

LESSON PLAN FOR EVEN SEM
SESSION 2017-18

NAME OF ASSISTANT PROFESSOR

:Ms. SONIA VERMA

CLASS/SECTION

: M.Sc. Applied Physics(IV SEM)

SUBJECT

: MATERIAL SCIENCE II

UNIT/PART I	TOPIC	
	THEORY	PRACTICAL
DAY1 DATE 1-1-18	Superconductivity:occurrence of superconductivity,conventional superconductor	COMPUTER LAB Algorithm of quadratic equation
DAY2 DATE 2-1-18	.....	COMPUTER LAB algorithm of quadratic equation
DAY3 DATE 3-1-18	Meissner effect,properties of superconductor: Heat capacity	COMPUTER LAB flowchart of quadratic equation ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner(distribution of iron slab)
DAY4 DATE 4-1-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner(measurement of iron slab)
DAY5 DATE 5-1-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch number-100)
DAY7 DATE 8-1-18	Infrared properties of superconductors	COMPUTER LAB Flowchart of quadratic equation
DAY8 DATE 9-1-18	.....	COMPUTER LAB program of quadratic equation
DAY9 DATE 10-1-18	Isotope effect,energy gap in superconductors	COMPUTER LAB program of quadratic equation ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (drilling of slab)
DAY10 DATE 11-1-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner and screw driver
DAY13	Thermodynamics of superconducting	COMPUTER LAB

DATE 15-1-18	transitions	Program of quadratic equation
DAY 14 DATE 16-1-18	.....	COMPUTER LAB Program of quadratic method
DAY15 DATE 17-1-18	The attraction between electrons	COMPUTER LAB algorithm of bisection method ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (drilling of slab)
DAY16 DATE 18-1-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (drilling of slab)
DAY17 DATE 19-1-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch number-100)
DAY19 DATE 22-1-18	HOLIDAY	
DAY20 DATE 23-1-18	SPORTS DAY	.....
DAY21 DATE 24-1-18	HOLIDAY	
DAY22 DATE 25-1-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (drilling of slab)
DAY23 DATE 26-1-18	HOLIDAY	
UNIT/PART II	TOPIC	
	THEORY	PRACTICAL
DAY1 DATE 29-1-18	Cooper pairs	COMPUTER LAB Algorithm of bisection method
DAY2 DATE 30-1-18	.....	COMPUTER LAB Flowchart of bisection method
DAY3 DATE 31-1-18	HOLIDAY	
DAY4 DATE 1-2-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (cutting)
DAY5 DATE 2-2-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch

		number-120)
DAY7 DATE 5-2-18	Type I and II Super conductors	COMPUTER LAB Program of bisection method
DAY8 DATE 6-2-18	.....	COMPUTER LAB Program of bisection method
DAY9 DATE 7-2-18	London equation	COMPUTER LAB Program of bisection method ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (cutting)
DAY10 DATE 8-2-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (cutting)
DAY11 DATE 9-2-18	ASSIGNMENT 1	OPTICS LAB Fabrication of optical equilateral prism(pitch number-120)
DAY12 DATE 10-2-18	HOLIDAY	
DAY13 DATE 12-2-18	Flux Quantization	COMPUTER LAB Program of bisection method
DAY14 DATE 13-2-18	HOLIDAY	
DAY15 DATE 14-2-18	Properties of superconductors:Qualitative discussion of BCS Theory	COMPUTER LAB algorithm of simpson's 1/3 rule ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (scrapping and shaping)
DAY16 DATE 15-2-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner (scrapping and shaping)
DAY17 DATE 16-2-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch number-220)
DAY19 DATE 19-2-18	Coherence length	COMPUTER LAB flowchart of simpson's 1/3 rule
DAY20 DATE 20-2-18	.....	COMPUTER LAB flowchart of simpson's 1/3 rule
DAY21	Coherence Length	COMPUTER LAB

DATE 21-2-18		Program of simpson's 1/3 rule ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner(polishing)
DAY22 DATE 22-2-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of spanner(polishing)
DAY23 DATE 23-2-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch number-220)
UNIT/PART III	TOPIC	
	THEORY	PRACTICAL
DAY2 DATE 26-2-18	Duration of persistent current	COMPUTER LAB Program of simpson's 1/3 rule
DAY3 DATE 27-2-18	TEST & SEMINAR (PG CLASSES)	COMPUTER LAB Program of simpson's 1/3 rule
DAY4 DATE 28-2-18	HOLIDAY	
DAY5 DATE 1-3-18	HOLIDAY	
DAY6 DATE 2-3-18	HOLIDAY	
DAY7 DATE 3-3-18	HOLIDAY	
DAY8 DATE 5-3-18	DC Josephson effect	COMPUTER LAB algorithm of simpson's 3/8rule
DAY9 DATE 6-3-18	.....	COMPUTER LAB algorithm of simpson's 3/8rule
DAY10 DATE 7-3-18	AC Josephson effect	COMPUTER LAB flowchart of simpson's 3/8rule ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver (measurement of iron slab)
DAY11 DATE 8-3-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(grinding)

DAY12 DATE 9-3-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch number-302)
DAY13 DATE 10-3-18	ASSIGNMENT 2	.....
DAY 14 DATE 12-3-18	Single particle tunneling	COMPUTER LAB flowchart of simpson's 3/8rule
DAY15 DATE 13-3-18	.....	COMPUTER LAB Program of simpson's 3/8rule
DAY16 DATE 14-3-18	Josephon Tunneling	COMPUTER LAB Program of simpson's 3/8rule ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(grinding)
DAY17 DATE 15-3-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(grinding)
DAY18 DATE 16-3-18	.....	OPTICS LAB Fabrication of optical equilateral prism(pitch number-304)
DAY20 DATE 19-3-18	Macroscopic quantum interference	COMPUTER LAB Program of simpson's 3/8rule
DAY21 DATE 20-3-18	.....	COMPUTER LAB algorithm of least square curve fitting
DAY22 DATE 21-3-18	CONDITIONAL TEST	.....
DAY23 DATE 22-3-18	CONDITIONAL TEST	.....
DAY 24 DATE 23-3-18	HOLIDAY	
UNIT/PART IV	TOPIC	
	THEORY	PRACTICAL
DAY1 DATE 26-3-18	High temperature superconductors	COMPUTER LAB algorithm of least square curve fitting

DAY2 DATE 27-3-18	.....	COMPUTER LAB flowchart of least square curve fitting
DAY3 DATE 28-3-18	High temperature oxide superconductors	COMPUTER LAB flowchart of least square curve fitting ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(scraping and shaping)
DAY4 DATE 29-3-18	HOLIDAY	
DAY5 DATE 30-3-18	.....	OPTICS LAB Fabrication of optical equilateral prism(polishing)
DAY7 DATE 2-4-18	High temperature oxide superconductors:Discovery	COMPUTER LAB program of least square curve fitting
DAY8 DATE 3-4-18	.....	COMPUTER LAB Program of least square curve fitting
DAY9 DATE 4-4-18	High temperature oxide superconductors:Properties	COMPUTER LAB Program of least square curve fitting ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(polishing)
DAY10 DATE 5-4-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(polishing)
DAY11 DATE 6-4-18	.....	OPTICS LAB Fabrication of optical equilateral prism(polishing)
DAY13 DATE 9-4-18	High temperature oxide superconductors:Properties	COMPUTER LAB Program of least square curve fitting
DAY14 DATE 10-4-18	.....	COMPUTER LAB Program of least square curve fitting
DAY15	Chemical aspect and structure of La-Ba-	COMPUTER LAB

DATE 11-4-18	Cu-O and Y-Ba-Cu-O	Program of least square curve fitting ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(handle joining)
DAY16 DATE 12-4-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Fabrication of screw driver(handle joining)
DAY17 DATE 13-4-18	.....	OPTICS LAB Fabrication of optical equilateral prism(polishing)
DAY18 DATE 14-4-18	HOLIDAY	
DAY19 DATE 16-4-18	Bismuth and thallium based superconductors	COMPUTER LAB Revision
DAY20 DATE 17-4-18	.....	COMPUTER LAB Revision
DAY21 DATE 18-4-18	HOLIDAY	
DAY22 DATE 19-4-18	.....	ELECTRONICS LAB Electronics project MECHANICAL LAB Revision
DAY23 DATE 20-4-18	.....	OPTICS LAB Fabrication of optical equilateral prism(polishing)

NAME OF ASSISTANT PROFESSOR
CLASS/SECTION
SUBJECT

:Ms. SONIA VERMA
: M.Sc. Applied Physics(II SEM)
: QUANTUM MECHANICS
ELECTROMAGNETIC THEORY
APPLIED NUCLEAR SCIENCE

UNIT/PART I	TOPIC	
	THEORY	PRACTICAL
DAY1 DATE 1-1-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY2 DATE 2-1-18	Separation of three dimensional schrodinger equation for spherically symmetric potential into angular and radial equations	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve

DAY4 DATE 4-1-18	Application to Hydrogen atom problem	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY5 DATE 5-1-18	Solution of radial equation and energy eigen values	.....
DAY6 DATE 6-1-18	Matrix Mechanics: Matrix algebra preliminaries	.....
DAY7 DATE 8-1-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY8 DATE 9-1-18	Transformation and diagonalisation of matrices	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY10 DATE 11-1-18	Infinite matrices	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY11 DATE 12-1-18	Unitary Transformations	.....
DAY12 DATE 13-1-18	Representation of operators and wave functions as matrices	.....
DAY13 DATE 15-1-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY 14 DATE 16-1-18	Hilbert space, Dirac's ket and bra notation	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY16 DATE 18-1-18	Time development of quantum system	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY17	Schrodinger picture	.....

DATE 19-1-18		
DAY18 DATE 20-1-18	Heisenberg picture and interaction picture	.....
DAY19 DATE 22-1-18	HOLIDAY	
DAY20 DATE 23-1-18	SPORTS DAY	.....
DAY21 DATE 24-1-18	HOLIDAY	
DAY22 DATE 25-1-18	Relation with classical equation of motion	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY23 DATE 26-1-18	HOLIDAY	
DAY 24 DATE 27-1-18	Solution of harmonic oscillator problem using matrix mechanics	.....
UNIT/PART II		
	THEORY	
DAY1 DATE 29-1-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY2 DATE 30-1-18	Qualitative description of various modes of energy loss of a charged particles in matter	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY3 DATE 31-1-18	HOLIDAY	
DAY4 DATE 1-2-18	Classical stopping power equation for electronic energy loss(no-Derivation) with significance of various terms involved	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY5 DATE 2-2-18	Behaviour of electronic energy loss curve as a function of ion velocity	.....
DAY6 DATE 3-2-18	Concept of energy and range straggling	.....
DAY7 DATE 5-2-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier

		Frequency response curve
DAY8 DATE 6-2-18	Interaction of gamma radiation with matter outlining the features of photoelectric	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY10 DATE 8-2-18	Compton and Pair production processes	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY11 DATE 9-2-18	ASSIGNMENT 1	.....
DAY12 DATE 10-2-18	HOLIDAY	
DAY13 DATE 12-2-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY14 DATE 13-2-18	HOLIDAY	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY15 DATE 14-2-18	.....	.....
DAY16 DATE 15-2-18	Linear and mass attenuation coefficients of gamma rays in matter	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY17 DATE 16-2-18	Positron annihilation in matter	.....
DAY18 DATE 17-2-18	Basic principle and mechanism of GM Counter	.....
DAY19 DATE 19-2-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY20 DATE 20-2-18	The Geiger discharge	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier

		Frequency response curve
DAY22 DATE 22-2-18	Development of pulse and quenching, dead time	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY23 DATE 23-2-18	Geiger plateau, counting efficiency	.....
UNIT/PART III		
	THEORY	
DAY1 DATE 24-2-18	Scintillation detectors: The absorption process, scintillation process	.....
DAY2 DATE 26-2-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY3 DATE 27-2-18	TEST & SEMINAR (PG CLASSES)	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY4 DATE 28-2-18	HOLIDAY	
DAY5 DATE 1-3-18	HOLIDAY	
DAY6 DATE 2-3-18	HOLIDAY	
DAY7 DATE 3-3-18	HOLIDAY	
DAY8 DATE 5-3-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY9 DATE 6-3-18	Pulse formation	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY11 DATE 8-3-18	Mechanism of scintillation detectors	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method

DAY12 DATE 9-3-18	Energy resolution of Scintillator detectors	.....
DAY13 DATE 10-3-18	ASSIGNMENT 2	.....
DAY 14 DATE 12-3-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY15 DATE 13-3-18	Sillicon surface barrier dector:Basic principle,Construction,working and applications	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY17 DATE 15-3-18	Li drifted Ge and Si detector:Basic Consideration,Basic Principle	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY18 DATE 16-3-18	Li drifted Ge and Si detector:Construction,working and applications,Energy resolution	.....
DAY19 DATE 17-3-18	Li drifted Ge and Si detector:Fano factor	.....
DAY20 DATE 19-3-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY21 DATE 20-3-18	Li drifted Ge and Si detector: sensitivity and effiency	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY22 DATE 21-3-18	CONDITIONAL TEST	.....
DAY23 DATE 22-3-18	CONDITIONAL TEST	.....
DAY 24 DATE 23-3-18	HOLIDAY	
DAY 25 DATE 24-3-18	HPGe detector:Basic Principle,construction and working	.....
UNIT/PART IV		
	THEORY	
DAY1 DATE 26-3-18	.....	RC COUPLED AMPLIFIER

		Transistors RC Coupled amplifier Frequency response curve
DAY2 DATE 27-3-18	Electromagnetic waves	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY3 DATE 28-3-18	.....	.....
DAY4 DATE 29-3-18	HOLIDAY	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY5 DATE 30-3-18	Electromagnetic waves in a homogeneous medium	.....
DAY6 DATE 31-3-18	Uniform plane wave	.....
DAY7 DATE 2-4-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY8 DATE 3-4-18	Plane wave	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY9 DATE 4-4-18	.....	.....
DAY10 DATE 5-4-18	Uniform plane wave	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY11 DATE 6-4-18	Wave equation for conducting media	.....
DAY12 DATE 7-4-18	Sinusoidal time variation	.....
DAY13 DATE 9-4-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve

DAY14 DATE 10-4-18	Conductors and Dielectrics	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY16 DATE 12-4-18	Plane wave	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY17 DATE 13-4-18	Reflection and refraction of plane wave	.....
DAY18 DATE 14-4-18	HOLIDAY	
DAY19 DATE 16-4-18	.....	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY20 DATE 17-4-18	Surface impedance with Poynting theorem	RC COUPLED AMPLIFIER Transistors RC Coupled amplifier Frequency response curve
DAY21 DATE 18-4-18	HOLIDAY	
DAY22 DATE 19-4-18	Types of poynting vector: Average pointing vector ,Complex pointing vector and Instantaneous pointing vector	FOUR PROBE METHOD Resistivity Thin Film and vacuum techniques Four probe method
DAY23 DATE 20-4-18	Introduction to power loss and Power loss in plane conductor	.....

SONIA VERMA
NAME OF TEACHER