Ev
		correlation functions in Ising Model	2.15	l -

Criterion I

SSR Cycle V

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SEMESTER – III
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CORE - IX

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SOLID STATE PHYSICS- I

Code: 21PPHC33	Hrs/Week: 6	Hrs/Semester: 90	Credits: 5

## **Course Outcomes:**

CO No.	Upon completion of this course, students will be able to	PSOs	CL
		addressed	
CO 1	Recall about the crystal structure and degree of ordering to	1	Re
	atom binding and packing		
CO 2	Compare the Energy Bands and the number of orbital	5	Un
CO 3	Explain the physics of different types of bonds in crystalline	1	Un
	structure		
CO 4	Solve band structure calculations for simple systems	6	Cr
CO 5	Apply the role of effective electron mass in electron	1	Ap
	dynamics		
CO 6	Estimate the thermal ionization of donors and acceptors	4	Ev
CO 7	Describe diffraction using the reciprocal lattice	1	Re
CO 8	Deduce Bloch's theorem from the Schrödinger equation for	6	An
	electrons in a periodic potential	1	

Luis Rose

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SSR Cycle V