V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2019-20

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2019-20**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseling,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3							
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2019-20**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes						
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseling,		Yes		

6	3rd WEEK		**I MID Examinations**											
7	4th WEEK	3	Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3	Yes		Ward Counseli ng		Yes		
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2019-2(**

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes						

MONTH: FEBRUARY **YEAR: 2019-20**

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes						
15	2ND WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
16	3RD WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						
17	4TH WEEK	2	**II MID Examinations**		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2019-20**

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL **YEAR: 2019-20**

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

Dr. K. Srinivasa Rao
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Head Department of Physics
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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2019-20

Department :Physics **PAPER: V - Electricity, Magnetism and Electronics**

CLASS: III B.Sc.

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2RD WEEK	2	Introduction of Static Electricity, Coulom's law		Teaching Class	2							
2	3RD WEEK	2	Electric lines of force, Electric Flux,Gauss law statement , proof		Teaching Class	2							
3	4TH WEEK	3	Gauss law applicatins E due to Uniformly charged sphere. E due to infinite conducting sheet of charge.		Teaching Class	2			Classroom Seminar	1			
MONTH: JULY													
4	1ST WEEK	2	Electrical potential – equipotential surfaces-potential due to i) a point charge, ii) charged spherical shell	Electrification	Teaching Class	2			Guest Lecture	1			
5	2ND WEEK	3	Electric dipole moment and molecular polarizability- Electric displacement D, electric polarization P	Bad conductor	Teaching Class	3			Ward Counseling				
6	3RD WEEK	3	Relation between D, E and P- Dielectric constant and susceptibility. Boundary conditions at the dielectric surface.	Related problems	Teaching Class	3			Book Reviews	1			
7	4TH WEEK	2	MID I EXAMINATIONS	--									
MONTH: AUGUST													

8	1ST WEEK		Biot-Savart's law, explanation and calculation of B due to long straight wire, a circular current loop and solenoid – Hall	Freq. variations	Teaching Class Assignment	2			QUIZ				
9	1ST WEEK	2	Faraday's law-Lenz's law- Self and mutual inductance, coefficient of coupling,		Teaching Class Assignment	2 1							
10	2ND WEEK	3	calculation of self inductance of a long solenoid, energy stored in magnetic field. Transformer - energy losses - efficiency.	Applications	Teaching Class	2			Ward Counseling	1			
11	3RD WEEK	3	current and voltage in LR and CR circuits, vector diagrams, LCR series and parallel resonant circuit, Q –factor, power in ac circuits		Teaching Class	3				1			
12	4TH WEEK	3	Idea of displacement current - Maxwell's equations (integral and differential forms) (no derivation), Maxwell's wave equation (with derivation).	X- ray production	Teaching Class	3			Field Trip				
MONTH: SEPTEMBER													
13	1ST WEEK		Pointing theorem (statement), production of electromagnetic waves (Hertz experiment)		Teaching Class	1				1			
14	2ST WEEK	1	PN junction diode, Zener diode, I-V characteristics, PNP and NPN transistors, CB, CE and CC configurations –Relation between alha,beta and gamma,		Teaching Class	1 1				1			
15	3ND WEEK	3	MID II Examinations										
16	4TH WEEK	3	as an amplifier.Number systems - Conversion of binary to decimal system and vice versa.		Teaching Class	2				1			

17	5TH WEEK		DASARA HOLIDAYS										
MONTH: OCTOBER													
18	1nd WEEK	2	Binary subtraction (2's complement methods).Laws of Boolean algebra - De Morgan's laws-statement and proof,		Teaching Class	1			Study Projects	1			
19	2nd WEEK	2	Basic logic gates, NAND and NOR as universal gates, exclusive-OR gate, Half adder and Full adder		Teaching Class	2			Class Room Seminars	1			
20	3TH WEEK		**REVISION**										
MONTH: NOVEMBER													
22	1ST WEEK		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2019-20

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-IV** **PAPER: Thermodynamics & Radiation Physics**

Name of the Lecturer : Dr. K. Srinivasa Rao

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2019-20**
1	3RD WEEK	4	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification		Teaching Class	4	Yes		Ward Counseling,		Yes		
2	4th WEEK	4	path - Viscosity of gases-thermal conductivity-diffusion of ,Introduction- Isothermal and adiabatic process.		Teaching Class	4							
3	5th WEEK	2	Reversible and irreversible processes-Carnnot's engine and its efficiency		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2019-20**
4	1ST WEEK	3	thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes		Teaching Class	3	Yes						
5	2ND WEEK	4	Entropy and disorder-Entropy of Universe–Temperature-Entropy (T-S) diagram and its uses - Change of entropy of a perfect gas- change of entropy when ice changes into steam.		Teaching Class	4	Yes		Ward Counseling,		Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	4	Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas.		Teaching Class	4	Yes		Ward Counseling		Yes		
8	5th WEEK	2	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas.		Teaching Class	2	Yes						
MONTH: JANUARY													**YEAR: 2019-20**
9	1ST WEEK	3	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion-Distinction between adiabatic and Joule Thomson expansion		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	4	Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures		Teaching Class	4	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	Applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer.Blackbody-Ferry's black body-distribution of energy in the spectrum of black body		Teaching Class	3	Yes						

13	5th WEEK	1	Wein's displacement law, Wein's law,		Teaching Class	1							

MONTH: FEBRUARY **YEAR: 2019-20**

14	1ST WEEK	4	Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation		Teaching Class	4	Yes						
15	2ND WEEK	3	Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-		Teaching Class	3	Yes		Quiz	1	Yes		
16	3RD WEEK	2	Determination of solar constant, Temperature of Sun.		Teaching Class	2	Yes						
17	4TH WEEK	2	**II MID Examinations**										

MONTH: MARCH **YEAR: 2019-20**

18	1ST WEEK	2	REVESION		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL **YEAR: 2019-20**

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2019-20

Department :Physics **CLASS: I B.Sc.** SEMESTER-I **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : R.Nageswararao M.Sc.(Tech.), B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	3RD WEEK	4	Scalar and vector fields. gradient of a scalar field and its physical significance. Divergence with derivations and physical interpretation.		Teaching Class	4	YES						
2	4TH WEEK	4	curl of a vector field Vector integration (line, surface and volume).		Teaching Class	4	YES						
MONTH: JULY													
3	1ST WEEK	3	Statement and proof of Gauss and Stokes theorems.		Teaching Class	3	YES						
4	2ND WEEK	4	Laws of motion, motion of variable mass system, Equation of motion of a rocket. Conservation of energy and momentum.		Teaching Class	4	YES		Ward Counseling		YES		
5	3RD WEEK	4	Collisions in two and three dimensions, Concept of impact parameter, scattering cross-section,		Teaching Class Assignment	3 1	YES		Book Reviews		YES		
6	4TH WEEK	3	**I MID Examinations**										

MONTH: OCTOBER

17	1ST WEEK	2	Galilean relativity. absolute frames. Michelson-Morley experiment. negative result.		Teaching Class	2	YES						
18	2ND WEEK	2	Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction		Teaching Class	3	YES		Class Room Seminars	1	YES		
19	3RD WEEK	3	Addition of velocities, mass-energy relation. Concept of four-vector formalism.		Teaching Class	3	YES						
20	4th WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: NOVEMBER

21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2019-20

Department :Physics **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** **PAPER: Waves & Oscillations**

Name of the Lecturer : R.NAGESWARA RAO, M.Sc.(Tech.), B.Ed

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2019-20**
1	4th WEEK	4	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	4							
2	5th WEEK	3	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g'		Teaching Class	2 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2019-20**
3	1ST WEEK	3	combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	3	Yes						
4	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,		Yes		
5	3rd WEEK		**I MID Examinations**										
6	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling		Yes		
7	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						

18	2ND WEEK	2	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	2	Yes		Group Discussion		Yes		
19	3RD WEEK	1	**SEMESTER END EXAMINATIONS**										
20	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													**YEAR: 2019-20**
21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										
23	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2018 - 19

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2018-19**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseli ng,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3					✓		
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2018-19**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes				✓		
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,		Yes		

6	3rd WEEK		Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3			Ward Counseli ng		YES		
7	4th WEEK	3	**I MID Examinations**										
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2017-18**

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes						

MONTH: FEBRUARY **YEAR: 2018-19**

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2018-19**

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project				
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion				
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL **YEAR: 2018-19**

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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CURRICULUM PLAN - 2018 - 19

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : V.NAGABABU, M.Sc.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2018-19**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseli ng,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3							
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2018-19**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes				Yes		
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,		Yes		

6	3rd WEEK		Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3			Ward Counseli ng		YES		
7	4th WEEK	3	**I MID Examinations**										
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes				yes		

YEAR: 2018-19

MONTH: JANUARY

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes				yes		

YEAR: 2018-19

MONTH: FEBRUARY

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes				yes		
15	2ND WEEK		**II MID Examinations**								yes		
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes				yes		

YEAR: 2018-19

MONTH: MARCH

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes				yes		
21	4TH WEEK		**SEMESTER END EXAMINATIONS**								yes		

YEAR: 2018-19

MONTH: APRIL

22	1ST WEEK		**SEMESTER END EXAMINATIONS**								yes		
23	2ND WEEK		**PRACTICAL EXAMINATIONS**								yes		
24	3rd WEEK		**PRACTICAL EXAMINATIONS**								yes		

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CURRICULUM PLAN 2018 - 2019

Department :Physics **CLASS: II B.Sc. (MPC(EM) and MPCS2) SEMESTER-IV** **PAPER: Thermodynamics & Radiation Physics**

Name of the Lecturer : P.SAIBABU, M.Sc (Tech).

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													
1	3RD WEEK	4	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification		Teaching Class	4	Yes		Ward Counseling,		Yes		
2	4th WEEK	4	Transport phenomena – Mean free path - Viscosity of gases-thermal conductivity-diffusion of .Introduction- Isothermal and adiabatic process.		Teaching Class	4							
3	5th WEEK	2	Reversible and irreversible processes-Carnnot's engine and its efficiency		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													
4	1ST WEEK	3	Carnot's theorem-Second law of thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes		Teaching Class	3	Yes						
5	2ND WEEK	4	Entropy and disorder-Entropy of Universe–Temperature-Entropy (T-S) diagram and its uses - Change of entropy of a perfect gas-change of entropy when ice changes into steam.		Teaching Class	4	Yes		Ward Counseling,		Yes		

6	3rd WEEK		Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two		Teaching class	4	Yes		ward counseling				
7	4th WEEK	4	1MID EXAMINATIONS.										
8	5th WEEK	2	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas.		Teaching Class	2	Yes						

MONTH: JANUARY

9	1ST WEEK	3	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion-Distinction between adiabatic and Joule Thomson expansion		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	4	Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures		Teaching Class	4	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	Applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer,Blackbody-Ferry's black body-distribution of energy in the spectrum of black body		Teaching Class	3	Yes						
13	5th WEEK	1	Wein's displacement law,Wein's law,		Teaching Class	1							

MONTH: FEBRUARY

14	1ST WEEK	4	Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation		Teaching Class	4	Yes						
15	2ND WEEK		**II MID Examinations**										

16	3RD WEEK	3	Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Determination of solar constant, Temperature of Sun.		Teaching Class	2	Yes				Yes		
MONTH: MARCH													
18	1ST WEEK	2	REVESION		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes				Yes		
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													
22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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CURRICULUM PLAN - 2018 - 19

Department :Physics **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** **PAPER: Waves & Oscillations**

Name of the Lecturer : R.Nageswararao M.Sc.(Tech), B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													
1	4th WEEK	4	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	4					Yes		
2	5th WEEK	3	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g'		Teaching Class	2 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													
3	1ST WEEK	3	combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	3	Yes				Yes		
4	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,		Yes		
5	3rd WEEK		**I MID Examinations**										
6	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling		Yes		
7	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes				Yes		

YEAR: 2017-18

MONTH: JANUARY

8	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
9	2ND WEEK	4	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	4	Yes		Study Projects		Yes		
10	3RD WEEK		**PONGAL HOLIDAYS**										
11	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar		Teaching Class	3	Yes				Yes		
12	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1					Yes		

MONTH: FEBRUARY

13	1ST WEEK	4	General solution of wave equation and its significance,General solution of wave equation and its significance.		Teaching Class	4	Yes				Yes		
14	2ND WEEK		**II MID Examinations**										
15	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,		Teaching Class	3	Yes		Quiz	1	Yes		
16	4TH WEEK	2	energy transport, transverse impedance.		Teaching Class	2	Yes						

MONTH: MARCH

17	1ST WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic		Teaching Class	2	Yes		Study Project		Yes		

18	2ND WEEK	2	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	2	Yes		Group Discussion		Yes		
19	3RD WEEK	1	**SEMESTER END EXAMINATIONS**										
20	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													
21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										
23	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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CURRICULUM PLAN - 2018 - 19

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** | **PAPER: Waves & Oscillations**

Name of the Lecturer : S.VENKATALAKSHMI, M.Sc

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													
1	4th WEEK	4	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	4					Yes		
2	5th WEEK	3	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g'		Teaching Class	2 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													
3	1ST WEEK	3	combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	3	Yes				Yes		
4	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,		Yes		
5	3rd WEEK		**I MID Examinations**										
6	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling		Yes		
7	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2017-18**

8	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
9	2ND WEEK	4	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	4	Yes		Study Projects		Yes		
10	3RD WEEK		**PONGAL HOLIDAYS**										
11	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar		Teaching Class	3	Yes				Yes		
12	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1					Yes		

MONTH: FEBRUARY

13	1ST WEEK	4	General solution of wave equation and its significance,General solution of wave equation and its significance.		Teaching Class	4	Yes				Yes		
14	2ND WEEK		**II MID Examinations**										
15	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,		Teaching Class	3	Yes		Quiz	1	Yes		
16	4TH WEEK	2	energy transport, transverse impedance.		Teaching Class	2	Yes				Yes		

MONTH: MARCH

17	1ST WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic		Teaching Class	2	Yes		Study Project		Yes		

18	2ND WEEK	2	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	2	Yes		Group Discussion		Yes		
19	3RD WEEK	1	**SEMESTER END EXAMINATIONS**										
20	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													
21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										
23	3rd WEEK		**PRACTICAL EXAMINATIONS**										

S. V. Lakshmi

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CURRICULUM PLAN - 2018 - 19

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : V.LAKSHMIDEVI, M.Sc.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2018-19**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseli ng,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3					Yes		
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2018-19**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes				Yes		
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,		Yes		

6	3rd WEEK		Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3			Ward Counseling		YES		
7	4th WEEK	3	**I MID Examinations**										
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes				Yes		

MONTH: JANUARY **YEAR: 2018-19**

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes				Yes		

MONTH: FEBRUARY **YEAR: 2018-19**

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes				Yes		
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2018-19**

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes				Yes		
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													**YEAR: 2018-19**
22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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CURRICULUM PLAN 2018 - 2019

Department :Physics **CLASS: II B.Sc. (MPC(EM) and MPCS2) SEMISTER-IV** **PAPER: Thermodynamics & Radiation Physics**

Name of the Lecturer : A.BHEEMAKALA, M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													
1	3RD WEEK	4	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental		Teaching Class	4	Yes		Ward Counseling,		Yes		
2	4th WEEK	4	path - Viscosity of gases-thermal conductivity-diffusion of ,Introduction- Isothermal and adiabatic process.		Teaching Class	4					Yes		
3	5th WEEK	2	Reversible and irreversible processes-Carnnot's engine and its efficiency		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													
4	1ST WEEK	3	thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes		Teaching Class	3	Yes				Yes		
5	2ND WEEK	4	Entropy and disorder-Entropy of Universe–Temperature-Entropy (T-S) diagram and its uses - Change of entropy of a perfect gas- change of entropy when ice changes into steam.		Teaching Class	4	Yes		Ward Counseling,		Yes		

6	3rd WEEK		Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's		Teaching class	4	Yes		ward counseling		yes		
7	4th WEEK	4	İMID EXAMINATIONS.										
8	5th WEEK	2	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas.		Teaching Class	2	Yes				yes		
MONTH: JANUARY													
9	1ST WEEK	3	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion-Distinction between adiabatic and Joule Thomson expansion		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	4	Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures		Teaching Class	4	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**								yes		
12	4TH WEEK	3	Applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer,Blackbody-Ferry's black body-distribution of energy in the spectrum of black body		Teaching Class	3	Yes				yes		
13	5th WEEK	1	Wein's displacement law,Wein's law,		Teaching Class	1							
MONTH: FEBRUARY													

14	1ST WEEK	4	Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation		Teaching Class	4	Yes				Yes		
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Determination of solar constant, Temperature of Sun.		Teaching Class	2	Yes				Yes		
MONTH: MARCH													
18	1ST WEEK	2	REVESION		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													
22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

A. Bheema Kali

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CURRICULUM PLAN 2018-19

Department :Physics **PAPER: V - Electricity, Magnetism and Electronics**

CLASS: III B.Sc. (MPCs C1ɛ

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE	
MONTH: JUNE													
1	2RD WEEK	2	Introduction of Static Electricity, Coulom's law		Teaching Class	2					Yes		
2	3RD WEEK	2	Electric lines of force, Electric Flux,Gauss law statement , proof		Teaching Class	2					Yes		
3	4TH WEEK	3	Gauss law applicatins E due to Uniformly charged sphere. E due to infinite conducting sheet of charge.		Teaching Class	2			Classroom Seminar	1	Yes		
MONTH: JULY													
4	1ST WEEK	2	Electrical potential – equipotential surfaces-potential due to i) a point charge, ii) charged spherical shell	Electrificatio	Teaching Class	2			Guest Lecture	1	Yes		
5	2ND WEEK	3	Electric dipole moment and molecular polarizability- Electric displacement D, electric polarization P	Bad conducto	Teaching Class	3			Ward Counseling		Yes		
6	3RD WEEK	3	Relation between D, E and P- Dielectric constant and susceptibility. Boundary conditions at the dielectric surface.	Related problems	Teaching Class	3			Book Reviews	1	Yes		
7	4TH WEEK	2	Biot-Savart's law, explanation and calculation of B due to long straight wire, a circular current loop and solenoid – Hall effect – determination of Hall coefficient	req. variatior	Teaching Class Assignment	2					Yes		
MONTH: AUGUST											Yes		

8	1ST WEEK		MID I EXAMINATIONS										
9	1ST WEEK	2	Faraday's law-Lenz's law- Self and mutual inductance, coefficient of coupling,		Teaching Class Assignment	2 1							
10	2ND WEEK	3	calculation of self inductance of a long solenoid, energy stored in magnetic field. Transformer - energy losses - efficiency.	Applications	Teaching Class	2			Ward Counseling	1			
11	3RD WEEK	3	current and voltage in LR and CR circuits, vector diagrams, LCR series and parallel resonant circuit, Q –factor, power in ac circuits		Teaching Class	3				1			
12	4TH WEEK	3	Idea of displacement current - Maxwell's equations (integral and differential forms) (no derivation), Maxwell's wave equation (with derivation).	X- ray produ	Teaching Class	3			Guest Lecture				
MONTH: SEPTEMBER													
13	1ST WEEK		MID II Examinations										
14	2ST WEEK	1	Pointing theorem (statement), production of electromagnetic waves (Hertz experiment).		Teaching Class Assignment	1				1			
15	3ND WEEK	3	PN junction diode, Zener diode, I-V characteristics, PNP and NPN transistors, CB, CE and CC configurations –Relation between alha,beta and gamma,		Teaching Class	1 1			QUIZ	1			
16	4TH WEEK	3	as an amplifier.Number systems - Conversion of binary to decimal system and vice versa.		Teaching Class	2				1			

17	5TH WEEK		DASARA HOLIDAYS										
MONTH: OCTOBER													
18	Ind WEEK	2	Binary subtraction (2's complement methods).Laws of Boolean algebra - De Morgan's laws-statement and proof,		Teaching Class	1			Study Projects	1			
19	2nd WEEK	2	Basic logic gates, NAND and NOR as universal gates, exclusive-OR gate, Half adder and Full adder		Teaching Class	2			Class Room Seminars	1			
20	3TH WEE		**PRACTICAL EXAMINATIONS**										
21	5th WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: NOVEMBER													
22	1ST WEEK		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN 2018 - 19

Department :Physics **PAPER: VI - Modern Physics**

SEM-V **CLASS: III B.Sc.**

Name of the Lecturer : V.NAGABABU, M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2ND WEEK	2	Introduction of Matter waves, de Broglie's hypothesis		Teaching Class	2					yes		
2	3RD WEEK	2	wavelength of matter waves, Properties of matter waves - Davisson and Germer experiment	Gammma ray scope	Teaching Class	2					yes		
3	4TH WEEK	3	Heisenberg's uncertainty principle for position and momentum (x and p) & Energy and time (E and t)Basic postulates of quantum mechanics-Schrodinger time independent - derivation		Teaching Class	2			Classroom Seminar	1	yes		
MONTH: JULY													
4	1ST WEEK	3	Time dependent wave equations-derivation. Physical interpretation of wave function,Eigen functions, Eigen values.	Matrix properties, solutions	Teaching Class	2			Guest Lecture	1	yes		

5	2ND WEEK	2	Application of Schrodinger wave equation to particle in one dimensional infinite box.Introduction –Drawbacks of Bohr's atomic model. Vector atom		Teaching Class	3			Ward Counselin g		yes		
6	3RD WEEK	3	Stern-Gerlach experiment - quantum numbers associated with it. L-S and j- j coupling schemes.		Teaching Class	3			Book Reviews	1	yes		
7	4TH WEEK	2	MID I EXAMINATIONS										
MONTH: AUGUST													
8	1ST WEEK		Zeeman effect(Definition only) - Raman effect, hypothesis, Stokes and Anti-Stokes lines		Teaching Class Assignme nt	2					yes		
9	1ST WEEK	2	Quantum theory of Raman effect. Experimental arrangement –Applications of Raman effect	Ramann effect application s	Teaching Class	2					Yes		
10	2ND WEEK	3	Basic ideas of nucleus -size, mass, charge density (matter energy), binding energy, magnetic moment, electric moments.	video lecture	Teaching Class	3			Ward Counselin g	1	yes		
11	3RD WEEK	3	Liquid drop model and Shell model (qualitative aspects only) - Magic numbers.		Teaching Class Assignme nt	2 1				1	yes		

12	4TH WEEK	3	Alpha decay: basics of α-decay processes. Theory of α-decay,Gamow's theory, Geiger Nuttal law.β-decay		Teaching Class	3			Guest Lecture		yes		
MONTH: SEPTEMBER													
13	1ST WEEK		kinematics for β-decay, positron emission, electron capture, neutrino hypothesis.		Teaching Class Assignment	1				1	yes		
14	2ND WEEK	1	MID II EXAMINATIONS										
15	3RD WEEK	3	Amorphous and crystalline materials, unit cell, Miller indices,		Teaching Class	2			QUIZ	1	yes		
16	4TH WEEK	3	reciprocal lattice, types of lattices Diffraction of X-rays by crystals,		Teaching Class	2				1	yes		
17	5TH WEEK		Bragg's law, experimental techniques, Laue's method								yes		
MONTH: OCTOBER													
18	1nd WEEK	2	Introduction - experimental facts, critical temperature - critical field - Meissner effect – Isotope effect -		Teaching Class	1			Study Projects	1	yes		

19	2nd WEEK	2	Type I and type II superconductors - applications of superconductors.	video lecture	Teaching Class	2			Class Room Seminars	1	yes		
20	3RD WEEK		**DASARA HOLIDAYS**										
21	5th WEEK		**SEMESTER END EXAMINATIONS**								yes		
MONTH: NOVEMBER													
21	1ST WEEK	3	**SEM END PRACTICAL EXAMINATIONS**								yes		

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CURRICULUM PLAN 2018- 19

Department :Physics

PAPER:III - Wave Optics

CLASS: II B.Sc.(MPCS1,MPCS3,mpc(tm))

Name of the Lecturer :P.SAIBABU M.Sc.(Tech),

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2ND WEEK	3	syllubus dictation and Introductiuon,		Teaching Class	3	yes				✓		
2	3RD WEEK	4	doublet. Achromatism for two lenses (i)in contact and (ii) separated by a distance.		Teaching Class	4	yes				✓		
3	4TH WEEK	4	aberrations, spherical aberration, methods of minimizing spherical aberration		Teaching Class	4	yes				✓		
4	5th WEEK	3	coma, astigmatism and curvature of field, distortion		Teaching Class	3					✓		
MONTH: JULY													
5	1ST WEEK	3	Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference		Teaching Class	3					✓		

6	2ND WEEK	4	Fresnel's biprism-determination of wavelength of light –change of phase on reflection. Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films		Teaching Class	4			Ward Counseling				
7	3RD WEEK	4	Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film). Determination of diameter of wire, Newton's rings in		Teaching Class	4			Book Reviews				
8	4TH WEEK	4	1MID EXAMINATION.										
9	5th WEEK	2	Michelson interferometer, Determination of wavelength of		Teaching Class	4							
MONTH: AUGUST													
10	1ST WEEK		Introduction,distinction between Fresnel and Fraunhoffer diffraction		TEACHING CLASS	2							
11	1ST WEEK	2	Fraunhoffer diffraction –Diffraction due to single slit		Teaching Class Assignment	2							
12	2ND WEEK	3	Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating)		Teaching Class	3			Ward Counseling				

13	3RD WEEK	3	Resolving power of grating, Determination of wavelength of light in normal incidence and minimum deviation methods using diffraction grating		Teaching Class	3			Group Discussion				
14	4TH WEEK	3	Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.		Teaching Class	3							
15	5th WEEK	3	Polarized light: methods of polarization polarization by reflection, refraction, double refraction		Teaching Class Assignment	2 1							
MONTH: SEPTEMBER													
16	1ST WEEK		scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, Half wave plate-optical activity		Teaching Class	4			Book Reviews				
17	2ND WEEK	4	MID II EXAMINATIONS										
18	3RD WEEK	4	Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.		Teaching Class	4							

19	4TH WEEK	4	Lasers: introduction, spontaneous emission, stimulated emission. Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laserApplications of lasers. Holography: Basic principle of holography-		Teaching Class	4							
20	5th WEEK		DASARA HOLIDAYS										

MONTH: OCTOBER

21	1ST WEEK	4	Gabor hologram and its limitations, Applications of holography Introduction- different types of fibers, rays and modes in an optical fiber, fiber material		Teaching Class	4							
22	2ND WEEK	3	principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.		Teaching Class	3			Ward Counseling				
23	3RD WEEK		**PRACTICAL EXAMINATIONS**										
24	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: NOVEMBER

25	1ST WEE		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2018 - 19

Department :Physics **CLASS: I B.Sc.** **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : R.Nageswararao M.Sc.(Tech), B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	3RD WEEK	4	Scalar and vector fields. gradient of a scalar field and its physical significance. Divergence with derivations and physical interpretation.		Teaching Class	4					YES		
2	4TH WEEK	4	curl of a vector field Vector integration (line, surface and volume).		Teaching Class	4					YES		
MONTH: JULY													
3	1ST WEEK	3	Statement and proof of Gauss and Stokes theorems.		Teaching Class	3					YES		
4	2ND WEEK	4	Laws of motion, motion of variable mass system, Equation of motion of a rocket. Conservation of energy and momentum.		Teaching Class	4			Ward Counseling		YES		
5	3RD WEEK	4	Collisions in two and three dimensions, Concept of impact parameter, scattering cross-section,		Teaching Class Assignment	3 1			Book Reviews		YES		
6	4TH WEEK	3	**I MID Examinations**								YES		

MONTH: AUGUST

7	1ST WEE		Rutherford scattering-derivation.Definition of rigid body,		Teaching Class	3			Ward Counseling		YES		
8	1ST WEE K	2	Central forces. definition and examples, characteristics of central forces,			2					YES		
9	2ND WEE K	4	precession of a top, Gyroscope, precession of the equinoxes.Elastic constants of isotropic solids and their relations,		Teaching Class	4			Ward Counseling		YES		
10	3RD WEE K	2	Poisson's ratio and expression for Poisson's ratio in terms of y, n, k.		Teaching Class	2			Group Discussion	1	YES		
11	4TH WEE K	3	Classification of beams, types of bending, point load, distributed load, shearing force and bending moment, sign conventions.		Teaching Class	3					YES		

MONTH: SEPTEMBER

12	1ST WEE K	4	Central forces. definition and examples, characteristics of central forces,		Teaching Class Assignment	3 1			Study Projects		YES		
13	2ND WEE	2	**II MID Examinations**										
14	3RD WEE K	3	conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class	2			QUIZ	1	YES		
15	4TH WEE K	3	Equation of motion under a central force. Derivation of Kepler's laws. Motion of satellites. idea of Global		Teaching Class	3			Seminars		YES		
16	5th WEE		Michelson-Morley experiment. negative result.		Teaching Class	3					YES		

MONTH: OCTOBER

17	1ST WEEK	2	Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction		Teaching Class	2					YES		
18	2ND WEEK	2	Addition of velocities, mass-energy relation. Concept of four-vector formalism.		Teaching Class	3			Class Room Seminars	1	YES		
19	3RD WEEK	3	DASARA HOLIDAYS										
20	4th WEE		**SEMESTER END EXAMINATIONS**								YES		

MONTH: NOVEMBER

21	1ST WEE		**SEMESTER END EXAMINATIONS**								YES		
22	2ND WEE		**PRACTICAL EXAMINATIONS**								YES		

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CURRICULAM PLAN – 2018 –2019

Department :Physics **CLASS: I B.Sc.** **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : S.VENKATALAKSHMI M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	3RD WEEK	4	Scalar and vector fields. gradient of a scalar field and its physical significance. Divergence with derivations and physical interpretation.		Teaching Class	4					yes		
2	4TH WEEK	4	curl of a vector field Vector integration (line, surface and volume).		Teaching Class	4					yes		
MONTH: JULY													
3	1ST WEEK	3	Statement and proof of Gauss and Stokes theorems.		Teaching Class	3					yes		
4	2ND WEEK	4	Laws of motion, motion of variable mass system, Equation of motion of a rocket. Conservation of energy and momentum.		Teaching Class	4			Ward Counseling		yes		
5	3RD WEEK	4	Collisions in two and three dimensions, Concept of impact parameter, scattering cross-section,		Teaching Class Assignment	3 1			Book Reviews		yes		
6	4TH WEEK	3	**I MID Examinations**								yes		

MONTH: AUGUST

7	1ST WEE		Rutherford scattering-derivation.Definition of rigid body,		Teaching Class	3			Ward Counseling		Yes		
8	1ST WEE K	2	Central forces. definition and examples, characteristics of central forces,			2					yes		
9	2ND WEE K	4	precession of a top, Gyroscope, precession of the equinoxes.Elastic constants of isotropic solids and their relations,		Teaching Class	4			Ward Counseling		Yes		
10	3RD WEE K	2	Poisson's ratio and expression for Poisson's ratio in terms of y, n, k.		Teaching Class	2			Group Discussion	1	Yes		
11	4TH WEE K	3	Classification of beams, types of bending, point load, distributed load, shearing force and bending moment, sign conventions.		Teaching Class	3					yes		

MONTH: SEPTEMBER

12	1ST WEE K	4	Central forces. definition and examples, characteristics of central forces,		Teaching Class Assignment	3 1			Study Projects		yes		
13	2ND WEE	2	**II MID Examinations**										
14	3RD WEE K	3	conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class	2			QUIZ	1	yes		
15	4TH WEE K	3	Equation of motion under a central force. Derivation of Kepler's laws. Motion of satellites. idea of Global		Teaching Class	3			Seminars		Yes		
16	5th WEE		Michelson-Morley experiment. negative result.		Teaching Class	3					yes		

MONTH: OCTOBER

17	1ST WEEK	2	Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction		Teaching Class	2					Yes		
18	2ND WEEK	2	Addition of velocities, mass-energy relation. Concept of four-vector formalism.		Teaching Class	3			Class Room Seminars	1	Yes		
19	3RD WEEK	3	DASARA HOLIDAYS										
20	4th WEE		**SEMESTER END EXAMINATIONS**								Yes		

MONTH: NOVEMBER

21	1ST WEEK		**SEMESTER END EXAMINATIONS**								yes		
22	2ND WEEK		**PRACTICAL EXAMINATIONS**								yes		

S. V. Lakshmi

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CURRICULUM PLAN 2018 - 19

Department :Physics **PAPER: VI - Modern Physics**

SEM-V **CLASS: III B.Sc.**

Name of the Lecturer : V.LAKSHMIDEVI, M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2ND WEEK	2	Introduction of Matter waves, de Broglie's hypothesis		Teaching Class	2							
2	3RD WEEK	2	wavelength of matter waves, Properties of matter waves - Davisson and Germer experiment	Gammma ray scope	Teaching Class	2							
3	4TH WEEK	3	Heisenberg's uncertainty principle for position and momentum (x and p) & Energy and time (E and t)Basic postulates of quantum mechanics-Schrodinger time independent - derivation		Teaching Class	2			Classroom Seminar	1			
MONTH: JULY													
4	1ST WEEK	3	Time dependent wave equations-derivation. Physical interpretation of wave function,Eigen functions, Eigen values.	Matrix properties, solutions	Teaching Class	2			Guest Lecture	1			

5	2ND WEEK	2	Application of Schrodinger wave equation to particle in one dimensional infinite box.Introduction –Drawbacks of Bohr's atomic model. Vector atom		Teaching Class	3			Ward Counseling				
6	3RD WEEK	3	Stern-Gerlach experiment - quantum numbers associated with it. L-S and j- j coupling schemes.		Teaching Class	3			Book Reviews	1			
7	4TH WEEK	2	MID I EXAMINATIONS										
MONTH: AUGUST													
8	1ST WEEK		Zeeman effect(Definition only) - Raman effect, hypothesis, Stokes and Anti-Stokes lines		Teaching Class Assignment	2							
9	1ST WEEK	2	Quantum theory of Raman effect. Experimental arrangement –Applications of Raman effect	Ramann effect applications	Teaching Class	2							
10	2ND WEEK	3	Basic ideas of nucleus -size, mass, charge density (matter energy), binding energy, magnetic moment, electric moments.	video lecture	Teaching Class	3			Ward Counseling	1			
11	3RD WEEK	3	Liquid drop model and Shell model (qualitative aspects only) - Magic numbers.		Teaching Class Assignment	2 1				1			

12	4TH WEEK	3	Alpha decay: basics of α-decay processes. Theory of α-decay,Gamow's theory, Geiger Nuttal law.β-decay		Teaching Class	3			Guest Lecture				
MONTH: SEPTEMBER													
13	1ST WEEK		kinematics for β-decay, positron emission, electron capture, neutrino hypothesis.		Teaching Class Assignment	1				1			
14	2ND WEEK	1	MID II EXAMINATIONS										
15	3RD WEEK	3	Amorphous and crystalline materials, unit cell, Miller indices,		Teaching Class	2			QUIZ	1			
16	4TH WEEK	3	reciprocal lattice, types of lattices Diffraction of X-rays by crystals,		Teaching Class	2				1			
17	5TH WEEK		Bragg's law, experimental techniques, Laue's method										
MONTH: OCTOBER													
18	1nd WEEK	2	Introduction - experimental facts, critical temperature - critical field - Meissner effect – Isotope effect -		Teaching Class	1			Study Projects	1			

19	2nd WEEK	2	Type I and type II superconductors - applications of superconductors.	video lecture	Teaching Class	2			Class Room Seminars	1				
20	3RD WEEK		**DASARA HOLIDAYS**											
21	5th WEEK		**SEMESTER END EXAMINATIONS**											
MONTH: NOVEMBER														
21	1ST WEEK	3	**SEM END PRACTICAL EXAMINATIONS**											

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CURRICULUM PLAN 2018 - 19

Department :Physics

PAPER:III - Wave Optics

CLASS: II B.Sc.(MPCS2,MPC)

Name of the Lecturer :A.BHEEMAKALA M.Sc.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2ND WEEK	3	syllubus dictation and Introductiuon,		Teaching Class	3	yes				yes		
2	3RD WEEK	4	Chromatic aberration-the achromatic doublet. Achromatism for two lenses (i)in contact and (ii) separated by a distance.		Teaching Class	4	yes				yes		
3	4TH WEEK	4	Introduction – monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration		Teaching Class	4	yes				yes		
4	5th WEEK	3	coma, astigmatism and curvature of field, distortion		Teaching Class	3					yes		
MONTH: JULY													
5	1ST WEEK	3	Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference of light		Teaching Class	3					yes		

6	2ND WEEK	4	Fresnel's biprism-determination of wavelength of light –change of phase on reflection. Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films		Teaching Class	4			Ward Counseling		yes		
7	3RD WEEK	4	Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film). Determination of diameter of wire, Newton's rings in reflected light		Teaching Class	4			Book Reviews		yes		
8	4TH WEEK	4	1MID EXAMINATION.										
9	5th WEEK	2	Michelson interferometer, Determination of wavelength of monochromatic light using Newton's		Teaching Class	4					yes		

MONTH: AUGUST

10	1ST WEEK		Introduction,distinction between Fresnel and Fraunhoffer diffraction		TEACHING CLASS	2							
11	1ST WEEK	2	Fraunhoffer diffraction –Diffraction due to single slit		Teaching Class Assignment	2							
12	2ND WEEK	3	Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating)		Teaching Class	3			Ward Counseling		yes		

13	3RD WEEK	3	Resolving power of grating, Determination of wavelength of light in normal incidence and minimum deviation methods using diffraction grating		Teaching Class	3			Group Discussion		yes		
14	4TH WEEK	3	Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.		Teaching Class	3					yes		
15	5th WEEK	3	Polarized light: methods of polarization polarization by reflection, refraction, double refraction		Teaching Class Assignment	2 1					yes		

MONTH: SEPTEMBER

16	1ST WEEK		scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, Half wave plate-optical activity		Teaching Class	4			Book Reviews		yes		
17	2ND	4	MID II EXAMINATIONS										
18	3RD WEEK	4	Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.		Teaching Class	4					yes		

19	4TH WEEK	4	Lasers: introduction, spontaneous emission, stimulated emission. Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laserApplications of lasers. Holography: Basic principle of holography-		Teaching Class	4					yes		
20	5th WEEK		DASARA HOLIDAYS										

MONTH: OCTOBER

21	1ST WEEK	4	Gabor hologram and its limitations, Applications of holography Introduction- different types of fibers, rays and modes in an optical fiber, fiber material		Teaching Class	4					yes		
22	2ND WEEK	3	principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.		Teaching Class	3			Ward Counseling		yes		
23	3RD WEEK		**PRACTICAL EXAMINATIONS**										
24	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: NOVEMBER

25	I ST WEEK		SEMESTER END EXAMINATIONS											

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CURRICULUM PLAN 2018-19

Department :Physics

PAPER: V - Electricity, Magnetism and Electronics

CLASS: III B.Sc. (MPCs C1ᵭ

Name of the Lecturer : M.SRINU B.Tech

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE	
MONTH: JUNE													
1	2RD WEEK	2	Introduction of Static Electricity, Coulom's law		Teaching Class	2					yes		
2	3RD WEEK	2	Electric lines of force, Electric Flux,Gauss law statement , proof		Teaching Class	2					yes		
3	4TH WEEK	3	Gauss law applicatins E due to Uniformly charged sphere. E due to infinite conducting sheet of charge.		Teaching Class	2			Classroom Seminar	1	yes		
MONTH: JULY													
4	1ST WEEK	2	Electrical potential – equipotential surfaces-potential due to i) a point charge, ii) charged spherical shell	Electrificatio	Teaching Class	2			Guest Lecture	1	yes		
5	2ND WEEK	3	Electric dipole moment and molecular polarizability- Electric displacement D, electric polarization P	Bad conducto	Teaching Class	3			Ward Counseling		yes		
6	3RD WEEK	3	Relation between D, E and P- Dielectric constant and susceptibility. Boundary conditions at the dielectric surface.	Related problems	Teaching Class	3			Book Reviews	1	yes		
7	4TH WEEK	2	Biot-Savart's law, explanation and calculation of B due to long straight wire, a circular current loop and solenoid – Hall effect – determination of Hall coefficient	req. variatio	Teaching Class Assignment	2					yes		
MONTH: AUGUST											yes		

8	1ST WEEK		MID I EXAMINATIONS										
9	1ST WEEK	2	Faraday's law-Lenz's law- Self and mutual inductance, coefficient of coupling,		Teaching Class Assignment	2 1					yes		
10	2ND WEEK	3	calculation of self inductance of a long solenoid, energy stored in magnetic field. Transformer - energy losses - efficiency.	Applications	Teaching Class	2			Ward Counseling	1	yes		
11	3RD WEEK	3	current and voltage in LR and CR circuits, vector diagrams, LCR series and parallel resonant circuit, Q –factor, power in ac circuits		Teaching Class	3				1	yes		
12	4TH WEEK	3	Idea of displacement current - Maxwell's equations (integral and differential forms) (no derivation), Maxwell's wave equation (with derivation).	X- ray produ	Teaching Class	3			Guest Lecture		yes		
MONTH: SEPTEMBER													
13	1ST WEEK		MID II Examinations								yes		
14	2ST WEEK	1	Pointing theorem (statement), production of electromagnetic waves (Hertz experiment).		Teaching Class Assignment	1				1	yes		
15	3ND WEEK	3	PN junction diode, Zener diode, I-V characteristics, PNP and NPN transistors, CB, CE and CC configurations –Relation between alha,beta and gamma,		Teaching Class	1 1			QUIZ	1	yes		
16	4TH WEEK	3	as an amplifier.Number systems - Conversion of binary to decimal system and vice versa.		Teaching Class	2				1	yes		

17	5TH WEEK		DASARA HOLIDAYS								yes		
MONTH: OCTOBER													
18	1nd WEEK	2	Binary subtraction (2's complement methods).Laws of Boolean algebra - De Morgan's laws-statement and proof,		Teaching Class	1			Study Projects	1	yes		
19	2nd WEEK	2	Basic logic gates, NAND and NOR as universal gates, exclusive-OR gate, Half adder and Full adder		Teaching Class	2			Class Room Seminars	1	yes		
20	3TH WEE		**PRACTICAL EXAMINATIONS**								yes		
21	5th WEEK		**SEMESTER END EXAMINATIONS**								yes		
MONTH: NOVEMBER													
22	1ST WEEK		**SEMESTER END EXAMINATIONS**								yes		

SIGNATURE OF THE LECTURER

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Dr. K. Srinivasa Rao
M.Sc., M.Phil., Ph.D.
Head Department of Physics
V.S.M. College - Ramachandrapuram
East Godavari Dt. (A.P.) 533 255

SIGNATURE OF THE PRINCIPAL

PRINCIPAL, V.S.M. COLLEGE (A)
RAMACHANDRAPURAM-533 255, (E.G.Dt.)

I & III & V
2017 to 2018

V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2017-18

Department :Physics

PAPER: V - Electricity, Magnetism and Electronics

CLASS: III B.Sc.

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE	
MONTH: JUNE													
1	2RD WEEK	2	Introduction of Static Electricity, Coulom's law		Teaching Class	2	Yes			2	Yes		
2	3RD WEEK	2	Electric lines of force, Electric Flux,Gauss law statement , proof		Teaching Class	2	Yes			2	Yes		
3	4TH WEEK	3	Gauss law applicatins E due to Uniformly charged sphere. E due to infinite conducting sheet of charge.		Teaching Class	2	Yes		Classroom Seminar	1	Yes		
MONTH: JULY													
4	1ST WEEK	2	Electrical potential – equipotential surfaces-potential due to i) a point charge, ii) charged spherical shell	Electrification	Teaching Class	2	Yes		Guest Lecture	1	Yes		
5	2ND WEEK	3	Electric dipole moment and molecular polarizability- Electric displacement D, electric polarization P	Bad conductor	Teaching Class	3	Yes		Ward Counseling	2	Yes		
6	3RD WEEK	3	Relation between D, E and P- Dielectric constant and susceptibility. Boundary conditions at the dielectric surface.	Related problems	Teaching Class	3	Yes		Book Reviews	1	Yes		
7	4TH WEEK	2	Biot-Savart's law, explanation and calculation of B due to long straight wire, a circular current loop and solenoid – Hall effect – determination of Hall coefficient and applications	Freq. variations	Teaching Class Assignment	2	Yes			2	Yes		

MONTH: AUGUST													
8	1ST WEEK		MID I EXAMINATIONS				4				4		
9	1ST WEEK	2	Faraday's law-Lenz's law- Self and mutual inductance, coefficient of coupling,		Teaching Class Assignment	2 1				2			
10	2ND WEEK	3	calculation of self inductance of a long solenoid, energy stored in magnetic field. Transformer - energy losses - efficiency.	Applications	Teaching Class	2			Ward Counseling	1			
11	3RD WEEK	3	Alternating current - Relation between current and voltage in LR and CR circuits, vector diagrams, LCR series and parallel resonant circuit, Q –factor, power in ac circuits		Teaching Class	3				1			
12	4TH WEEK	3	Idea of displacement current - Maxwell's equations (integral and differential forms) (no derivation), Maxwell's wave equation (with derivation).	X- ray product	Teaching Class	3			Guest Lecture	1			
MONTH: SEPTEMBER													
13	1ST WEEK		MID II Examinations										
14	2ST WEEK	1	Pointing theorem (statement), production of electromagnetic waves (Hertz experiment).		Teaching Class Assignment	1				1			
15	3ND WEEK	3	PN junction diode, Zener diode, I-V characteristics, PNP and NPN transistors, CB, CE and CC configurations –Relation between alha,beta and gamma,		Teaching Class	1 1			QUIZ	1			

16	4TH WEEK	3	Transistor (CE) characteristics , Transistor as an amplifier.Number systems - Conversion of binary to decimal system and vice versa.		Teaching Class	2				1			
17	5TH WEEK		DASARA HOLIDAYS										
MONTH: OCTOBER													
18	Ind WEEK	2	Binary subtraction (2's complement methods).Laws of Boolean algebra - De Morgan's laws-statement and proof,		Teaching Class	1			Study Projects	1			
19	2nd WEEK	2	Basic logic gates, NAND and NOR as universal gates, exclusive-OR gate, Half adder and Full adder		Teaching Class	2			Class Room Seminars	1			
20	3TH WEEK		PRACTICAL EXAMINATIONS										
21	5th WEEK		SEMESTER END EXAMINATIONS										
MONTH: NOVEMBER													
22	1ST WEEK		SEMESTER END EXAMINATIONS										

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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2017 - 18

Department :Physics

PAPER: IV - Modern Physics

CLASS: III B.Sc.

Name of the Lecturer : V. Naga Babu M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2RD WEEK	2	Introduction of Matter waves, de Broglie's hypothesis		Teaching Class	2				2	yes		
2	3RD WEEK	2	wavelength of matter waves, Properties of matter waves - Davisson and Germer experiment	Gammma ray scope	Teaching Class	2				2	yes		
3	4TH WEEK	3	Heisenberg's uncertainty principle for position and momentum (x and p) & Energy and time (E and t)Basic postulates of quantum mechanics-Schrodinger time independent -derivation		Teaching Class	2			Classroom Seminar	1	yes		
MONTH: JULY													
4	1ST WEEK	3	Time dependent wave equations-derivation. Physical interpretation of wave function,Eigen functions, Eigen values.	Matrix properties, solutions	Teaching Class	2			Guest Lecture	1	yes		

5	2ND WEEK	2	Application of Schrodinger wave equation to particle in one dimensional infinite box.Introduction –Drawbacks of Bohr's atomic model. Vector atom model		Teaching Class	3			Ward Counseling	2	Yes		
6	3RD WEEK	3	Stern-Gerlach experiment - quantum numbers associated with it. L-S and j- j coupling schemes.		Teaching Class	3			Book Reviews	1	Yes		
7	4TH WEEK	2	Zeeman effect(Definition only) -Raman effect, hypothesis, Stokes and Anti Stokes lines.		Teaching Class Assignment	2				1	Yes		

MONTH: AUGUST

8	1ST WEEK		MID I EXAMINATIONS										
9	1ST WEEK	2	Quantum theory of Raman effect. Experimental arrangement –Applications of Raman effect	Ramann effect applications	Teaching Class	2				2	Yes		
10	2ND WEEK	3	Basic ideas of nucleus -size, mass, charge density (matter energy), binding energy, magnetic moment, electric moments.	video lecture	Teaching Class	3			Ward Counseling	1	Yes		
11	3RD WEEK	3	Liquid drop model and Shell model (qualitative aspects only) - Magic numbers.		Teaching Class Assignment	2 1				1	Yes		

12	4TH WEEK	3	Alpha decay: basics of α-decay processes. Theory of α-decay,Gamow's theory, Geiger Nuttal law.β-decay		Teaching Class	3			Guest Lecture	2	Yes		
MONTH: SEPTEMBER													
13	1ST WEEK		MID II Examinations										
14	2ST WEEK	1	kinematics for β-decay, positron emission, electron capture, neutrino hypothesis.		Teaching Class Assignment	1				1	Yes		
15	3ND WEEK	3	Amorphous and crystalline materials, unit cell, Miller indices, reciprocal lattice, types of lattices		Teaching Class	1 1			QUIZ	1	Yes		
16	4TH WEEK	3	Diffraction of X-rays by crystals, Bragg's law, experimental techniques, Laue's method	X-ray diffraction	Teaching Class	2				1	Yes		
17	5TH WEEK		DASARA HOLIDAYS										
MONTH: OCTOBER													
18	1nd WEEK	2	Introduction - experimental facts, critical temperature - critical field - Meissner effect – Isotope effect -		Teaching Class	1			Study Projects	1	Yes		

19	2nd WEEK	2	Type I and type II superconductors - applications of superconductors.	video lecture	Teaching Class	2			Class Room Seminars	1	Yes	Yes	
20	3TH WEEK		**PRACTICAL EXAMINATIONS**										
21	5th WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: NOVEMBER													
21	1ST WEEK	3	**SEMESTER END EXAMINATIONS**										

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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2017 - 18

Department :Physics

PAPER: IV - Modern Physics

CLASS: III B.Sc. (M.P.C) EM

Name of the Lecturer : S.SATTIBABU M.Sc., B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2RD WEEK	2	Introduction of Matter waves, de Broglie's hypothesis		Teaching Class	2				2	Yes		
2	3RD WEEK	2	wavelength of matter waves, Properties of matter waves - Davisson and Germer experiment	Gammma ray scope	Teaching Class	2				2	Yes		
3	4TH WEEK	3	Heisenberg's uncertainty principle for position and momentum (x and p) & Energy and time (E and t)Basic postulates of quantum mechanics-Schrodinger time independent -derivation		Teaching Class	2			Classroom Seminar	1	Yes		
MONTH: JULY													
4	1ST WEEK	3	Time dependent wave equations-derivation. Physical interpretation of wave function,Eigen functions, Eigen values.	Matrix properties, solutions	Teaching Class	2			Guest Lecture	1	Yes		

5	2ND WEEK	2	Application of Schrodinger wave equation to particle in one dimensional infinite box.Introduction –Drawbacks of Bohr's atomic model. Vector atom model		Teaching Class	3			Ward Counselin g	1			
6	3RD WEEK	3	Stern-Gerlach experiment - quantum numbers associated with it. L-S and j- j coupling schemes.		Teaching Class	3			Book Reviews	1			
7	4TH WEEK	2	Zeeman effect(Definition only) -Raman effect, hypothesis, Stokes and Anti Stokes lines.		Teaching Class Assignme nt	2				2			

MONTH: AUGUST

8	1ST WEEK		MID I EXAMINATIONS										
9	1ST WEEK	2	Quantum theory of Raman effect. Experimental arrangement –Applications of Raman effect	Ramann effect applications	Teaching Class	2				2			
10	2ND WEEK	3	Basic ideas of nucleus -size, mass, charge density (matter energy), binding energy, magnetic moment, electric moments.	video lecture	Teaching Class	3			Ward Counselin g	1			
11	3RD WEEK	3	Liquid drop model and Shell model (qualitative aspects only) - Magic numbers.		Teaching Class Assignme nt	2 1				1			

12	4TH WEEK	3	Alpha decay: basics of α-decay processes. Theory of α-decay,Gamow's theory, Geiger Nuttal law.β-decay		Teaching Class	3			Guest Lecture	3	yes		
MONTH: SEPTEMBER													
13	1ST WEEK		MID II Examinations										
14	2ST WEEK	1	kinematics for β-decay, positron emission, electron capture, neutrino hypothesis.		Teaching Class Assignment	1				1	yes		
15	3ND WEEK	3	Amorphous and crystalline materials, unit cell, Miller indices, reciprocal lattice, types of lattices		Teaching Class	1 1			QUIZ	1	yes		
16	4TH WEEK	3	Diffraction of X-rays by crystals, Bragg's law, experimental techniques, Laue's method	X-ray diffraction	Teaching Class	2				1	yes		
17	5TH WEEK		DASARA HOLIDAYS										
MONTH: OCTOBER													
18	1nd WEEK	2	Introduction - experimental facts, critical temperature - critical field - Meissner effect – Isotope effect -		Teaching Class	1			Study Projects	1	yes		

19	2nd WEEK	2	Type I and type II superconductors - applications of superconductors.	video lecture	Teaching Class	2			Class Room Seminars	1	YES		
20	3TH WEEK		**PRACTICAL EXAMINATIONS**										
21	5th WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: NOVEMBER													
21	1ST WEEK	3	**SEMESTER END EXAMINATIONS**										

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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2017 - 18

Department :Physics **PAPER:III - Wave Optics**

CLASS: II B.Sc.(MPCS2, MPCS3) & II B.Sc MPCS(S1)

Name of the Lecturer :P.SAIBABU M.Sc.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2ND WEEK	3	syllubus dictation and Introductiuon,		Teaching Class	3	yes			3	yes		
2	3RD WEEK	4	Chromatic aberration-the achromatic doublet. Achromatism for two lenses (i)in contact and (ii) separated by a distance.		Teaching Class	4	yes			4	yes		
3	4TH WEEK	4	Introduction – monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration		Teaching Class	4	yes			4	yes		
4	5th WEEK	3	coma, astigmatism and curvature of field, distortion		Teaching Class	3				3	yes		
MONTH: JULY													
5	1ST WEEK	3	Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference of light		Teaching Class	3				3	yes		

6	2ND WEEK	4	Fresnel's biprism-determination of wavelength of light –change of phase on reflection. Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films		Teaching Class	4			Ward Counseling	4	yes		
7	3RD WEEK	4	Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film). Determination of diameter of wire, Newton's rings in reflected light		Teaching Class	4			Book Reviews	4	yes		
8	4TH WEEK	4	Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.		Teaching Class	4				4	yes		
9	5th WEEK	2	Introduction,distinction between Fresnel and Fraunhoffer diffraction		Teaching Class Assignment	2				2	yes		

MONTH: AUGUST

10	1ST WEEK		MID I EXAMINATIONS										
11	1ST WEEK	2	Fraunhoffer diffraction –Diffraction due to single slit		Teaching Class Assignment	2				2	yes		
12	2ND WEEK	3	Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating)		Teaching Class	3			Ward Counseling	3	yes		

13	3RD WEEK	3	Resolving power of grating, Determination of wavelength of light in normal incidence and minimum deviation methods using diffraction grating		Teaching Class	3			Group Discussion	3			
14	4TH WEEK	3	Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.		Teaching Class	3				3			
15	5th WEEK	3	Polarized light: methods of polarization polarization by reflection, refraction, double refraction		Teaching Class Assignment	2 1				3			

MONTH: SEPTEMBER

16	1ST WEEK		MID II Examinations										
17	2ND WEEK	4	scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, Half wave plate-optical activity		Teaching Class	4			Book Reviews	4			
18	3RD WEEK	4	Determination of specific rotation by Laurent's half shade polarimeter-Babinet's compensator - idea of elliptical and circular polarization		Teaching Class	4				4			

19	4TH WEEK	4	Lasers: introduction, spontaneous emission, stimulated emission. Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laserApplications of lasers. Holography: Basic principle of holography-		Teaching Class	4				4			
20	5th WEEK		DASARA HOLIDAYS										

MONTH: OCTOBER

21	1ST WEEK	4	Gabor hologram and its limitations, Applications of holography Introduction-different types of fibers, rays and modes in an optical fiber, fiber material		Teaching Class	4				4			
22	2ND WEEK	3	principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.		Teaching Class	3			Ward Counseling	3			
23	3RD WEEK		**PRACTICAL EXAMINATIONS**										
24	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: NOVEMBER

25	1ST WEEK		**SEMESTER END EXAMINATIONS**											

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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2017 - 18

Department :Physics

PAPER:III - Wave Optics

CLASS: II B.Sc.(MPCS2,MPCS3)

Name of the Lecturer : Ch.Satyanarayana M.Sc.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	2ND WEEK	3	syllubus dictation and Introductiuon,		Teaching Class	3	yes			3	YES		
2	3RD WEEK	4	Chromatic aberration-the achromatic doublet. Achromatism for two lenses (i)in contact and (ii) separated by a distance.		Teaching Class	4	yes			4	YES		
3	4TH WEEK	4	Introduction – monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration		Teaching Class	4	yes			4	YES		
4	5th WEEK	3	coma, astigmatism and curvature of field, distortion		Teaching Class	3				3	YES		
MONTH: JULY													
5	1ST WEEK	3	Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference of light		Teaching Class	3				3	YES		

6	2ND WEEK	4	Fresnel's biprism-determination of wavelength of light –change of phase on reflection. Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films		Teaching Class	4			Ward Counseling	3	YES		
7	3RD WEEK	4	Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film). Determination of diameter of wire, Newton's rings in reflected light		Teaching Class	4			Book Reviews	3	YES		
8	4TH WEEK	4	Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.		Teaching Class	4				4	YES		
9	5th WEEK	2	Introduction,distinction between Fresnel and Fraunhoffer diffraction		Teaching Class Assignment	2				2	YES		

MONTH: AUGUST

10	1ST WEEK		MID I EXAMINATIONS										
11	1ST WEEK	2	Fraunhoffer diffraction –Diffraction due to single slit		Teaching Class Assignment	2				2	YES		
12	2ND WEEK	3	Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating)		Teaching Class	3			Ward Counseling	1	YES		

13	3RD WEEK	3	Resolving power of grating, Determination of wavelength of light in normal incidence and minimum deviation methods using diffraction grating		Teaching Class	3			Group Discussion	2	YES		
14	4TH WEEK	3	Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.		Teaching Class	3				2	YES		
15	5th WEEK	3	Polarized light: methods of polarization polarization by reflection, refraction, double refraction		Teaching Class Assignment	2 1				2	YES		

MONTH: SEPTEMBER

16	1ST WEEK		MID II Examinations										
17	2ND WEEK	4	scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, Half wave plate-optical activity		Teaching Class	4			Book Reviews	3	YES		
18	3RD WEEK	4	Determination of specific rotation by Laurent's half shade polarimeter-Babinet's compensator - idea of elliptical and circular polarization		Teaching Class	4				4	YES		

19	4TH WEEK	4	Lasers: introduction, spontaneous emission, stimulated emission. Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laserApplications of lasers. Holography: Basic principle of holography-		Teaching Class	4						4	YES	
20	5th WEEK		DASARA HOLIDAYS											

MONTH: OCTOBER

21	1ST WEEK	4	Gabor hologram and its limitations, Applications of holography Introduction-different types of fibers, rays and modes in an optical fiber, fiber material		Teaching Class	4						4	YES	
22	2ND WEEK	3	principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.		Teaching Class	3			Ward Counseling			2	YES	
23	3RD WEEK		**PRACTICAL EXAMINATIONS**											
24	4TH WEEK		**SEMESTER END EXAMINATIONS**											

MONTH: NOVEMBER

25	1ST WEEK		SEMESTER END EXAMINATIONS										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: I B.Sc.** **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer :V. Naga Babu M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	3RD WEEK	4	Scalar and vector fields. gradient of a scalar field and its physical significance. Divergence with derivations and physical interpretation.		Teaching Class	4				4	yes		
2	4TH WEEK	4	curl of a vector field Vector integration (line, surface and volume).		Teaching Class	4				2	yes		
MONTH: JULY													
3	1ST WEEK	3	Statement and proof of Gauss and Stokes theorems.		Teaching Class	3				1	yes		
4	2ND WEEK	4	Laws of motion, motion of variable mass system, Equation of motion of a rocket. Conservation of energy and momentum.		Teaching Class	4			Ward Counseling	2	yes		
5	3RD WEEK	4	Collisions in two and three dimensions, Concept of impact parameter, scattering cross-section,		Teaching Class Assignment	3 1			Book Reviews	1	yes		

6	4TH WEEK	3	Rutherford scattering- derivation.Definition of rigid body, rotational kinematic relations, equation of motion for a rotating body		Teaching Class	3			Ward Counseling	2	Yes		

MONTH: AUGUST

7	1ST WEEK		**I MID Examinations**										
8	1ST WEEK	2	Angular momentum, Euler equations and its applications			2				1	Yes		
9	2ND WEEK	4	precession of a top, Gyroscope, precession of the equinoxes.Elastic constants of isotropic solids and their relations,		Teaching Class	4			Ward Counseling	2	Yes		
10	3RD WEEK	2	Poisson's ratio and expression for Poisson's ratio in terms of y, n, k.		Teaching Class	2			Group Discussion	1	Yes		
11	4TH WEEK	3	Classification of beams, types of bending, point load, distributed load, shearing force and bending moment, sign conventions.		Teaching Class	3				2	Yes		

MONTH: SEPTEMBER

12	1ST WEEK	4	**II MID Examinations**		Teaching Class Assignment	3 1			Study Projects	2	Yes		
13	2ND WEEK	2	Central forces. definition and examples, characteristics of central forces,		Teaching Class	2			Ward Counseling	1	Yes		

14	3RD WEEK	3	conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class	2			QUIZ	1	Yes		
15	4TH WEEK	3	Equation of motion under a central force. Derivation of Kepler's laws. Motion of satellites. idea of Global Positioning System (GPS)		Teaching Class	3			Seminars	2	yes		
16	5th WEEK		DASARA HOLIDAYS										
MONTH: OCTOBER													
17	1ST WEEK	2	Galilean relativity. absolute frames. Michelson-Morley experiment. negative result.		Teaching Class	2				1	yes		
18	2ND WEEK	2	Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction		Teaching Class	3			Class Room Seminars	1	yes		
19	3RD WEEK	3	Addition of velocities, mass-energy relation. Concept of four-vector formalism.		Teaching Class	3				2	yes		
20	4th WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: NOVEMBER													
21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

CLASS: I B.Sc. **PAPER: I -Mechanics and Properties of Matter**

Department :Physics

Name of the Lecturer : R.Nageswararao M.Sc.(Tech), B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													
1	3RD WEEK	4	Scalar and vector fields. gradient of a scalar field and its physical significance. Divergence with derivations and physical interpretation.		Teaching Class	4				4	Yes		
2	4TH WEEK	4	curl of a vector field Vector integration (line, surface and volume).		Teaching Class	4				4	Yes		
MONTH: JULY													
3	1ST WEEK	3	Statement and proof of Gauss and Stokes theorems.		Teaching Class	3				3	Yes		
4	2ND WEEK	4	Laws of motion, motion of variable mass system, Equation of motion of a rocket. Conservation of energy and momentum.		Teaching Class	4			Ward Counseling	4	Yes		
5	3RD WEEK	4	Collisions in two and three dimensions, Concept of impact parameter, scattering cross-section,		Teaching Class Assignment	3 1			Book Reviews	3	Yes		

6	4TH WEEK	3	Rutherford scattering- derivation.Definition of rigid body, rotational kinematic relations, equation of motion for a rotating body		Teaching Class	3			Ward Counseling	3	Yes		

MONTH: AUGUST

7	1ST WEEK		**I MID Examinations**										
8	1ST WEEK	2	Angular momentum, Euler equations and its applications			2				2	Yes		
9	2ND WEEK	4	precession of a top, Gyroscope, precession of the equinoxes.Elastic constants of isotropic solids and their relations,		Teaching Class	4			Ward Counseling	4	Yes		
10	3RD WEEK	2	Poisson's ratio and expression for Poisson's ratio in terms of y, n, k.		Teaching Class	2			Group Discussion	1	Yes		
11	4TH WEEK	3	Classification of beams, types of bending, point load, distributed load, shearing force and bending moment, sign conventions.		Teaching Class	3							

MONTH: SEPTEMBER

12	1ST WEEK	4	**II MID Examinations**		Teaching Class Assignment	3 1			Study Projects	3	Yes		
13	2ND WEEK	2	Central forces. definition and examples, characteristics of central forces,		Teaching Class	2			Ward Counseling	1	Yes		

14	3RD WEEK	3	conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class	2			QUIZ	1	Yes		
15	4TH WEEK	3	Equation of motion under a central force. Derivation of Kepler's laws. Motion of satellites. idea of Global Positioning System (GPS)		Teaching Class	3			Seminars	3	Yes		
16	5th WEEK		DASARA HOLIDAYS										

MONTH: OCTOBER

17	1ST WEEK	2	Galilean relativity. absolute frames. Michelson-Morley experiment. negative result.		Teaching Class	2				2	Yes		
18	2ND WEEK	2	Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction		Teaching Class	3			Class Room Seminars	1	Yes		
19	3RD WEEK	3	Addition of velocities, mass-energy relation. Concept of four-vector formalism.		Teaching Class	3				3	Yes		
20	4th WEEK		SEMESTER END EXAMINATIONS										

MONTH: NOVEMBER

21	1ST WEEK		SEMESTER END EXAMINATIONS										
22	2ND WEEK		PRACTICAL EXAMINATIONS										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes	Yy	Ward Counseli ng,	3	Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3							
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes						
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,	4	Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	3	Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3	Yes		Ward Counseling	3	Yes		
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes						

YEAR: 2017-18

MONTH: JANUARY

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects	3	Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes						

YEAR: 2017-18

MONTH: FEBRUARY

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						

MONTH: MARCH YEAR: 2017-18

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	~~Yes~~						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL YEAR: 2017-18

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : S.SATTIBABU M.Sc, B.Ed,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseli ng,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3							
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes						
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,		Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	3	Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3	Yes		Ward Counseli ng		Yes		
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2017-18**

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes						

MONTH: FEBRUARY **YEAR: 2017-18**

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						

MONTH: MARCH

YEAR: 2017-18

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL

YEAR: 2017-18

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : S.SATTIBABU M.Sc, B.Ed,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseli ng,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3							
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes						
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,		Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	3	Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3	Yes		Ward Counseli ng		Yes		
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes						
MONTH: JANUARY													**YEAR: 2017-18**
9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes						
MONTH: FEBRUARY													**YEAR: 2017-18**
14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						

MONTH: MARCH

YEAR: 2017-18

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussio n		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL

YEAR: 2017-18

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: III B.Sc. (MPC and MPCS) SEMISTER-VI** **PAPER: Analog and Digital Electronics**

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	3RD WEEK	3	FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET Construction and working ,		Teaching Class	3	Yes		Ward Counseli ng,		Yes		
2	4th WEEK	3	Drain characteristics of MOSFET, applications of MOSFET,Photo electric devices: Structure and operation, characteristics		Teaching Class	3							
3	5th WEEK	2	Spectral response and application of LDR, LED and LCD		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
4	1ST WEEK	3	Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers		Teaching Class	3	Yes						
5	2ND WEEK	4	Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.		Teaching Class	4	Yes		Ward Counseli ng,		Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	3	Applications of Op-Amp: Op-Amp as Inverting amplifier, Non-inverting amplifier		Teaching Class	3	Yes		Ward Counseli ng		Yes		
8	5th WEEK	2	amplifier, difference amplifier, comparator, integrator, differentiator.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2017-18**

9	1ST WEEK	3	Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	3	Characteristics for Digital ICs -RTL, DTL, TTL (NAND & NOR Gates).		Teaching Class	3	Yes		Study Projects		Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	IC 555 Timer -Its pin diagram, internal architecture, Application as astablemulti vibrator and mono stable multi vibrator.		Teaching Class	3	Yes						

MONTH: FEBRUARY **YEAR: 2017-18**

14	1ST WEEK	3	Sequential digital circuits: Flip-flops, RS, Clocked SR		Teaching Class	3	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	JK, D, T, Master-Slave, Flip- flop,		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Design of code converter, BCD to 7 segment		Teaching Class	2	Yes						

YEAR: 2017-18

MONTH: MARCH

18	1ST WEEK	2	binary/BCD to gray, gray to binary/BCD ,design of counters using state machine.		Teaching Class	2	Yes		Study Project		Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussio n		Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

YEAR: 2017-18

MONTH: APRIL

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										
23	2ND WEEK		**PRACTICAL EXAMINATIONS**										
24	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-IV** **PAPER: Thermodynamics & Radiation Physics**

Name of the Lecturer : CH. SATYANARAYANA, M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	3RD WEEK	4	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification		Teaching Class	4	Yes		Ward Counseling,	1	Yes		
2	4th WEEK	4	path - Viscosity of gases-thermal conductivity-diffusion of ,Introduction- Isothermal and adiabatic process.		Teaching Class	4	YES						
3	5th WEEK	2	Reversible and irreversible processes-Carnot's engine and its efficiency		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
4	1ST WEEK	3	thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes		Teaching Class	3	Yes						
5	2ND WEEK	4	Entropy and disorder-Entropy of Universe–Temperature-Entropy (T-S) diagram and its uses - Change of entropy of a perfect gas- change of entropy when ice changes into steam.		Teaching Class	4	Yes		Ward Counseling,	1	Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	4	Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas.		Teaching Class	4	Yes		Ward Counseling	1	Yes		
8	5th WEEK	2	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas.		Teaching Class	2	Yes						
MONTH: JANUARY													**YEAR: 2017-18**
9	1ST WEEK	3	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion-Distinction between adiabatic and Joule Thomson expansion		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	4	Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures		Teaching Class	4	Yes		Study Projects	1	Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	Applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer,Blackbody-Ferry's black body-distribution of energy in the spectrum of black body		Teaching Class	3	Yes						

13	5th WEEK	1	Wein's displacement law, Wein's law,		Teaching Class	1	YES						

MONTH: FEBRUARY **YEAR: 2017-18**

14	1ST WEEK	4	Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation		Teaching Class	4	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Determination of solar constant, Temperature of Sun.		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2017-18**

18	1ST WEEK	2	REVESION		Teaching Class	2	Yes		Study Project	1	Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion	1	Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes						
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL **YEAR: 2017-18**

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										

23	2ND WEEK		PRACTICAL EXAMINATIONS										
24	3rd WEEK		PRACTICAL EXAMINATIONS										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-IV** **PAPER: Thermodynamics & Radiation Physics**

Name of the Lecturer : P.SAIBABU M.Sc.(Tech),

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	3RD WEEK	4	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification		Teaching Class	4	Yes		Ward Counseling,	4	Yes		
2	4th WEEK	4	path - Viscosity of gases-thermal conductivity-diffusion of ,Introduction- Isothermal and adiabatic process.		Teaching Class	4				4			
3	5th WEEK	2	Reversible and irreversible processes-Carnnot's engine and its efficiency		Teaching Class	1 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
4	1ST WEEK	3	thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes		Teaching Class	3	Yes						
5	2ND WEEK	4	Entropy and disorder-Entropy of Universe–Temperature-Entropy (T-S) diagram and its uses - Change of entropy of a perfect gas- change of entropy when ice changes into steam.		Teaching Class	4	Yes		Ward Counseling,	4	Yes		

6	3rd WEEK		**I MID Examinations**										
7	4th WEEK	4	Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas.		Teaching Class	4	Yes		Ward Counseling	4	Yes		
8	5th WEEK	2	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas.		Teaching Class	2	Yes			2	Yes		

MONTH: JANUARY **YEAR: 2017-18**

9	1ST WEEK	3	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion-Distinction between adiabatic and Joule Thomson expansion		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
10	2ND WEEK	4	Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures		Teaching Class	4	Yes		Study Projects	4	Yes		
11	3RD WEEK		**PONGAL HOLIDAYS**										
12	4TH WEEK	3	Applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer,Blackbody-Ferry's black body-distribution of energy in the spectrum of black body		Teaching Class	3	Yes			3	Yes		

13	5th WEEK	1	Wein's displacement law, Wein's law,		Teaching Class	1				1			

MONTH: FEBRUARY **YEAR: 2017-18**

14	1ST WEEK	4	Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation		Teaching Class	4	Yes						
15	2ND WEEK		**II MID Examinations**										
16	3RD WEEK	3	Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-		Teaching Class	3	Yes		Quiz	1	Yes		
17	4TH WEEK	2	Determination of solar constant, Temperature of Sun.		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2017-18**

18	1ST WEEK	2	REVESION		Teaching Class	2	Yes		Study Project	2	Yes		
19	2ND WEEK	2	REVESION		Teaching Class	2	Yes		Group Discussion	2	Yes		
20	3RD WEEK		**SEMESTER END EXAMINATIONS**		Teaching Class	1	Yes			1			
21	4TH WEEK		**SEMESTER END EXAMINATIONS**										

MONTH: APRIL **YEAR: 2017-18**

22	1ST WEEK		**SEMESTER END EXAMINATIONS**										

23	2ND WEEK		PRACTICAL EXAMINATIONS										
24	3rd WEEK		PRACTICAL EXAMINATIONS										

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

SIGNATURE OF THE PRINCIPAL

V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** **PAPER: Waves & Oscillations**

Name of the Lecturer : V.NAGABABU, M.Sc

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	4th WEEK	4	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	4				2	yes		
2	5th WEEK	3	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g'		Teaching Class	2 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
3	1ST WEEK	3	combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	3	Yes			2	yes		
4	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,	2	Yes		
5	3rd WEEK		**I MID Examinations**										
6	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling	2	Yes		
7	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2017-18**

8	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
9	2ND WEEK	4	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	4	Yes		Study Projects	2	Yes		
10	3RD WEEK		**PONGAL HOLIDAYS**										
11	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed		Teaching Class	3	Yes			2	Yes		
12	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1							

MONTH: FEBRUARY **YEAR: 2017-18**

13	1ST WEEK	4	General solution of wave equation and its significance,General solution of wave equation and its significance.		Teaching Class	4	Yes			2	Yes		
14	2ND WEEK		**II MID Examinations**										
15	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,		Teaching Class	3	Yes		Quiz	1	Yes		
16	4TH WEEK	2	energy transport, transverse impedance.		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2017-18**

17	1ST WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic		Teaching Class	2	Yes		Study Project	1	Yes		

18	2ND WEEK	2	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	2	Yes		Group Discussion	1	Yes		
19	3RD WEEK	1	**SEMESTER END EXAMINATIONS**										
20	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													**YEAR: 2017-18**
21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										
23	3rd WEEK		**PRACTICAL EXAMINATIONS**										

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V.S.M.COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN - 2017 - 18

Department :Physics **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** **PAPER: Waves & Oscillations**

Name of the Lecturer : R.Nageswara Rao M.Sc.(Tech.),B.Ed

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2017-18**
1	4th WEEK	4	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	4							
2	5th WEEK	3	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g'		Teaching Class	2 1	Yes		Guest Lecture	1	Yes		
MONTH: DECEMBER													**YEAR: 2017-18**
3	1ST WEEK	3	combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	3	Yes						
4	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,	4	Yes		
5	3rd WEEK		**I MID Examinations**										
6	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling	2	Yes		
7	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						

MONTH: JANUARY **YEAR: 2017-18**

8	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	3	Yes		Guest Lecture,	1	Yes		
9	2ND WEEK	4	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	4	Yes		Study Projects	4	Yes		
10	3RD WEEK		**PONGAL HOLIDAYS**										
11	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed		Teaching Class	3	Yes						
12	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1							

MONTH: FEBRUARY **YEAR: 2017-18**

13	1ST WEEK	4	General solution of wave equation and its significance,General solution of wave equation and its significance.		Teaching Class	4	Yes						
14	2ND WEEK		**II MID Examinations**										
15	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,		Teaching Class	3	Yes		Quiz	1	Yes		
16	4TH WEEK	2	energy transport, transverse impedance.		Teaching Class	2	Yes						

MONTH: MARCH **YEAR: 2017-18**

17	1ST WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic		Teaching Class	2	Yes		Study Project	2	Yes		

18	2ND WEEK	2	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	2	Yes		Group Discussion	2	Yes		
19	3RD WEEK	1	**SEMESTER END EXAMINATIONS**										
20	4TH WEEK		**SEMESTER END EXAMINATIONS**										
MONTH: APRIL													**YEAR: 2017-18**
21	1ST WEEK		**SEMESTER END EXAMINATIONS**										
22	2ND WEEK		**PRACTICAL EXAMINATIONS**										
23	3rd WEEK		**PRACTICAL EXAMINATIONS**										

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

SIGNATURE OF THE PRINCIPAL

15/3/18
Academic Advisor

15/3/18
Academic Advisor

V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2016-17

Department :Physics

PAPER: III - Electricity, Magnetism and Electronics

CLASS: III B.Sc. (MPC)

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													YEAR: 2016-17
1	3RD WEEK	4	Introduction to static electricity Gauss law statement	Electrification	Teaching Class	4	Yes						
2	4TH WEEK	2	proof E due to Uniformly charged sphere.	Electrification	Teaching Class	2	Yes						
MONTH: JULY													YEAR: 2016-17
3	1ST WEEK	4	charged cylindrical conductor and an infinite conducting sheet of charge,Deduction of Coulmb's law from Gauss law.	Electrification	Teaching Class	4	Yes						
4	2ND WEEK	4	Mechanical force on a charged conductor,Electric potential – Potential due to a charged spherical conductor.	Bad conductor	Teaching Class	4	Yes		Ward Counseling		Yes		
5	3RD WEEK	4	Electric field strength from the electric dipole and an infinite line of charge,Electric field strength from the electric dipole and an infinite line of charge. Potential of a uniformly charged circular disc and problems.	Related problems	Teaching Class Unit I	4	Yes		Book Reviews		Yes		

6	4TH WEEK	4	An atomic view – Polar and non-polar dielectrics in electric field,An atomic view – Polar and non-polar dielectrics in electric field-potential energy of a dipole in an electric field.	Freq. variations	Teaching Class Assignment	4	Yes		Ward Counseling		Yes		
MONTH: AUGUST												YEAR: 2016-17	
8	1ST WEEK	2	Polarization and charge density Dielectrics and Gauss law - relation between D,E, and P vectors,Dielectric constant and susceptibility – boundary conditions at the dielectric surface.		Teaching Class Assignment	2	Yes						
9	2ND WEEK	3	Capacity- working principle, Capacity of a concentric spheres and cylindrical condenser – capacity of a parallel plate condenser with and without dielectric.	Applications	Teaching Class	3	Yes		Ward Counseling		Yes		
10	3RD WEEK	4	Force between plates of condenser – attracted disc electrometer construction and working, measurement of dielectric constant and potential difference. and problems.		Teaching Class Unit II	3 1	Yes		Group Discussion	1	Yes		
11	4TH WEEK	3	Magnetic shell – potential due to magnetic shell – field due to magnetic shell – equivalent of electric circuit and magnetic shell. Application of field due to magnetic shell – magnetic induction (B) – Permeability and susceptibility Relation among B,H	X- ray productior	Teaching Class	3	Yes		Ward Counseling		Yes		
7	5TH WEEK	1	I. Hysteresis loop and energy		Teaching Class	1	Yes						

MONTH: SEPTEMBER													**YEAR: 2016-17**
12	1ST WEEK	2	Hall effect – cyclotron – synchrocyclotron and synchrotron		Teaching Class Assignment	1 1	Yes		Study Projects	1	Yes		
13	2ND WEEK	2	force on a current carrying conductor placed in a magnetic field, force and torque on a current loop		Teaching Class	2	Yes		Ward Counseling, Book Reviews		Yes		
14	3RD WEEK	3	Biot –Savart's law and calculation of B due to long straight wire, a circular current loop and solenoid and problems.Faraday's law,Lenz's law,expression for induced emf – time varying magnetic fields		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
15	4TH WEEK	4	Betatron,Ballistic galvanometer,self and mutual inductance.Coefficient of coupling, calculation of self inductance of a long solenoid – toroid – energy stored in magnetic field –		Teaching Class Unit Test - 2 Practical	3 1	Yes		Ward Counseling Seminars	1	Yes		
16	5TH WEEK	3	Transformer – Construction, working, energy losses and efficiencyand problems.Growth and decay of currents in LR, CR circuits.		Teaching Class	2 1	Yes		Group Discussion	1	Yes		
MONTH: OCTOBER													**YEAR: 2016-17**
17	Ind WEEK	3	LCR circuits – Critical damping.		Teaching Class Assignment	1	Yes						

18	2nd WEEK	4	Alternating current relation between current and voltage in pure R,C and L-vector diagrams – Power in ac circuits. LCR series and parallel resonant circuit – Q-factor.	Tuned circuits in radio and T.V,	Teaching Class	4	Yes		Ward Counseling, Class Room Seminars	1	Yes		
19	3TH WEEK	4	AC & DC motors-single phase, three phase.Magnetic Equations and electromagnetic waves: A review of basic laws of electricity and magnetism,Displacement current	Battery eliminators and adopters	Teaching Class MID Exam I	4	Yes		Ward Counseling		Yes		
20	4th WEEK	3	Maxwell's equations in differential form – Maxwell's wave equation		Teaching Class	3	Yes						
MONTH: NOVEMBER												**YEAR: 2016-17**	
21	1ST WEEK	4	plane electromagnetic waves,Transverse nature of electromagnetic waves Poynting vector – production of electromagnetic waves (Hertz's experiment)Formation of electron energy bands in solids, classification of solids in terms of forbidden energy gap. Intrinsic and extrinsic semiconductors, Fermi level,		Teaching Class	4	Yes		Guest Lecture,Class Room Seminars		Yes		
22	2ND WEEK	3	continuity equationIntrinsic and extrinsic semiconductors, Fermi level, continuity equation. p-n junction diode, Zener diode characteristicsTransistor as an amplifier concept of negative feed back and positive feed back – Barkhausen criterion.	MOSFET IC fabrication principle	Teaching Class	2	Yes		Ward Counseling, Quiz	1	Yes		

23	3RD WEEK		zener diode voltage regulator. Half wave and full wave rectifiers and filters, ripple factor (quantitative)								Yes		
24	4th WEEK		p n p and n p n transistors, current components in transistors, CB,CE and CC configurations –								Yes		
MONTH: DECEMBER													**YEAR: 2016-17**
25	1ST WEEK	3	**HALF-YEARLY EXAMINATIONS - 2016**		Teaching Class	2	Yes		Ward Counseling Seminars	1	Yes		
26	2ND WEEK	3	**HALF-YEARLY EXAMINATIONS - 2016**		Teaching Class	2	Yes		Ward Counseling, Study Projects	1	Yes		
27	3rd WEEK	3	transistor hybrid parameters – determination of hybrid parameters from transistor characteristics	Applications to computers	Teaching Class Unit V	2 1	Yes		Guest Lecture		Yes		
28	4TH WEEK	2	Transistor as an amplifier — concept of negative feed back and positive feed back – Barkhausen criterion		Teaching Class	2	Yes		Ward Counseling		Yes		
29	5TH WEEK	3	Binary number system, converting Binary to Decimal and vice versa.		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													**YEAR: 2016-17**
30	1ST WEEK	3	Binary addition and subtraction (1's and 2's complement methods). Hexadecimal number system.Conversion from Binary to Hexadecimal		Teaching Class MID Exam II	1 1			Guest Lecture, Study Project	1	Yes		

31	3RD WEEK	2	Decimal to Hexadecimal vice versa.NAND, NOR as universal gates, Exclusive – OR gate.		Teaching Class Assignment	1 1								
32	4TH WEEK	2	De Morgan's Laws – statement and proof, Half and Full adders. Parallel adder circuits.		Teaching Class	2								
MONTH: FEBRUARY													YEAR: 2016-17	
33	1ST WEEK	4	**REVISION**		Teaching Class	3			Group Discussion		Yes			
34	2ND WEEK	3	**REVISION**		Teaching Class	2								
35	3RD WEEK	2	**REVISION**		Teaching Class	3								
36	4TH WEEK	2	**REVISION**		Teaching Class	2								
MONTH: MARCH													YEAR: 2016-17	
37	1ST WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**											
38	2ND WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**											

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

Dr. K. Srinivasa Rao
M.Sc., M.Phil., Ph.D.
Head Department of Physics
V.S.M. College - Ramachandrapuram
East Godavari Dt. (A.P.) 533 255

SIGNATURE OF THE PRINCIPAL

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RAMACHANDRAPURAM-533 255, (E.G.Dt.)

V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2015-16

Department :Physics

PAPER: III - Electricity, Magnetism and Electronics

CLASS: III B.Sc. (MPCS)

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE					YEAR: 2015-16								
1	3RD WEEK	2	Introduction to static electricity Gauss law statement proof E due to Uniformly charged sphere.		Teaching Class	2	Yes						
2	4TH WEEK	3	charged cylindrical conductor and an infinite conducting sheet of charge.		Teaching Class	3	Yes						
MONTH: JULY					YEAR: 2015-16								
3	1ST WEEK	3	Equipotential lines, Electric Flux, Gauss law related problems assignments.	Electrification	Teaching Class	3	Yes						
4	2ND WEEK	3	Deduction of Coulmb's law from Gauss law Mechanical force on a charged conductor Electric potential – Potential due to a charged spherical conductor.	Bad conductor	Teaching Class	3	Yes		Ward Counseling		Yes		
5	3RD WEEK	4	Electric field strength from the electric dipole and an infinite line of charge.	Related problems	Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		

6	4TH WEEK	4	Electric field strength from the electric dipole and an infinite line of charge. Potential of a uniformly charged circular disc and problems.An atomic view – Polar and non-polar dielectrics in electric field	Freq. variations	Teaching Class Assignment	3 1	Yes		Ward Counseling		Yes		
7	5TH WEEK	2	An atomic view – Polar and non-polar dielectrics in electric field- potential energy of a dipole in an electric field.		Teaching Class	2	Yes						
MONTH: AUGUST												YEAR: 2015-16	
8	1ST WEEK	3	Polarization and charge density Dielectrics and Gauss law - relation between D,E, and P vectors,Dielectric constant and susceptibility – boundary conditions at the dielectric surface.		Teaching Class Assignment	2 1	Yes						
9	2ND WEEK	2	Capacity- working principle, Capacity of a concentric spheres and cylindrical condenser – capacity of a parallel plate condenser with and without dielectric.	Applications	Teaching Class	2	Yes		Ward Counseling		Yes		
10	3RD WEEK	4	Force between plates of condenser – attracted disc electrometer construction and working, measurement of dielectric constant and potential difference. and problems.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
11	4TH WEEK	3	Magnetic shell – potential due to magnetic shell – field due to magnetic shell – equivalent of electric circuit and magnetic shell. Application of field due to magnetic shell – magnetic induction (B) – Permeability and susceptibility Relation among B,H and I. Hysteresis loop.	X- ray productior	Teaching Class	3	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER												**YEAR: 2015-16**	
12	1ST WEEK	4	Hall effect – cyclotron – synchrocyclotron and synchrotron - force on a current carrying conductor placed in a magnetic field, force and torque on a current loop,		Teaching Class Assignment	3 1	Yes		Study Projects	1	Yes		
13	2ND WEEK	3	Biot –Savart's law and calculation of B due to long straight wire, a circular current loop and solenoid and problems.		Teaching Class	3	Yes		Ward Counseling, Book Reviews		Yes		
14	3RD WEEK	3	induced emf – time varying magnetic fields,Betatron,Ballistic galvanometer,self and mutual inductance.		Teaching Class Unit III	1 1	Yes		QUIZ	1	Yes		
15	4TH WEEK	3	Coefficient of coupling, calculation of self inductance of a long solenoid – toroid – energy stored in magnetic field – transformer – Construction, working, energy losses and efficiencyand problems.		Teaching Class Unit Test - 2 Practical	2	Yes		Ward Counseling Seminars	1	Yes		
16	5TH WEEK	2	Growth and decay of currents in LR, CR circuits.		Teaching Class	1	Yes		Group Discussion	1	Yes		
MONTH: OCTOBER												**YEAR: 2015-16**	
17	1nd WEEK	1	LCR circuits – Critical damping.		Teaching Class Assignment	1	Yes						
18	2nd WEEK	3	Alternating current relation between current and voltage in pure R,C and L-vector diagrams – Power in ac circuits. LCR series and parallel resonant circuit – Q-factor.	Tuned circuits in radio and T.V,	Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		

19	3TH WEEK	3	AC & DC motors-single phase, three phase.Magnetic Equations and electromagnetic waves: A review of basic laws of electricity and magnetism,Displacement current	Battery eliminators and adopters	Teaching Class MID Exam I	3	Yes		Ward Counseling		Yes		
20	5th WEEK	3	Maxwell's equations in differential form – Maxwell's wave equation		Teaching Class	3	Yes						
MONTH: NOVEMBER													**YEAR: 2015-16**
21	1ST WEEK	4	plane electromagnetic waves,Transverse nature of electromagnetic waves Poynting vector – production of electromagnetic waves (Hertz's experiment)Formation of electron energy bands in solids, classification of solids in terms of forbidden energy gap. Intrinsic and extrinsic semiconductors, Fermi level,		Teaching Class	4	Yes		Guest Lecture,Class Room Seminars		Yes		
22	2ND WEEK	3	continuity equationIntrinsic and extrinsic semiconductors, Fermi level, continuity equation. p-n junction diode, Zener diode characteristicsTransistor as an amplifier concept of negative feed back and positive feed back – Barkhausen criterion.	MOSFET IC fabrication principle	Teaching Class	2	Yes		Ward Counseling, Quiz	1	Yes		
23	3RD WEEK	3	zener diode voltage regulator. Half wave and full wave rectifiers and filters, ripple factor (quantitative)								Yes		
24	4th WEEK	2	p n p and n p n transistors, current components in transistors, CB,CE and CC configurations –								Yes		

MONTH: DECEMBER												**YEAR: 2015-16**	
25	1ST WEEK		**HALF-YEARLY EXAMINATIONS - 2015**		Teaching Class	2	Yes		Ward Counseling Seminars	1	Yes		
26	2ND WEEK		**HALF-YEARLY EXAMINATIONS - 2015**		Teaching Class	2	Yes		Ward Counseling, Study Projects	1	Yes		
27	3rd WEEK	3	transistor hybrid parameters – determination of hybrid parameters from transistor characteristics	Applications to computers	Teaching Class Unit V	2 1	Yes		Guest Lecture		Yes		
28	4TH WEEK	2	Transistor as an amplifier — concept of negative feed back and positive feed back – Barkhausen criterion,		Teaching Class	2	Yes		Ward Counseling		Yes		
29	5TH WEEK	3	RC coupled amplifier and phase shift oscillator (qualitative) Binary number system, converting Binary to Decimal and vice versa.		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY												**YEAR: 2015-16**	
30	1ST WEEK	3	Binary addition and subtraction (1's and 2's complement methods). Hexadecimal number system.Conversion from Binary to Hexadecimal		Teaching Class MID Exam II	1 1			Guest Lecture, Study Project	1	Yes		
31	3RD WEEK	2	Decimal to Hexadecimal vice versa.NAND, NOR as universal gates, Exclusive – OR gate.		Teaching Class Assignment	1 1							
32	4TH WEEK	2	De Morgan's Laws – statement and proof, Half and Full adders. Parallel adder circuits.		Teaching Class	2							

MONTH: FEBRUARY													**YEAR: 2015-16**
33	1ST WEEK	4	**REVISION**		Teaching Class	3			Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	2							
35	3RD WEEK	2	**REVISION**		Teaching Class	3							
36	4TH WEEK	2	**REVISION**		Teaching Class	2							
MONTH: MARCH													**YEAR: 2015-16**
37	1ST WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**										
38	2ND WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**										

SIGNATURE OF THE LECTURER

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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2016 - 17

Department :Physics **PAPER: IV - Modern Physics**

CLASS: III B.Sc. (MPC)

Name of the Lecturer : V. Naga Babu M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													YEAR: 2016-17
1	3rd WEEK	4	Introduction – Drawbacks of Bohr's atomic model,Sommerfeld's elliptical orbits – relativistic correction (no derivation).		Teaching Class	4							
2	4th WEEK	4	Stern & Gerlach experiment Vector atom model and quantum numbers associated with it.L-S and j-j coupling schemes.		Teaching Class	4							
MONTH: JULY													YEAR: 2016-17
3	1st WEEK	1	Spectral terms,selection rules,		Teaching Class	1							
4	2nd WEEK	2	intensity rules. Spectra of alkali atomsdoublet fine structure.		Teaching Class	2			Ward Counseling		Yes		
5	3rd WEEK	3	Zeeman Effect, Paschen-Back Effect and Stark Effect (basic idea).		Teaching Class Unit I	2 1			Book Reviews		Yes		
6	4th WEEK	4	Types of molecular spectra, pure rotational energies and spectrum of diatomic molecule, determination of internuclear distance.		Teaching Class Assignment	3 1			Ward Counseling		Yes		

7	5th WEEK	3	Vibrational energies and spectrum of diatomic molecule.Raman effect		Teaching Class	3							
MONTH: AUGUST													**YEAR: 2016-17**
8	1st WEEK	4	Raman effect, Experimental arrangement for Raman effect and its applications.Spectral radiation – Planck's law.		Teaching Class Assignment	3 1							
9	2nd WEEK	3	Compton's effect (quantitative) experimental verification. Stability of an atomBohr's atomic theory.		Teaching Class	3			Ward Counseling		Yes		
10	3rd WEEK	3	Limitations of old quantum theory.De Broglie's hypothesis,wavelength of matter waves		Teaching Class Unit II	2 1							
11	4th WEEK	3	properties of matter waves.Phase and group velocities.Vibrational energies and spectrum of diatomic molecule.		Teaching Class	3			Group Discussion	1	Yes		
12	5th WEEK	2	Davisson and Germer experiment. Double slit experiment.		Teaching Class	2							
MONTH: SEPTEMBER													**YEAR: 2016-17**
13	1st WEEK	4	Standing de Brogile waves of electron in Bohr orbits.Heisenberg's uncertainty principle for position and momentum (x and px), Energy and time (E and t).		Teaching Class Assignment	3 1			Study Projects		Yes		
14	2nd WEEK	3	Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Particle in a box. Complementary principle of Bohr.		Teaching Class	3			Ward Counseling		Yes		

15	3rd WEEK	4	Schrodinger time independent and time dependent wave equations. Wave function properties – Significance.		Teaching Class Unit III	3 1			QUIZ	1	Yes		
16	4th WEEK	4	Basic postulates of quantum mechanics. Operators, eigen functions and eigen values, expectation values.Application of Schrodinger wave equation to particle in one dimension.		Teaching Class	4			Ward Counseling, Book Reviews	1	Yes		
MONTH: OCTOBER													**YEAR: 2016-17**
17	1st WEEK	4	Basic properties of nucleus – size, charge, mass, spin, magnetic dipole moment and electric quadrupole moment.		Teaching Class	4			Ward Counseling		Yes		
18	2nd WEEK	3	Binding energy of nucleus, deuteron binding energy, p-p and n-p scattering (concepts)Nuclear forces. Nuclear models – liquid drop model, shell model.		Teaching Class Unit IV	2 1			Ward Counseling, Class Room Seminars	1	Yes		
19	3rd WEEK	4	Range of alpha particles, Geiger – Nuttal law. Gammow's theory of alpha decay.		Teaching Class	4			Ward Counseling		Yes		
20	5 th WEEK	3	Geiger – Nuttal law from Gammow's theory. Beta spectrum – neutrino hypothesis, Fermi's theory of β-decay (qualitative).		Teaching Class	3							
MONTH: NOVEMBER													**YEAR: 2016-17**
21	1st WEEK	3	Types of nuclear reactions, channels, nuclear reaction kinematics.Compound nucleus, direct reactions (concepts).GM counter.		Teaching Class	3			Study Projects		Yes		
22	2nd WEEK	4	proportional counter, scintillation counter.Wilson cloud chamber and solid state detectorCrystalline nature of matter.		Teaching Class	4			Ward Counseling, Quiz	1	Yes		

23	3rd WEEK	4	Cystal lattice,Unit Cell, Elements of symmetry. Crystal systems.Bravais lattices. Miller indices. Simple crystal structures (S.C., BCC, CsCl, FCC, NaCl diamond and Zinc Blends)		Teaching Class	4			Guest Lecture,Class Room Seminars	1	Yes		
24	4th WEEK	4	Diffraction of X –rays by crystals.Bragg's law, Experimental techniques - Laue's method and powder method.		Teaching Class	4			Ward Counseling Seminars	1	Yes		
25	5 th WEEK	4	Introduction, nanoparticles, metal nanoclusters, semiconductor nanoparticles, carbon clusters, carbon nanotubes, quantum nanostructures .		Teaching Class	4							
MONTH: DECEMBER													**YEAR: 2016-17**
26	1st WEEK		**HALF-YEARLY EXAMINATIONS - 2016**										
27	2nd WEEK		**HALF-YEARLY EXAMINATIONS - 2016**										
28	3rd WEEK	4	nanodot, nanowire and quantum well. Fabrication of quantum nanostructures. Types of bonding in crystals – characteristics of crystals with different bindings.		Teaching Class	4							

29	4th WEEK	3	Lattice energy of ionic crystals – determination of Medelung constant for NaCl crystal,Born – Haber cycle.Magnetic properties of dia, para and ferromagnetic materials.		Teaching Class Unit V	3 1							
MONTH: JANUARY													**YEAR: 2016-17**	
30	1st WEEK	4	Langevin's theory of paramagnetism. Weiss' theory of ferromagnetism –Concepts of magnetic domains, antiferromagnetism and ferrimagnetism ferrites and their applications.Basic experimental facts – zero resistance.		Teaching Class	2			Guest Lecture,Stud y Project				
31	2nd WEEK	3	Effect of magnetic field, Meissner effect, persistent current, Isotope effect Thermodynamic properties, specific heat, entropy. Type I and Type II superconductors. Elements of BCS theory-Cooper pairs. Applications. High temperature superconductors.		Teaching Class	3			Ward Counseling				
32	3rd WEEK		**PONGAL HOLIDAYS**										
33	4th WEEK	3	**REVISION**		Teaching Class	3							
34	5th WEEK	3	**REVISION**		Teaching Class	3							
MONTH: FEBRUARY													**YEAR: 2016-17**	
35	1st WEEK	4	**REVISION**		Teaching Class	3	Yes		Group Discussion				

36	2nd WEEK	3	**REVISION**		Teaching Class	2	Yes						
37	3rd WEEK	2	**REVISION**		Teaching Class	3	Yes						
38	4th WEEK	2	**REVISION**		Teaching Class	2	Yes						
MONTH: MARCH													**YEAR: 2016-17**
39	1st WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2017**										
40	2nd WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2017**										

SIGNATURE OF THE LECTURER

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CURRICULUM PLAN 2016 - 17

Department :Physics **PAPER: IV - Modern Physics**

CLASS: III B.Sc. (MPCs)

Name of the Lecturer : V. Naga Babu M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													**YEAR: 2016-17**
1	3rd WEEK	4	Introduction – Drawbacks of Bohr's atomic model,Sommerfeld's elliptical orbits – relativistic correction (no derivation).		Teaching Class	4							
2	4th WEEK	4	Stern & Gerlach experiment Vector atom model and quantum numbers associated with it.L-S and j-j coupling schemes.		Teaching Class	4							
MONTH: JULY													**YEAR: 2016-17**
3	1st WEEK	1	Spectral terms,selection rules,		Teaching Class	1							
4	2nd WEEK	2	intensity rules. Spectra of alkali atomsdoublet fine structure.		Teaching Class	2			Ward Counseling		Yes		
5	3rd WEEK	3	Zeeman Effect, Paschen-Back Effect and Stark Effect (basic idea).		Teaching Class Unit I	2 1			Book Reviews		Yes		
6	4th WEEK	4	Types of molecular spectra, pure rotational energies and spectrum of diatomic molecule, determination of internuclear distance.		Teaching Class Assignment	3 1			Ward Counseling		Yes		

7	5 th WEEK	3	Vibrational energies and spectrum of diatomic molecule.Raman effect		Teaching Class	3							
MONTH: AUGUST													**YEAR: 2016-17**
8	1st WEEK	4	Raman effect, Experimental arrangement for Raman effect and its applications.Spectral radiation – Planck's law.		Teaching Class Assignment	3 1							
9	2nd WEEK	3	Compton's effect (quantitative) experimental verification. Stability of an atomBohr's atomic theory.		Teaching Class	3			Ward Counseling		Yes		
10	3rd WEEK	3	Limitations of old quantum theory.De Broglie's hypothesis,wavelength of matter waves		Teaching Class Unit II	2 1							
11	4th WEEK	3	properties of matter waves.Phase and group velocities.Vibrational energies and spectrum of diatomic molecule.		Teaching Class	3			Group Discussion	1	Yes		
12	5 th WEEK	2	Davisson and Germer experiment. Double slit experiment.		Teaching Class	2							
MONTH: SEPTEMBER													**YEAR: 2016-17**
13	1st WEEK	4	Standing de Brogile waves of electron in Bohr orbits.Heisenberg's uncertainty principle for position and momentum (x and px), Energy and time (E and t).		Teaching Class Assignment	3 1			Study Projects		Yes		
14	2nd WEEK	3	Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Particle in a box. Complementary principle of Bohr.		Teaching Class	3			Ward Counseling		Yes		

15	3rd WEEK	4	Schrodinger time independent and time dependent wave equations. Wave function properties – Significance.		Teaching Class Unit III	3 1			QUIZ	1	Yes		
16	4th WEEK	4	Basic postulates of quantum mechanics. Operators, eigen functions and eigen values, expectation values.Application of Schrodinger wave equation to particle in one dimension.		Teaching Class	4			Ward Counseling, Book Reviews	1	Yes		
MONTH: OCTOBER													**YEAR: 2016-17**
17	1st WEEK	4	Basic properties of nucleus – size, charge, mass, spin, magnetic dipole moment and electric quadrupole moment.		Teaching Class	4			Ward Counseling		Yes		
18	2nd WEEK	3	Binding energy of nucleus, deuteron binding energy, p-p and n-p scattering (concepts)Nuclear forces. Nuclear models – liquid drop model, shell model.		Teaching Class Unit IV	2 1			Ward Counseling, Class Room Seminars	1	Yes		
19	3rd WEEK	4	Range of alpha particles, Geiger – Nuttal law. Gammow's theory of alpha decay.		Teaching Class	4			Ward Counseling		Yes		
20	5 th WEEK	3	Geiger – Nuttal law from Gammow's theory. Beta spectrum – neutrino hypothesis, Fermi's theory of β-decay (qualitative).		Teaching Class	3							
MONTH: NOVEMBER													**YEAR: 2016-17**
21	1st WEEK	3	Types of nuclear reactions, channels, nuclear reaction kinematics.Compound nucleus, direct reactions (concepts).GM counter.		Teaching Class	3			Study Projects		Yes		
22	2nd WEEK	4	proportional counter, scintillation counter.Wilson cloud chamber and solid state detectorCrystalline nature of matter.		Teaching Class	4			Ward Counseling, Quiz	1	Yes		

23	3rd WEEK	4	Cystal lattice,Unit Cell, Elements of symmetry. Crystal systems.Bravais lattices. Miller indices. Simple crystal structures (S.C., BCC, CsCl, FCC, NaCl diamond and Zinc Blends)		Teaching Class	4			Guest Lecture,Class Room Seminars	1	Yes		
24	4th WEEK	4	Diffraction of X –rays by crystals.Bragg's law, Experimental techniques - Laue's method and powder method.		Teaching Class	4			Ward Counseling Seminars	1	Yes		
25	5 th WEEK	4	Introduction, nanoparticles, metal nanoclusters, semiconductor nanoparticles, carbon clusters, carbon nanotubes, quantum nanostructures .		Teaching Class	4							
MONTH: DECEMBER													**YEAR: 2016-17**
26	1st WEEK		**HALF-YEARLY EXAMINATIONS - 2016**										
27	2nd WEEK		**HALF-YEARLY EXAMINATIONS - 2016**										
28	3rd WEEK	4	nanodot, nanowire and quantum well. Fabrication of quantum nanostructures. Types of bonding in crystals – characteristics of crystals with different bindings.		Teaching Class	4							

29	4th WEEK	3	Lattice energy of ionic crystals – determination of Medelung constant for NaCl crystal,Born – Haber cycle.Magnetic properties of dia, para and ferromagnetic materials.		Teaching Class Unit V	3 1							
MONTH: JANUARY													YEAR: 2016-17
30	1st WEEK	4	Langevin's theory of paramagnetism. Weiss' theory of ferromagnetism –Concepts of magnetic domains, antiferromagnetism and ferrimagnetism ferrites and their applications.Basic experimental facts – zero resistance.		Teaching Class	2			Guest Lecture,Stud y Project				
31	2nd WEEK	3	Effect of magnetic field, Meissner effect, persistent current, Isotope effect Thermodynamic properties, specific heat, entropy. Type I and Type II superconductors. Elements of BCS theory-Cooper pairs. Applications. High temperature superconductors.		Teaching Class	3			Ward Counseling				
32	3rd WEEK		**PONGAL HOLIDAYS**										
33	4th WEEK	3	**REVISION**		Teaching Class	3							
34	5th WEEK	3	**REVISION**		Teaching Class	3							
MONTH: FEBRUARY													YEAR: 2016-17
35	1st WEEK	4	**REVISION**		Teaching Class	3	Yes		Group Discussion				

36	2nd WEEK	3	REVISION		Teaching Class	2	Yes						
37	3rd WEEK	2	REVISION		Teaching Class	3	Yes						
38	4th WEEK	2	REVISION		Teaching Class	2	Yes						
MONTH: MARCH													YEAR: 2016-17
39	1st WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2017										
40	2nd WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2017										

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CURRICULUM PLAN - 2016 - 17

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-III** **PAPER III : - Wave Optics**

Name of the Lecturer : N.Satish M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY												YEAR: 2016-17	
1	1ST WEEK	3	Introduction – monochromatic aberrations, spherical aberration.		Teaching Class Assignment	2 1	Yes				Yes		
2	2ND WEEK	4	methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion.		Teaching Class	3	Yes		Ward Counseling		Yes		
3	3RD WEEK	4	Chromatic aberration-the achromatic doublet.Achromatism for two lenses (i)in contact and (ii) separated by a distance.		Teaching Class	4	Yes		Book Reviews		Yes		
4	4TH WEEK	4	Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference of light.		Teaching Class	3	Yes		Ward Counseling		Yes		
5	5th WEEK	2	Fresnel's biprism-determination of wavelength of light –change of phase on reflection.		Teaching Class Unit II	1 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST												YEAR: 2016-17	
6	1ST WEEK		I MID Examinations								Yes		

7	2ND WEEK	3	Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films-Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film).		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	3	Determination of diameter of wire, Newton's rings in reflected light. Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	4	Introduction,distinction between Fresnel and Fraunhoffer diffraction, Fraunhoffer diffraction Diffraction due to single slit-Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating).Resolving power of grating		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2016-17**

10	1ST WEEK	3	Determination of wavelength of light in normal incidence and minimum deviation methods using diffraction grating		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
11	2ND WEEK	3	Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK		**II MID Examinations**										

13	4TH WEEK	4	Polarized light: methods of polarization polarization by reflection, refraction, double refraction, scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer		Teaching Class Unit IV	2 1	Yes		QUIZ	1	Yes		
14	5th WEEK	4	Quarter wave plate, Half wave plate-optical activity, determination of specific rotation by Laurent's half shade polarimeter-Babinet's compensator - idea of elliptical and circular polarization		Teaching Class	4	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2016-17**

15	1ST WEEK	2	Lasers: introduction,spontaneous emission, stimulated emission.								Yes		
16	2ND WEEK	3	Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laser- Applications of lasers.		Teaching Class	1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	Holography: Basic principle of holography-Gabor hologram and its limitations, Applications of holography.		Teaching Class Unit V	2 1	Yes		Ward Counseling, Quiz		Yes		
18	4th WEEK	4	Fiber Optics Introduction- different types of fibers, rays and modes in an optical fiber, fiber material,principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.		Teaching Class	4	Yes						

MONTH: NOVEMBER **YEAR: 2016-17**

19	1ND WEEK		**PRACTICAL EXAMINATIONS**										

20	2nd WEEK		SEMESTER END EXAMINATIONS											
21	3rd WEEK		SEMESTER END EXAMINATIONS											

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CURRICULUM PLAN - 2016 - 17

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-IV** **PAPER IV Thermodynamics & Radiation Physics**

Name of the Lecturer : N.SATISH M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY					REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE		
MONTH: NOVEMBER													**YEAR: 2016-17**	
1	4th WEEK	3	Introduction- Isothermal and adiabatic process- Reversible and irreversible processes-Carnnot's engine		Teaching Class	3	Yes							
MONTH:DECEMER													**YEAR: 2016-17**	
2	1ST WEEK	3	Carnnot's engine efficiency-Carnot's theorem-Second law of thermodynamics. Kelvin's and Claussius statements-Entropy		Teaching Class	3	Yes							
3	2ND WEEK	4	physical significance –Change in entropy in reversible and irreversible processes-Entropy and disorder		Teaching Class	4	Yes		Ward Counseling,		Yes			
4	3rd WEEK	4	Entropy (T-S) diagram and its uses Change of entropy of a perfect gas-change of entropy when ice changes		Teaching Class Unit II	2 1	Yes		Guest Lecture	1	Yes			
5	4th WEEK	2	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification		Teaching Class	2	Yes		Ward Counseling		Yes			

6	5th WEEK	2	Transport phenomena – Mean free path - Viscosity of gases-thermal conductivity-diffusion of gases.		Teaching Class	2	Yes						
MONTH:JANUARY													YEAR: 2016-17
7	1ST WEEK	3	**I MID Examinations**		Teaching Class	2	Yes		Guest Lecture,	1	Yes		
8	2ND WEEK		**PONGAL HOLIDAYS**								Yes		
9	3RD WEEK	2	Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation		Teaching Class	2	Yes		Study Projects		Yes		
10	4TH WEEK	3	Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas		Teaching Class	3	Yes						
11	5th WEEK	1	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas		Teaching Class	1							
MONTH:FEBRUARY													YEAR: 2016-17
12	1ST WEEK	2	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion		Teaching Class	2	Yes						
13	2ND WEEK	2	Distinction between adiabatic and Joule Thomson expansion-Expression for Joule Thomson cooling-Liquefaction of helium		Teaching Class	1	Yes		Quiz	1	Yes		
14	3RD WEEK	3	Kapitza's method-Adiabatic demagnetization			3	Yes						

15	4TH WEEK	2	**II MID Examinations**			2	Yes						
	MONTH:MARCH												**YEAR: 2016-17**
16	1ST WEEK	2	Production of low temperatures - applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer		Teaching Class	2	Yes						
17	2ND WEEK	2	Blackbody-Ferry's black body-distribution of energy in the spectrum of black body-Wein's displacement law		Teaching Class	2	Yes		Group Discussion		Yes		
18	3RD WEEK	3	Wein's law, Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation-Types of pyrometers		Teaching Class	3	Yes						
19	4TH WEEK	4	Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-determination of solar constant, Temperature of Sun.		Teaching Class	4	Yes		Study Project		Yes		
	MONTH:APRIL												**YEAR: 2016-17**
20	1ST WEEK		**SEMESTER END EXAMINATIONS**										
21	2ND WEEK		**SEMESTER END EXAMINATIONS**										
22	3RD WEEK		**SEMESTER END EXAMINATIONS**										

23	4TH WEEK		PRACTICAL EXAMINATIONS										

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CURRICULUM PLAN - 2016 - 17

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** | **PAPER: Waves & Oscillations**

Name of the Lecturer : S.Sattibabu M.Sc,B.Ed

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2016-17**
1	4th WEEK	3	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	3	Yes				Yes		
MONTH: DECEMBER													**YEAR: 2016-17**
2	1ST WEEK	5	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	5	Yes				Yes		
3	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,		Yes		
4	3rd WEEK	4	Energy considerations.Relaxation time quality factor		Teaching Class Unit V	3 1	Yes		Guest Lecture	1	Yes		
5	4th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes		Ward Counseling		Yes		

6	5th WEEK	4	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	4	Yes							
	MONTH:JANUARY													**YEAR: 2016-17**
7	1ST WEEK		**I MID Examinations**											
8	2ND WEEK		**PONGAL HOLIDAYS**								Yes			
9	3RD WEEK	5	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	5	Yes		Study Projects		Yes			
10	4TH WEEK	4	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one end.		Teaching Class	4	Yes							
11	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1								
	MONTH: FEBRUARY													**YEAR: 2016-17**
12	1ST WEEK	3	General solution of wave equation and its significance.		Teaching Class	3	Yes							
13	2ND WEEK	2	General solution of wave equation and its significance.		Teaching Class	1	Yes		Quiz	1	Yes			
14	3RD WEEK	5	Modes of vibration of stretched string clamped at both ends,Overtones, energy transport, transverse impedance.		Teaching Class	5	Yes			5	Yes			

15	4TH WEEK		II MID Examinations				Yes						
	MONTH:MARCH												YEAR: 2016-17
16	1ST WEEK	3	Ultrasonics Ultrasonics, properties of ultrasonic waves.		Teaching Class	3	Yes				Yes		
17	2ND WEEK	5	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	5	Yes		Group Discussion		Yes		
18	3RD WEEK	3	Noise Pollution – origin, effect on the environment - prevention		Teaching Class	3	Yes						
19	4TH WEEK	4	REVISION		Teaching Class	4	Yes		Study Project		Yes		
	MONTH: APRIL												YEAR: 2016-17
20	1ST WEEK		SEMESTER END EXAMINATIONS										
21	2ND WEEK		SEMESTER END EXAMINATIONS										
22	3RD WEEK		SEMESTER END EXAMINATIONS										
23	4TH WEEK		PRACTICAL EXAMINATIONS										

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CURRICULUM PLAN - 2016 - 17

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-I** | **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : S.Sattibabu M.Sc,B.Ed

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY													**YEAR: 2016-17**
1	1ST WEEK	4	Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field and related problems.		Teaching Class Assignment	3 1	Yes				Yes		
2	2ND WEEK	3	Vector integration, line, surface and volume integrals.Stokes theorem.		Teaching Class	3	Yes		Ward Counseling		Yes		
3	3RD WEEK	3	Gauss and Greens theorems- simple applications. Fundamentals of vibrations, Damped and forced oscillations		Teaching Class	3	Yes		Book Reviews		Yes		
4	4TH WEEK	4	Motion of variable mass system, motion of a rocket, multi-stage rocket. Collisions in two and three dimensions.		Teaching Class	4	Yes		Ward Counseling		Yes		
5	5th WEEK	3	concept of impact parameter scattering cross-section. Rutherford scattering.Definition of Rigid body, rotational kinematic relations		Teaching Class Unit I	2 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST													**YEAR: 2016-17**
6	1ST WEEK		**I MID Examinations**								Yes		

7	2ND WEEK	3	Central forces – definition and examples, conservative nature of central forces,		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	5	conservative force as a negative gradient of potential energy Equation of motion under a central force motion under inverse square law.		Teaching Class Unit II	4 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	5	Derivation of Kepler's laws. Special theory of relativity		Teaching Class	5	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2016-17**

10	1ST WEEK	5	Galilean relativity, absolute frames, Michelson-Morley experiment		Teaching Class Assignment	4 1	Yes		Study Projects		Yes		
11	2ND WEEK	3	Postulates of special theory of relativity.		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK		**II MID Examinations**								Yes		
13	4TH WEEK	3	Lorentz transformation.time dilation, length contraction,		Teaching Class	3	Yes		Ward Counseling Seminars		Yes		
14	5th WEEK	2	mass-energy relation.Equation of motion for a rotating body,		Teaching Class	2	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2016-17**

15	1ST WEEK	5	angular momentum and inertial tensor. Eulers equation, precession of a top, Gyroscope.		Teaching Class	5	Yes		Ward Counseling Seminars		Yes		

16	2ND WEEK	2	Mechanics of continuous media and Central Forces Classification of beams, types of bending, point load, distributed load		Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	shearing force and bending moment. sign conventions simple supported beam carrying a concentrated load at mid span, cantilever with an end load.		Teaching Class Unit IV	2 1	Yes		Ward Counseling, Quiz		Yes		
18	5th WEEK	4	**REVISION**			4	Yes				Yes		

MONTH: NOVEMBER **YEAR: 2016-17**

19	1ND WEEK		**PRACTICAL EXAMINATIONS**										
20	2RD WEEK		**SEMESTER END EXAMINATIONS**										
21	3th WEEK		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2016 - 17

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-I** | **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : R.Nageswara rao M.Sc(Tech),B.Ed

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY													**YEAR: 2016-17**
1	1ST WEEK	4	Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field and related problems.		Teaching Class Assignment	3 1	Yes				Yes		
2	2ND WEEK	3	Vector integration, line, surface and volume integrals.Stokes theorem.		Teaching Class	3	Yes		Ward Counseling		Yes		
3	3RD WEEK	3	Gauss and Greens theorems- simple applications. Fundamentals of vibrations, Damped and forced oscillations		Teaching Class	3	Yes		Book Reviews		Yes		
4	4TH WEEK	4	Motion of variable mass system, motion of a rocket, multi-stage rocket. Collisions in two and three dimensions.		Teaching Class	4	Yes		Ward Counseling		Yes		
5	5th WEEK	3	concept of impact parameter scattering cross-section. Rutherford scattering.Definition of Rigid body, rotational kinematic relations		Teaching Class Unit I	2 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST													**YEAR: 2016-17**
6	1ST WEEK		**I MID Examinations**								Yes		

7	2ND WEEK	3	Central forces – definition and examples, conservative nature of central forces,		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	5	conservative force as a negative gradient of potential energy Equation of motion under a central force motion under inverse square law.		Teaching Class Unit II	4 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	5	Derivation of Kepler's laws. Special theory of relativity		Teaching Class	5	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2016-17**

10	1ST WEEK	5	Galilean relativity, absolute frames, Michelson-Morley experiment		Teaching Class Assignment	4 1	Yes		Study Projects		Yes		
11	2ND WEEK	3	Postulates of special theory of relativity.		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK		**II MID Examinations**								Yes		
13	4TH WEEK	3	Lorentz transformation.time dilation, length contraction,		Teaching Class	3	Yes		Ward Counseling Seminars		Yes		
14	5th WEEK	2	mass-energy relation.Equation of motion for a rotating body,		Teaching Class	2	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2016-17**

15	1ST WEEK	5	angular momentum and inertial tensor. Eulers equation, precession of a top, Gyroscope.		Teaching Class	5	Yes		Ward Counseling Seminars		Yes		

16	2ND WEEK	2	Mechanics of continuous media and Central Forces Classification of beams, types of bending, point load, distributed load		Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	shearing force and bending moment. sign conventions simple supported beam carrying a concentrated load at mid span, cantilever with an end load.		Teaching Class Unit IV	2 1	Yes		Ward Counseling, Quiz		Yes		
18	5th WEEK	4	**REVISION**			4	Yes				Yes		

MONTH: NOVEMBER **YEAR: 2016-17**

19	1ND WEEK		**PRACTICAL EXAMINATIONS**										
20	2RD WEEK		**SEMESTER END EXAMINATIONS**										
21	3th WEEK		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2016 - 17

Department :Physics

CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II

PAPER: Waves & Oscillations

Name of the Lecturer : R.Nageswara rao M.Sc(Tech),B.Ed

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2016-17**
1	4th WEEK	3	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	3	Yes				Yes		
MONTH: DECEMBER													**YEAR: 2016-17**
2	1ST WEEK	5	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	5	Yes				Yes		
3	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,		Yes		
4	3rd WEEK	4	Energy considerations.Relaxation time quality factor		Teaching Class Unit V	3 1	Yes		Guest Lecture	1	Yes		
5	4th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes		Ward Counseling		Yes		

6	5th WEEK	4	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	4	Yes							
	MONTH:JANUARY													**YEAR: 2016-17**
7	1ST WEEK		**I MID Examinations**											
8	2ND WEEK		**PONGAL HOLIDAYS**											
9	3RD WEEK	5	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	5	Yes		Study Projects		Yes			
10	4TH WEEK	4	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one end.		Teaching Class	4	Yes							
11	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1								
	MONTH: FEBRUARY													**YEAR: 2016-17**
12	1ST WEEK	3	General solution of wave equation and its significance.		Teaching Class	3	Yes							
13	2ND WEEK	2	General solution of wave equation and its significance.		Teaching Class	1	Yes		Quiz	1	Yes			
14	3RD WEEK	5	Modes of vibration of stretched string clamped at both ends,Overtones, energy transport, transverse impedance.		Teaching Class	5	Yes			5	Yes			

15	4TH WEEK		**II MID Examinations**				Yes						
	MONTH:MARCH												**YEAR: 2016-17**
16	1ST WEEK	3	Ultrasonics Ultrasonics, properties of ultrasonic waves.		Teaching Class	3	Yes				Yes		
17	2ND WEEK	5	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	5	Yes		Group Discussion		Yes		
18	3RD WEEK	3	Noise Pollution – origin, effect on the environment - prevention		Teaching Class	3	Yes						
19	4TH WEEK	4	**REVISION**		Teaching Class	4	Yes		Study Project		Yes		
	MONTH: APRIL												**YEAR: 2016-17**
20	1ST WEEK		**SEMESTER END EXAMINATIONS**										
21	2ND WEEK		**SEMESTER END EXAMINATIONS**										
22	3RD WEEK		**SEMESTER END EXAMINATIONS**										
23	4TH WEEK		**PRACTICAL EXAMINATIONS**										

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CURRICULUM PLAN - 2016 - 17

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-IV** **PAPERIV Thermodynamics & Radiation Physics**

Name of the Lecturer : P.Saibabu M.Sc.(Tech)

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHIETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2016-17**
1	4th WEEK	3	Introduction- Isothermal and adiabatic process- Reversible and irreversible processes-Carnnot's engine		Teaching Class	3	Yes						
MONTH:DECEMER													**YEAR: 2016-17**
2	1ST WEEK	4	Carnnot's engine efficiency-Carnot's theorem-Second law of thermodynamics. Kelvin's and Claussius statements-Entropy		Teaching Class	4	Yes						
3	2ND WEEK	3	physical significance –Change in entropy in reversible and irreversible processes-Entropy and disorder		Teaching Class	3	Yes		Ward Counseling,		Yes		
4	3rd WEEK	4	Entropy (T-S) diagram and its uses Change of entropy of a perfect gas-change of entropy when ice changes		Teaching Class Unit II	2 1	Yes		Guest Lecture	1	Yes		
5	4th WEEK	2	Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification		Teaching Class	2	Yes		Ward Counseling		Yes		

6	5th WEEK	2	Transport phenomena – Mean free path - Viscosity of gases-thermal conductivity-diffusion of gases.		Teaching Class	2	Yes						
MONTH:JANUARY													YEAR: 2016-17
7	1ST WEEK	3	**I MID Examinations**		Teaching Class	2	Yes		Guest Lecture,	1	Yes		
8	2ND WEEK		**PONGAL HOLIDAYS**								Yes		
9	3RD WEEK	2	Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation		Teaching Class	2	Yes		Study Projects		Yes		
10	4TH WEEK	3	Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas		Teaching Class	3	Yes						
11	5th WEEK	1	Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas		Teaching Class	1							
MONTH:FEBRUARY													YEAR: 2016-17
12	1ST WEEK	2	Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion		Teaching Class	2	Yes						
13	2ND WEEK	2	Distinction between adiabatic and Joule Thomson expansion-Expression for Joule Thomson cooling-Liquefaction of helium		Teaching Class	1	Yes		Quiz	1	Yes		
14	3RD WEEK	3	Kapitza's method-Adiabatic demagnetization			3	Yes						

15	4TH WEEK	2	**II MID Examinations**			2	Yes						
	MONTH:MARCH												**YEAR: 2016-17**
16	1ST WEEK	2	Production of low temperatures - applications of substances at lowtemperature-effects of chloro and fluoro carbons on ozone layer		Teaching Class	2	Yes						
17	2ND WEEK	2	Blackbody-Ferry's black body-distribution of energy in the spectrum of black body-Wein's displacement law		Teaching Class	2	Yes		Group Discussion		Yes		
18	3RD WEEK	3	Wein's law, Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation-Types of pyrometers		Teaching Class	3	Yes						
19	4TH WEEK	4	Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-determination of solar constant, Temperature of Sun.		Teaching Class	4	Yes		Study Project		Yes		
	MONTH:APRIL												**YEAR: 2016-17**
20	1ST WEEK		**SEMESTER END EXAMINATIONS**										
21	2ND WEEK		**SEMESTER END EXAMINATIONS**										
22	3RD WEEK		**SEMESTER END EXAMINATIONS**										

23	4TH WEEK		PRACTICAL EXAMINATIONS										

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CURRICULUM PLAN - 2016 - 17

Department :Physics **CLASS: II B.Sc. (MPC and MPCS) SEMISTER-II** **SEMESTER: III - Wave Optics**

Name of the Lecturer P.Saibabu M.Sc.(Tech)

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY												**YEAR: 2016-17**	
1	1ST WEEK	3	Introduction – monochromatic aberrations, spherical aberration.		Teaching Class Assignment	2 1	Yes				Yes		
2	2ND WEEK	4	methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion.		Teaching Class	3	Yes		Ward Counseling		Yes		
3	3RD WEEK	3	Chromatic aberration-the achromatic doublet.Achromatism for two lenses (i)in contact and (ii) separated by a distance.			YEAR : 2016-17	Yes		Book Reviews		Yes		
4	4TH WEEK	4	Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference of light.		Teaching Class	3	Yes		Ward Counseling		Yes		
5	5th WEEK	2	Fresnel's biprism-determination of wavelength of light –change of phase on reflection.		Teaching Class Unit II	1 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST												**YEAR: 2016-17**	

6	1ST WEEK		**I MID Examinations**								Yes		
7	2ND WEEK	3	Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films-Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film).		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	3	Determination of diameter of wire, Newton's rings in reflected light. Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.		Teaching Class Unit III	2 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	4	Introduction,distinction between Fresnel and Fraunhoffer diffraction, Fraunhoffer diffraction Diffraction due to single slit-Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating).Resolving power of grating		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2016-17**

10	1ST WEEK	3	Determination of wavelength of light in normal incidence and minimum deviation methods using diffraction grating		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
11	2ND WEEK	3	Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		

12	3RD WEEK		**II MID Examinations**										
13	4TH WEEK	4	Polarized light: methods of polarization polarization by reflection, refraction, double refraction, scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer		Teaching Class Unit IV	2 1	Yes		QUIZ	1	Yes		
14	5th WEEK	3	Quarter wave plate, Half wave plate-optical activity, determination of specific rotation by Laurent's half shade polarimeter-Babinet's compensator - idea of elliptical and circular polarization		Teaching Class	3	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2016-17**

15	1ST WEEK	2	Lasers: introduction,spontaneous emission, stimulated emission.								Yes		
16	2ND WEEK	3	Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laser- Applications of lasers.		Teaching Class	1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	Holography: Basic principle of holography-Gabor hologram and its limitations, Applications of holography.		Teaching Class Unit V	2 1	Yes		Ward Counseling, Quiz		Yes		
18	4th WEEK	4	Fiber Optics Introduction- different types of fibers, rays and modes in an optical fiber, fiber material,principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.		Teaching Class	4	Yes						

MONTH: NOVEMBER **YEAR: 2016-17**

19	1ND WEEK		PRACTICAL EXAMINATIONS										
20	2nd WEEK		SEMESTER END EXAMINATIONS										
21	3rd WEEK		SEMESTER END EXAMINATIONS										

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CURRICULUM PLAN - 2016 - 17

Department :Physics

CLASS: I B.Sc. (MPC and MPCS) SEMISTER-I

PAPER: I -Mechanics and Properties of Matter

Name of the Lecturer : CH. Satyanarayana M.Sc

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY													**YEAR: 2016-17**
1	1ST WEEK	2	Scalar and vector fields, gradient of a scalar field and its physical significance.		Teaching Class Assignment	1 1	Yes				Yes		
2	2ND WEEK	4	Divergence and curl of a vector field and related problems,Vector integration, line, surface and volume integrals.Stokes theorem.		Teaching Class	4	Yes		Ward Counseling		Yes		
3	3RD WEEK	5	Gauss and Greens theorems- simple applications. Fundamentals of vibrations, Damped and forced oscillations		Teaching Class	5	Yes		Book Reviews		Yes		
4	4TH WEEK	5	Motion of variable mass system, motion of a rocket, multi-stage rocket. Collisions in two and three dimensions.		Teaching Class	5	Yes		Ward Counseling		Yes		
5	5th WEEK	4	concept of impact parameter scattering cross-section. Rutherford scattering.Definition of Rigid body, rotational kinematic relations		Teaching Class Unit I	3 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST													**YEAR: 2016-17**
6	1ST WEEK		**I MID Examinations**								Yes		

7	2ND WEEK	4	Central forces – definition and examples, conservative nature of central forces,		Teaching Class	4	Yes		Ward Counseling		Yes		
8	3RD WEEK	5	conservative force as a negative gradient of potential energy Equation of motion under a central force motion under inverse square law.		Teaching Class Unit II	4 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	4	Derivation of Kepler's laws. Special theory of relativity		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2016-17**

10	1ST WEEK	5	Galilean relativity, absolute frames, Michelson-Morley experiment		Teaching Class Assignment	4 1	Yes		Study Projects		Yes		
11	2ND WEEK	3	Postulates of special theory of relativity.		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK		**II MID Examinations**								Yes		
13	4TH WEEK	3	Lorentz transformation.time dilation, length contraction,		Teaching Class	3	Yes		Ward Counseling Seminars		Yes		
14	5th WEEK	3	mass-energy relation.Equation of motion for a rotating body,		Teaching Class	3	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2016-17**

15	1ST WEEK	5	angular momentum and inertial tensor. Eulers equation, precession of a top, Gyroscope.		Teaching Class	5	Yes		Ward Counseling Seminars		Yes		

16	2ND WEEK	4	Mechanics of continuous media and Central Forces Classification of beams, types of bending, point load, distributed load		Teaching Class	4	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	5	shearing force and bending moment. sign conventions simple supported beam carrying a concentrated load at mid span, cantilever with an end load.		Teaching Class Unit IV	4 1	Yes		Ward Counseling, Quiz		Yes		
18	5th WEEK	4	**REVISION**			4	Yes				Yes		

MONTH: NOVEMBER **YEAR: 2016-17**

19	1ND WEEK		**PRACTICAL EXAMINATIONS**										
20	2RD WEEK		**SEMESTER END EXAMINATIONS**										
21	3th WEEK		**SEMESTER END EXAMINATIONS**										

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

Dr. K. Srinivasa Rao
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CURRICULUM PLAN - 2016 - 17

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** | **PAPERII: Waves & Oscillations**

Name of the Lecturer : CH. Satyanarayana M.Sc

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHIER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHIER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: NOVEMBER													**YEAR: 2016-17**
1	4th WEEK	3	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	3	Yes				Yes		
MONTH: DECEMBER													**YEAR: 2016-17**
2	1ST WEEK	5	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency.		Teaching Class	5	Yes				Yes		
3	2ND WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class	4	Yes		Ward Counseling,		Yes		
4	3rd WEEK	4	Energy considerations.Relaxation time quality factor		Teaching Class Unit V	3 1	Yes		Guest Lecture	1	Yes		
5	4th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes		Ward Counseling		Yes		

6	5th WEEK	4	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	4	Yes						
	MONTH:JANUARY												**YEAR: 2016-17**
7	1ST WEEK		**I MID Examinations**										
8	2ND WEEK		**PONGAL HOLIDAYS**								Yes		
9	3RD WEEK	5	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	5	Yes		Study Projects		Yes		
10	4TH WEEK	4	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one end.		Teaching Class	4	Yes						
11	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1							
	MONTH: FEBRUARY												**YEAR: 2016-17**
12	1ST WEEK	3	General solution of wave equation and its significance.		Teaching Class	3	Yes						
13	2ND WEEK	2	General solution of wave equation and its significance.		Teaching Class	1	Yes		Quiz	1	Yes		
14	3RD WEEK	5	Modes of vibration of stretched string clamped at both ends,Overtones, energy transport, transverse impedance.		Teaching Class	5	Yes			5	Yes		

15	4TH WEEK		II MID Examinations				Yes						
	MONTH:MARCH												YEAR: 2016-17
16	1ST WEEK	3	Ultrasonics Ultrasonics, properties of ultrasonic waves.		Teaching Class	3	Yes				Yes		
17	2ND WEEK	5	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	5	Yes		Group Discussion		Yes		
18	3RD WEEK	3	Noise Pollution – origin, effect on the environment - prevention		Teaching Class	3	Yes						
19	4TH WEEK	4	REVISION		Teaching Class	4	Yes		Study Project		Yes		
	MONTH: APRIL												YEAR: 2016-17
20	1ST WEEK		SEMESTER END EXAMINATIONS										
21	2ND WEEK		SEMESTER END EXAMINATIONS										
22	3RD WEEK		SEMESTER END EXAMINATIONS										
23	4TH WEEK		PRACTICAL EXAMINATIONS										

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CURRICULUM PLAN 2015-16

Department :Physics

PAPER: III - Electricity, Magnetism and Electronics

CLASS: III B.Sc. (MPC)

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													YEAR: 2015-16
1	3RD WEEK	2	**Remedial Coaching**		Teaching Class	2	Yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
MONTH: JULY													YEAR: 2015-16
3	1ST WEEK	4	Introduction to static electricity Gauss law statement , proof E due to Uniformly charged sphere.	Electrification	Teaching Class	3 1	Yes						
4	2ND WEEK	3	charged cylindrical conductor and an infinite conducting sheet of charge.Deduction of Coulmb's law from Gauss law	Bad conductor	Teaching Class	3	Yes		Ward Counseling		Yes		
5	3RD WEEK	4	Electric potential – Potential due to a charged spherical conductor.Electric field strength from the electric dipole and an infinite line of charge.	Related problems	Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		
6	4TH WEEK	3	Electric field strength from the electric dipole and an infinite line of charge. Potential of a uniformly charged circular disc and problems.An atomic view – Polar and non-polar dielectrics in electric field	Freq. variations	Teaching Class Assignment	2 1	Yes		Ward Counseling		Yes		

7	5TH WEEK	2	An atomic view – Polar and non-polar dielectrics in electric field- potential energy of a dipole in an electric field.		Teaching Class	2	Yes						
MONTH: AUGUST												YEAR: 2015-16	
8	1ST WEEK	3	Polarization and charge density Dielectrics and Gauss law - relation between D,E, and P vectors,Dielectric constant and susceptibility – boundary conditions at the dielectric surface.		Teaching Class Assignment	2 1	Yes						
9	2ND WEEK	2	Capacity- working principle, Capacity of a concentric spheres and cylindrical condenser – capacity of a parallel plate condenser with and without dielectric.	Applications	Teaching Class	2	Yes		Ward Counseling		Yes		
10	3RD WEEK	4	Force between plates of condenser – attracted disc electrometer construction and working, measurement of dielectric constant and potential difference. and problems.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
11	4TH WEEK	3	Magnetic shell – potential due to magnetic shell – field due to magnetic shell – equivalent of electric circuit and magnetic shell. Application of field due to magnetic shell – magnetic induction (B) – Permeability and susceptibility Relation among B,H and I. Hysteresis loop.	X- ray productior	Teaching Class	3	Yes		Ward Counseling		Yes		
MONTH: SEPTEMBER												YEAR: 2015-16	
12	1ST WEEK	4	Hall effect – cyclotron – synchrocyclotron and synchrotron - force on a current carrying conductor placed in a magnetic field, force and torque on a current loop,		Teaching Class Assignment	3 1	Yes		Study Projects	1	Yes		

13	2ND WEEK	2	Biot –Savart's law and calculation of B due to long straight wire, a circular current loop and solenoid and problems.		Teaching Class	2	Yes		Ward Counseling, Book Reviews		Yes		
14	3RD WEEK	3	induced emf – time varying magnetic fields,Betatron,Ballistic galvanometer,self and mutual inductance.		Teaching Class Unit III	1 1	Yes		QUIZ	1	Yes		
15	4TH WEEK	3	Coefficient of coupling, calculation of self inductance of a long solenoid – toroid – energy stored in magnetic field – transformer – Construction, working, energy losses and efficiencyand problems.		Teaching Class Unit Test - 2 Practical	2	Yes		Ward Counseling Seminars	1	Yes		
16	5TH WEEK	2	Growth and decay of currents in LR, CR circuits.		Teaching Class	1	Yes		Group Discussion	1	Yes		
MONTH: OCTOBER													**YEAR: 2015-16**
17	Ind WEEK	1	LCR circuits – Critical damping.		Teaching Class Assignment	1	Yes						
18	2nd WEEK	3	Alternating current relation between current and voltage in pure R,C and L-vector diagrams – Power in ac circuits. LCR series and parallel resonant circuit – Q-factor.	Tuned circuits in radio and T.V,	Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		
19	3TH WEEK	3	AC & DC motors-single phase, three phase.Magnetic Equations and electromagnetic waves: A review of basic laws of electricity and magnetism,Displacement current	Battery eliminators and adopters	Teaching Class MID Exam I	3	Yes		Ward Counseling		Yes		

20	5th WEEK	3	Maxwell's equations in differential form – Maxwell's wave equation		Teaching Class	3	Yes						
MONTH: NOVEMBER													**YEAR: 2015-16**
21	1ST WEEK	4	plane electromagnetic waves,Transverse nature of electromagnetic waves Poynting vector – production of electromagnetic waves (Hertz's experiment)Formation of electron energy bands in solids, classification of solids in terms of forbidden energy gap. Intrinsic and extrinsic semiconductors, Fermi level,		Teaching Class	4	Yes		Guest Lecture,Class Room Seminars		Yes		
22	2ND WEEK	3	continuity equationIntrinsic and extrinsic semiconductors, Fermi level, continuity equation. p-n junction diode, Zener diode characteristicsTransistor as an amplifier concept of negative feed back and positive feed back – Barkhausen criterion.	MOSFET IC fabrication principle	Teaching Class	2	Yes		Ward Counseling, Quiz	1	Yes		
23	3RD WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
24	4th WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
MONTH: DECEMBER													**YEAR: 2015-16**
25	1ST WEEK	3	zener diode voltage regulator. Half wave and full wave rectifiers and filters, ripple factor (quantitative)		Teaching Class	2	Yes		Ward Counseling Seminars	1	Yes		

26	2ND WEEK	3	p n p and n p n transistors, current components in transistors, CB,CE and CC configurations –		Teaching Class	2	Yes		Ward Counseling, Study Projects	1	Yes		
27	3rd WEEK	3	transistor hybrid parameters – determination of hybrid parameters from transistor characteristics	Applications to computers	Teaching Class Unit V	2 1	Yes		Guest Lecture		Yes		
28	4TH WEEK	2	Transistor as an amplifier — concept of negative feed back and positive feed back – Barkhausen criterion,		Teaching Class	2	Yes		Ward Counseling		Yes		
29	5TH WEEK	3	RC coupled amplifier and phase shift oscillator (qualitative) Binary number system, converting Binary to Decimal and vice versa.		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													**YEAR: 2015-16**
30	1ST WEEK	3	Binary addition and subtraction (1's and 2's complement methods). Hexadecimal number system.Conversion from Binary to Hexadecimal		Teaching Class MID Exam II	1 1	Yes		Guest Lecture, Study Project	1	Yes		
31	3RD WEEK	2	Decimal to Hexadecimal vice versa.NAND, NOR as universal gates, Exclusive – OR gate.		Teaching Class Assignment	1 1	Yes						
32	4TH WEEK	2	De Morgan's Laws – statement and proof, Half and Full adders. Parallel adder circuits.		Teaching Class	2	Yes						
MONTH: FEBRUARY													**YEAR: 2015-16**
33	1ST WEEK	4	**REVISION**		Teaching Class	3	Yes		Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	2	Yes						
35	3RD WEEK	2	**REVISION**		Teaching Class	3	Yes						

36	4TH WEEK	2	REVISION		Teaching Class	2	Yes							
MONTH: MARCH														YEAR: 2015-16
37	1ST WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016											
38	2ND WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016											

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CURRICULUM PLAN 2015-16

Department :Physics

PAPER: III - Electricity, Magnetism and Electronics

CLASS: III B.Sc. (MPCS)

Name of the Lecturer : Dr. K. Srinivasa Rao, M.Sc., M.Phil., Ph.D

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
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MONTH: JUNE					**YEAR: 2015-16**								
1	3RD WEEK	2	**Remedial Coaching**		Teaching Class	2	Yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
MONTH: JULY					**YEAR: 2015-16**								
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4	2ND WEEK	3	charged cylindrical conductor and an infinite conducting sheet of charge.Deduction of Coulmb's law from Gauss law	Bad conductor	Teaching Class	3	Yes		Ward Counseling		Yes		
5	3RD WEEK	4	Electric potential – Potential due to a charged spherical conductor.Electric field strength from the electric dipole and an infinite line of charge.	Related problems	Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		
6	4TH WEEK	4	Electric field strength from the electric dipole and an infinite line of charge. Potential of a uniformly charged circular disc and problems.An atomic view – Polar and non-polar dielectrics in electric field	Freq. variations	Teaching Class Assignment	3 1	Yes		Ward Counseling		Yes		

7	5TH WEEK	2	An atomic view – Polar and non-polar dielectrics in electric field- potential energy of a dipole in an electric field.		Teaching Class	2	Yes							
MONTH: AUGUST													YEAR: 2015-16	
8	1ST WEEK	3	Polarization and charge density Dielectrics and Gauss law - relation between D,E, and P vectors,Dielectric constant and susceptibility – boundary conditions at the dielectric surface.		Teaching Class Assignment	2 1	Yes							
9	2ND WEEK	2	Capacity- working principle, Capacity of a concentric spheres and cylindrical condenser – capacity of a parallel plate condenser with and without dielectric.	Applications	Teaching Class	2	Yes		Ward Counseling		Yes			
10	3RD WEEK	4	Force between plates of condenser – attracted disc electrometer construction and working, measurement of dielectric constant and potential difference. and problems.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes			
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12	1ST WEEK	4	Hall effect – cyclotron – synchrocyclotron and synchrotron - force on a current carrying conductor placed in a magnetic field, force and torque on a current loop,		Teaching Class Assignment	3 1	Yes		Study Projects	1	Yes			

13	2ND WEEK	3	Biot –Savart's law and calculation of B due to long straight wire, a circular current loop and solenoid and problems.		Teaching Class	3	Yes		Ward Counseling, Book Reviews		Yes		
14	3RD WEEK	3	induced emf – time varying magnetic fields,Betatron,Ballistic galvanometer,self and mutual inductance.		Teaching Class Unit III	1 1	Yes		QUIZ	1	Yes		
15	4TH WEEK	3	Coefficient of coupling, calculation of self inductance of a long solenoid – toroid – energy stored in magnetic field – transformer – Construction, working, energy losses and efficiencyand problems.		Teaching Class Unit Test - 2 Practical	2	Yes		Ward Counseling Seminars	1	Yes		
16	5TH WEEK	2	Growth and decay of currents in LR, CR circuits.		Teaching Class	1	Yes		Group Discussion	1	Yes		
MONTH: OCTOBER													**YEAR: 2015-16**
17	1nd WEEK	1	LCR circuits – Critical damping.		Teaching Class Assignment	1	Yes						
18	2nd WEEK	3	Alternating current relation between current and voltage in pure R,C and L-vector diagrams – Power in ac circuits. LCR series and parallel resonant circuit – Q-factor.	Tuned circuits in radio and T.V,	Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		
19	3TH WEEK	3	AC & DC motors-single phase, three phase.Magnetic Equations and electromagnetic waves: A review of basic laws of electricity and magnetism,Displacement current	Battery eliminators and adopters	Teaching Class MID Exam I	3	Yes		Ward Counseling		Yes		

20	5th WEEK	3	Maxwell's equations in differential form – Maxwell's wave equation		Teaching Class	3	Yes						
MONTH: NOVEMBER													**YEAR: 2015-16**
21	1ST WEEK	4	plane electromagnetic waves,Transverse nature of electromagnetic waves Poynting vector – production of electromagnetic waves (Hertz's experiment)Formation of electron energy bands in solids, classification of solids in terms of forbidden energy gap. Intrinsic and extrinsic semiconductors, Fermi level,		Teaching Class	4	Yes		Guest Lecture,Class Room Seminars		Yes		
22	2ND WEEK	3	continuity equationIntrinsic and extrinsic semiconductors, Fermi level, continuity equation. p-n junction diode, Zener diode characteristicsTransistor as an amplifier concept of negative feed back and positive feed back – Barkhausen criterion.	MOSFET IC fabrication principle	Teaching Class	2	Yes		Ward Counseling, Quiz	1	Yes		
23	3RD WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
24	4th WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
MONTH: DECEMBER													**YEAR: 2015-16**
25	1ST WEEK	3	zener diode voltage regulator. Half wave and full wave rectifiers and filters, ripple factor (quantitative)		Teaching Class	2	Yes		Ward Counseling Seminars	1	Yes		

26	2ND WEEK	3	p n p and n p n transistors, current components in transistors, CB,CE and CC configurations –		Teaching Class	2	Yes		Ward Counseling, Study Projects	1	Yes		
27	3rd WEEK	3	transistor hybrid parameters – determination of hybrid parameters from transistor characteristics	Applications to computers	Teaching Class Unit V	2 1	Yes		Guest Lecture		Yes		
28	4TH WEEK	2	Transistor as an amplifier — concept of negative feed back and positive feed back – Barkhausen criterion,		Teaching Class	2	Yes		Ward Counseling		Yes		
29	5TH WEEK	3	RC coupled amplifier and phase shift oscillator (qualitative) Binary number system, converting Binary to Decimal and vice versa.		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													**YEAR: 2015-16**
30	1ST WEEK	3	Binary addition and subtraction (1's and 2's complement methods). Hexadecimal number system.Conversion from Binary to Hexadecimal		Teaching Class MID Exam II	1 1	Yes		Guest Lecture, Study Project	1	Yes		
31	3RD WEEK	2	Decimal to Hexadecimal vice versa.NAND, NOR as universal gates, Exclusive – OR gate.		Teaching Class Assignment	1 1	Yes						
32	4TH WEEK	2	De Morgan's Laws – statement and proof, Half and Full adders. Parallel adder circuits.		Teaching Class	2	Yes						
MONTH: FEBRUARY													**YEAR: 2015-16**
33	1ST WEEK	4	**REVISION**		Teaching Class	3	Yes		Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	2	Yes						
35	3RD WEEK	2	**REVISION**		Teaching Class	3	Yes						

36	4TH WEEK	2	REVISION		Teaching Class	2	Yes						
MONTH: MARCH												YEAR: 2015-16	
37	1ST WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										
38	2ND WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										

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CURRICULUM PLAN 2015 - 16

Department :Physics

PAPER: II - Thermodynamics and Optics

CLASS: II B.Sc.(MPC)

Name of the Lecturer : Ch. Satyanarayana M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													**YEAR: 2015-16**
1	3RD WEEK	2	**Remedial Coaching**		Teaching Class	2	Yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
MONTH: JULY													**YEAR: 2015-16**
3	1ST WEEK	3	Deduction of Maxwell's law of distribution of molecular speeds, Experimental verification Toothed wheel experiment.Transport Phenamin Viscosity, thermal conductivity and diffusion of gases.Concept and derivation of translation and syste matrices.		Teaching Class Assignment	2 1	Yes						
4	2ND WEEK	3	position of the image planes and magnification of the optical system.Application of matrix methods to simple optical systems (1) thin lenses in contact (2) two thin lenses separated by distance.		Teaching Class	3	Yes		Ward Counseling		Yes		

5	3RD WEEK	4	cardinal points of lens system, unit and nodal planes.Chromatic aberration in a lense, the achromatic doublet.Achromatism for two lenses in contact and separated by a distance – monochromatic in aberration.		Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		
6	4TH WEEK	4	The spherical aberration (longtitudinal spherical aberration) due to (1) a plane refracting surface and (2) a spherical surface (expressions without proof) Minimization of spherical aberrations – explanation of coma & astigmatism.		Teaching Class	4	Yes		Ward Counseling		Yes		
MONTH: AUGUST											YEAR: 2015-16		
7	1ST WEEK	3	Reversible and Irreversible process , Carnot's engine, efficiency.Carnot's theorem , Second law of thermodynamics, different statements Thermodynamic scale of temperature – Entropy		Teaching Class Assignment	2 1	Yes						
8	2ND WEEK	3	Entropy and disorder measurement of entropy changes in reversible and irreversible process Entropy of universe – Entropy .		Teaching Class	3	Yes		Ward Counseling		Yes		
9	3RD WEEK	4	Temperature diagrams, change of entropy of perfect gas-change of entropy when ice changes into steam.Thermodynamic Potentials – Derivation of Maxwell's thermodynamic relations.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
10	4TH WEEK	4	specific heats- Derivations for ratio and difference of two specific heats For perfect gas.Joule – Kelvin effect expression for Joule-Kelvin coefficient for perfect and wanderwaal's gas.		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER											YEAR: 2015-16		
11	1ST WEEK	3	Spontaneous stimulated emission – laser principle.Population inversion – Einstein coefficients – Types of lasers, He-Ne and Ruby lasers and the application of lasers.		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
12	2ND WEEK	4	Optical fiber types, rays and modes step and graded index fibers and their structure fiber materials,principles of fiber communication Basic principles of Holography.Gabor Hologram and its limitations applications of Hologram.		Teaching Class	4	Yes		Ward Counseling, Book Reviews		Yes		
13	3RD WEEK	3	Polarized light – Brewsters law – Malus law – phenomenon of double refraction in calcite .Refraction of plane wave incident on a negative crystal like calcite .		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
14	4TH WEEK	4	Nichol prism, Analysis of polarized light quarter wave plate, Babnet compensator.Optical activity Laurent's half shade polarimeter experiment.The superposition principle, coherence, temporal and spatial conditions for interference of light.		Teaching Class	4	Yes		Ward Counseling Seminars		Yes		
MONTH: OCTOBER											YEAR: 2015-16		
15	1ST WEEK	3	Interference by division of wave front Fresnel's biprism – determinination of wavelength of light change of phase on reflection determination of thickness of a transparent material using prism.		Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		

16	2ND WEEK	4	Interference by division of amplitude – oblique incidence of a plane wave on a thn film (the cosine law)Colors of thin films – non reflecting thin films Liquefaction of gases using Joule-Kelvin effectPorous Plug experiment.		Teaching Class Unit IV	3 1	Yes		Ward Counseling		Yes		
17	3RD WEEK	4	Distinction between Joule's expansion, Adiabatic expansion and Joule-Thompson's expansion.expression for Joule-Kelvin cooling, liquefaction of Helium- Kapitza 's method, Adiabatic demagne-tization.		Teaching Class	4	Yes		Ward Counseling		Yes		
18	5th WEEK	4	production of low temperatures principles of Refrigeration – Vapour compression type.Working of refrigerator and air conditioning machine. Effect of cloro fluro carbon on ozone layer.		Teaching Class	4	Yes						
MONTH: NOVEMBER													**YEAR: 2015-16**
19	1ST WEEK	4	Applications of substances at low temp. Black body, Fery's black body, distribution of energy in the spectrum of a black body Wein's displacement law, Wien's law, Raleigh Jeans law – Quantum theory of radiation.		Teaching Class	3	Yes		Study Projects,Ward Counseling, Quiz	1	Yes		
20	2ND WEEK	4	Angstrom pyhheliometer, determination of Solar constant Introduction to statistical mechanics. concept of ensembles, Phase space.Maxwell-Boltzmann's distribution law, Molecular energies in an ideal gas Bose-Einstein Distribution law, Fermi-Dirac Distribution law, comparison of three distribution laws.		Teaching Class	3	Yes		Guest Lecture,Class Room Seminars	1	Yes		

21	3RD WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
22	4th WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
MONTH: DECEMBER													**YEAR: 2015-16**
23	1ST WEEK	4	Black Body Radiation, Rayleigh-Jean's formula.Planck's radiation law, Weins Displacement, Stefan's Boltzmann's law from Plancks formula.		Teaching Class	4	Yes						
24	2ND WEEK	3	Application of Fermi-Dirac statistics to white dwarfs and Neutron stars interference by a plane parallel film illuminated by a point surface.		Teaching Class	3	Yes		Ward Counseling, Study Projects		Yes		
25	3rd WEEK	4	Interference by film with two non parallel reflecting surfaces (wedge shaped film)determination of diameter of wire.Newton's rings in reflected and transmitted light, Determination of wavelength of monochromatic light Michelson Interferometer types of fringes		Teaching Class Unit V	3 1	Yes		Guest Lecture		Yes		
26	4TH WEEK	3	determination of wavelength of monochromatic light, thickness of thin plane.Fraunhofer diffraction – diffraction due to a single slit and circular aperture. Limit of resolution two-slit Fraunhofer Fraunhofer diffraction pattern with N – Slits .		Teaching Class	4	Yes		Ward Counseling		Yes		

27	5TH WEEK	3	The Fourier transform and its properties the shifting theorem . application of the FT to Fourier diffraction due to single slit.The diffraction grating – normal and oblique incidence determination of wavelength of light		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													**YEAR: 2015-16**
28	1ST WEEK	3	Fresnel diffraction – Fresnel half period zones.zone plated – diffraction at a straight edge – diffraction of plane waves by a straight edge. A double slit and diffraction grating,diffraction .		Teaching Class	3	Yes		Guest Lecture,Study Project		Yes		
29	2ND WEEK		**PONGAL HOLIDAYS PRE- PUBLIC EXAMINATIONS**										
30	3RD WEEK	1	**REVISION**		Teaching Class	2	Yes						
31	4TH WEEK	4	**REVISION**		Teaching Class	3	Yes						
32	5th WEEK	1	**REVISION**		Teaching Class								
MONTH: FEBRUARY													**YEAR: 2015-16**
33	1ST WEEK	4	**REVISION**		Teaching Class	4	Yes		Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	3	Yes						
35	3RD WEEK	2	**REVISION**		Teaching Class	2	Yes						

36	4TH WEEK	2	REVISION		Teaching Class	2	Yes						
MONTH: MARCH													YEAR: 2015-16
37	1ST WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										
38	2ND WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

Dr. K. Srinivasa Rao
M.Sc., M.Phil., Ph.D.
Head Department of Physics
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SIGNATURE OF THE PRINCIPAL

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RAMACHANDRAPURAM-533 255 (E.G.DT.)

V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2015 - 16

Department :Physics

PAPER: II - Thermodynamics and Optics

CLASS: II B.Sc.(MPCS)

Name of the Lecturer : Ch. Satyanarayana M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													**YEAR: 2015-16**
1	3RD WEEK	2	**Remedial Coaching**		Teaching Class	2	Yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
MONTH: JULY													**YEAR: 2015-16**
3	1ST WEEK	4	Deduction of Maxwell's law of distribution of molecular speeds, Experimental verification Toothed wheel experiment.Transport Phenamin Viscosity, thermal conductivity and diffusion of gases.Concept and derivation of translation and syste matrices.		Teaching Class Assignment	3 1	Yes						
4	2ND WEEK	4	position of the image planes and magnification of the optical system.Application of matrix methods to simple optical systems (1) thin lenses in contact (2) two thin lenses separated by distance.		Teaching Class	4	Yes		Ward Counseling		Yes		

5	3RD WEEK	4	cardinal points of lens system, unit and nodal planes.Chromatic aberration in a lense, the achromatic doublet.Achromatism for two lenses in contact and separated by a distance – monochromatic in aberration.		Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		
6	4TH WEEK	4	The spherical aberration (longtitudinal spherical aberration) due to (1_ a plane refracting surface and (2) a spherical surface (expressions without proof) Minimization of spherical aberrations – explanation of coma – astigmatism.		Teaching Class	4	Yes		Ward Counseling		Yes		
MONTH: AUGUST												YEAR: 2014-15	
7	1ST WEEK	3	Reversible and Irreversible process , Carnot's engine, efficiency.Carnot's theorem , Second law of thermodynamics, different statements Thermodynamic scale of temperature – Entropy		Teaching Class Assignment	2 1	Yes						
8	2ND WEEK	3	Entropy and disorder measurement of entropy changes in reversible and irreversible process Entropy of universe – Entropy .		Teaching Class	3	Yes		Ward Counseling		Yes		
9	3RD WEEK	4	Temperature diagrams, change of entropy of perfect gas-change of entropy when ice changes into steam.Thermodynamic Potentials – Derivation of Maxwell's thermodynamic relations.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
10	4TH WEEK	3	specific heats- Derivations for ratio and difference of two specific heats For perfect gas.Joule – Kelvin effect expression for Joule-Kelvin coefficient for perfect and wanderwaal's gas.		Teaching Class	3	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER													**YEAR: 2015-16**
11	1ST WEEK	3	Spontaneous stimulated emission – laser principle.Population inversion – Einstein coefficients – Types of lasers, He-Ne and Ruby lasers and the application of lasers.		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
12	2ND WEEK	4	Optical fiber types, rays and modes step and graded index fibers and their structure fiber materials,principles of fiber communication Basic principles of Holography.Gabor Hologram and its limitations applications of Hologram.		Teaching Class	4	Yes		Ward Counseling, Book Reviews		Yes		
13	3RD WEEK	3	Polarized light – Brewsters law – Malus law – phenomenon of double refraction in calcite .Refraction of plane wave incident on a negative crystal like calcite .		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
14	4TH WEEK	4	Nichol prism, Analysis of polarized light quarter wave plate, Babnet compensator.Optical activity Laurent's half shade polarimeter experiment.The superposition principle, coherence, temporal and spatial conditions for interference of light.		Teaching Class	4	Yes		Ward Counseling Seminars		Yes		
MONTH: OCTOBER													**YEAR: 2015-16**
15	1ST WEEK	3	Interference by division of wave front Fresnel's biprism – determinination of wavelength of light change of phase on reflection determination of thickness of a transparent material using prism.		Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		

16	2ND WEEK	4	Interference by division of amplitude – oblique incidence of a plane wave on a thn film (the cosine law)Colors of thin films – non reflecting thin films Liquefaction of gases using Joule-Kelvin effectPorous Plug experiment.		Teaching Class Unit IV	3 1	Yes		Ward Counseling		Yes		
17	3RD WEEK	3	Distinction between Joule's expansion, Adiabatic expansion and Joule-Thompson's expansion.expression for Joule-Kelvin cooling, liquefaction of Helium- Kapitza 's method, Adiabatic demagne-tization.		Teaching Class	3	Yes		Ward Counseling		Yes		
18	5th WEEK	4	production of low temperatures principles of Refrigeration – Vapour compression type.Working of refrigerator and air conditioning machine. Effect of cloro fluro carbon on ozone layer.		Teaching Class	4	Yes						

YEAR: 2015-16

MONTH: NOVEMBER

19	1ST WEEK	4	Applications of substances at low temp. Black body, Fery's black body, distribution of energy in the spectrum of a black body Wein's displacement law, Wien's law, Raleigh Jeans law – Quantum theory of radiation.		Teaching Class	3	Yes		Study Projects,Ward Counseling, Quiz	1	Yes		
20	2ND WEEK	4	Angstrom pyhheliometer, determination of Solar constant Introduction to statistical mechanics. concept of ensembles, Phase space.Maxwell-Boltzmann's distribution law, Molecular energies in an ideal gas Bose-Einstein Distribution law, Fermi-Dirac Distribution law, comparison of three distribution laws.		Teaching Class	3	Yes		Guest Lecture,Class Room Seminars	1	Yes		

21	3RD WEEK		HALF-YEARLY EXAMINATIONS - 2015								Yes		
22	4th WEEK		HALF-YEARLY EXAMINATIONS - 2015								Yes		

YEAR: 2015-16

MONTH: DECEMBER

23	1ST WEEK	4	Black Body Radiation, Rayleigh-Jean's formula.Planck's radiation law, Weins Displacement, Stefan's Boltzmann's law from Plancks formula.		Teaching Class	4	Yes						
24	2ND WEEK	3	Application of Fermi-Dirac statistics to white dwarfs and Neutron stars interference by a plane parallel film illuminated by a point surface.		Teaching Class	3	Yes		Ward Counseling, Study Projects		Yes		
25	3rd WEEK	4	Interference by film with two non parallel reflecting surfaces (wedge shaped film)determination of diameter of wire.Newton's rings in reflected and transmitted light, Determination of wavelength of monochromatic light Michelson Interferometer types of fringes		Teaching Class Unit V	3 1	Yes		Guest Lecture		Yes		
26	4TH WEEK	3	determination of wavelength of monochromatic light, thickness of thin plane.Fraunhofer diffraction – diffraction due to a single slit and circular aperture. Limit of resolution two-slit Fraunhofer Fraunhofer diffraction pattern with N – Slits .		Teaching Class	4	Yes		Ward Counseling		Yes		

27	5TH WEEK	3	The Fourier transform and its properties the shifting theorem . application of the FT to Fourier diffraction due to single slit.The diffraction grating – normal and oblique incidence determination of wavelength of light		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													YEAR: 2015-16
28	1ST WEEK	3	Fresnel diffraction – Fresnel half period zones.zone plated – diffraction at a straight edge – diffraction of plane waves by a straight edge. A double slit and diffraction grating,diffraction .		Teaching Class	3	Yes		Guest Lecture,Study Project		Yes		
29	2ND WEEK		**PONGAL HOLIDAYS PRE- PUBLIC EXAMINATIONS**										
30	3RD WEEK	1	**REVISION**		Teaching Class	2	Yes						
31	4TH WEEK	4	**REVISION**		Teaching Class	3	Yes						
32	5th WEEK	1	**REVISION**		Teaching Class								
MONTH: FEBRUARY													YEAR: 2015-16
33	1ST WEEK	4	**REVISION**		Teaching Class	4	Yes		Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	3	Yes						
35	3RD WEEK	2	**REVISION**		Teaching Class	2	Yes						

36	4TH WEEK	2	REVISION		Teaching Class	2	Yes							
MONTH: MARCH													YEAR: 2015-16	
37	1ST WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016											
38	2ND WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016											

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

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V. S. M. COLLEGE : RAMACHANDRAPURAM

CURRICULUM PLAN 2015 - 16

Department :Physics **PAPER: IV - Modern Physics**

CLASS: III B.Sc. (MPC)

Name of the Lecturer : V. Naga Babu M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													**YEAR: 2015-16**
1	3RD WEEK	3	**Remedial Coaching**		Teaching Class	3	yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	yes						
MONTH: JULY													**YEAR: 2015-16**
3	1ST WEEK	3	Introduction – Drawbacks of Bohr's atomic model.Sommerfeld's elliptical orbits – relativistic correction (no derivation).		Teaching Class	3	yes						
4	2ND WEEK	2	Stern & Gerlach experiment Vector atom model and quantum numbers associated with it.L-S and j-j coupling schemes.Spectral terms, selection rules, intensity rules.		Teaching Class	2	yes		Ward Counseling	yes			
5	3RD WEEK	3	Spectra of alkali atomsdoublet fine structure. Alkaline earth spectra, singlet and triplet fine structure.Zeeman Effect, Paschen-Back Effect and Stark Effect (basic idea).		Teaching Class Unit I	2 1	yes		Book Reviews	yes			
6	4TH WEEK	3	Types of molecular spectra, pure rotational energies and spectrum of diatomic molecule, determination of internuclear distance.		Teaching Class Assignment	2 1	yes		Ward Counseling	yes			

7	5 TH WEEK	1	Vibrational energies and spectrum of diatomic molecule.Raman effect		Teaching Class	1	Yes						
MONTH: AUGUST													**YEAR: 2015-16**
8	1ST WEEK	3	Classical theory of Raman effect. Experimental arrangement for Raman effect and its applications.Spectral radiation – Planck's law.		Teaching Class Assignment	2 1	Yes						
9	2ND WEEK	2	Photoelectric effect – Einstien's photoelectric equation. Compton's effect (quantitative) experimental verification.		Teaching Class	2	Yes		Ward Counseling	Yes			
10	3RD WEEK	2	Stability of an atomBohr's atomic theory. Limitations of old quantum theory.De Broglie's hypothesis		Teaching Class Unit II	1 1	Yes						
11	4TH WEEK	3	wavelength of matter waves, properties of matter waves.Phase and group velocities.Vibrational energies and spectrum of diatomic molecule.		Teaching Class	2	Yes		Group Discussion	1	Yes		
12	5 TH WEEK	1	Davisson and Germer experiment. Double slit experiment.		Teaching Class	1	Yes						
MONTH: SEPTEMBER													**YEAR: 2015-16**
13	1ST WEEK	3	Standing de Brogile waves of electron in Bohr orbits.Heisenberg's uncertainty principle for position and momentum (x and px), Energy and time (E and t).		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
14	2ND WEEK	2	Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Particle in a box. Complementary principle of Bohr.		Teaching Class	2	Yes		Ward Counseling		Yes		

15	3RD WEEK	3	Schrodinger time independent and time dependent wave equations. Wave function properties – Significance.		Teaching Class Unit III	1 1	Yes		QUIZ	1	Yes		
16	4TH WEEK	3	Basic postulates of quantum mechanics. Operators, eigen functions and eigen values, expectation values.Application of Schrodinger wave equation to particle in one and three dimensional boxes.		Teaching Class	2	Yes		Ward Counseling, Book Reviews	1	Yes		
MONTH: OCTOBER													**YEAR: 2015-16**
17	1ST WEEK	2	potential step and potential barrier. Basic properties of nucleus – size, charge, mass, spin, magnetic dipole moment and electric quadrupole moment.		Teaching Class	2	Yes		Ward Counseling		Yes		
18	2ND WEEK	3	Binding energy of nucleus, deuteron binding energy, p-p and n-p scattering (concepts)Nuclear forces. Nuclear models – liquid drop model, shell model.		Teaching Class Unit IV	1 1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
19	3RD WEEK	2	Range of alpha particles, Geiger – Nuttal law. Gammow's theory of alpha decay.		Teaching Class	2	Yes		Ward Counseling		Yes		
20	5th WEEK	2	Geiger – Nuttal law from Gammow's theory. Beta spectrum – neutrino hypothesis, Fermi's theory of β-decay (qualitative).										
MONTH: NOVEMBER													**YEAR: 2015-16**
21	1ST WEEK	3	Types of nuclear reactions, channels, nuclear reaction kinematics.Compound nucleus, direct reactions (concepts).GM counter.		Teaching Class	3	Yes		Study Projects		Yes		
22	2ND WEEK	3	proportional counter, scintillation counter.Wilson cloud chamber and solid state detectorCrystalline nature of matter.		Teaching Class	2	Yes		Ward Counseling, Quiz	1	Yes		

23	3RD WEEK	3	Cystal lattice,Unit Cell, Elements of symmetry. Crystal systems.Bravais lattices. Miller indices. Simple crystal structures (S.C., BCC, CsCl, FCC, NaCl diamond and Zinc Blends)		Teaching Class	2	Yes		Guest Lecture,Class Room Seminars	1	Yes		
24	4th WEEK	3	**HALF-YEARLY EXAMINATIONS - 2015**		Teaching Class	2	Yes		Ward Counseling Seminars	1	Yes		
25	5TH WEEK	1	**HALF-YEARLY EXAMINATIONS - 2015**		Teaching Class	1	Yes						
MONTH: DECEMBER													**YEAR: 2015-16**
26	1ST WEEK	2	Diffraction of X –rays by crystals.Bragg's law, Experimental techniques - Laue's method and powder method.		Teaching Class	2	Yes						
27	2ND WEEK	3	Introduction, nanoparticles, metal nanoclusters, semiconductor nanoparticles, carbon clusters, carbon nanotubes, quantum nanostructures .		Teaching Class	3	Yes		Ward Counseling, Study Projects	Y	Yes		
28	3rd WEEK	3	nanodot, nanowire and quantum well. Fabrication of quantum nanostructures. Types of bonding in crystals – characteristics of crystals with different bindings.Lattice energy of ionic crystals – determination of Medelung constant for NaCl crystal.		Teaching Class Unit V	2 1	Yes						

29	4TH WEEK	1	Calculation of Born coefficient and repulsive exponent. Born – Haber cycle.Magnetic properties of dia, para and ferromagnetic materials.		Teaching Class	1	Yes						
MONTH: JANUARY													YEAR: 2015-16
30	1ST WEEK	2	Langevin's theory of paramagnetism. Weiss' theory of ferromagnetism –Concepts of magnetic domains, antiferromagnetism and ferrimagnetism ferrites and their applications.Basic experimental facts – zero resistance.		Teaching Class	2	Yes		Guest Lecture,Study Project				
31	2ND WEEK	2	Effect of magnetic field, Meissner effect, persistent current, Isotope effect Thermodynamic properties, specific heat, entropy. Type I and Type II superconductors. Elements of BCS theory-Cooper pairs. Applications. High temperature superconductors.		Teaching Class	2	Yes		Ward Counseling				
32	3RD WEEK		**PONGAL HOLIDAYS PRE- PUBLIC EXAMINATIONS**										
33	4TH WEEK	3	**REVISION**		Teaching Class	3	Yes						
34	5th WEEK	3	**REVISION**		Teaching Class	3	Yes						
MONTH: FEBRUARY													YEAR: 2015-16
35	1ST WEEK	4	**REVISION**		Teaching Class	3	Yes		Group Discussion		Yes		
36	2ND WEEK	3	**REVISION**		Teaching Class	2	Yes						
37	3RD WEEK	2	**REVISION**		Teaching Class	3	Yes						

38	4TH WEEK	2	**REVISION**		Teaching Class	2	Yes						
MONTH: MARCH													**YEAR: 2015-16**
39	1ST WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**										
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CURRICULUM PLAN 2015 - 16

Department :Physics **PAPER: IV - Modern Physics**

CLASS: III B.Sc. (MPC)

Name of the Lecturer : V. Naga Babu M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JUNE													**YEAR: 2015-16**
1	3RD WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
MONTH: JULY													**YEAR: 2015-16**
3	1ST WEEK	2	Introduction – Drawbacks of Bohr's atomic model.Sommerfeld's elliptical orbits – relativistic correction (no derivation).		Teaching Class	2	Yes						
4	2ND WEEK	3	Stern & Gerlach experiment Vector atom model and quantum numbers associated with it.L-S and j-j coupling schemes.Spectral terms, selection rules, intensity rules.		Teaching Class	3	Yes		Ward Counseling		Yes		
5	3RD WEEK	3	Spectra of alkali atomsdoublet fine structure. Alkaline earth spectra, singlet and triplet fine structure.Zeeman Effect, Paschen-Back Effect and Stark Effect (basic idea).		Teaching Class Unit I	2 1	Yes		Book Reviews		Yes		
6	4TH WEEK	3	Types of molecular spectra, pure rotational energies and spectrum of diatomic molecule, determination of internuclear distance.		Teaching Class Assignment	2 1	Yes		Ward Counseling		Yes		

7	5 TH WEEK	1	Vibrational energies and spectrum of diatomic molecule.Raman effect		Teaching Class	1	Yes				Yes		
MONTH: AUGUST													**YEAR: 2015-16**
8	1ST WEEK	3	Classical theory of Raman effect. Experimental arrangement for Raman effect and its applications.Spectral radiation – Planck's law.		Teaching Class Assignment	2 1	Yes				Yes		
9	2ND WEEK	2	Photoelectric effect – Einstien's photoelectric equation. Compton's effect (quantitative) experimental verification.		Teaching Class	2	Yes		Ward Counseling		Yes		
10	3RD WEEK	3	Stability of an atomBohr's atomic theory. Limitations of old quantum theory.De Broglie's hypothesis		Teaching Class Unit II	2 1	Yes						
11	4TH WEEK	3	wavelength of matter waves, properties of matter waves.Phase and group velocities.Vibrational energies and spectrum of diatomic molecule.		Teaching Class	2	Yes		Group Discussion	1	Yes		
12	5 TH WEEK	1	Davisson and Germer experiment. Double slit experiment.		Teaching Class	1	Yes				Yes		
MONTH: SEPTEMBER													**YEAR: 2015-16**
13	1ST WEEK	3	Standing de Brogile waves of electron in Bohr orbits.Heisenberg's uncertainty principle for position and momentum (x and px), Energy and time (E and t).		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
14	2ND WEEK	3	Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Particle in a box. Complementary principle of Bohr.		Teaching Class	3	Yes		Ward Counseling		Yes		

15	3RD WEEK	3	Schrodinger time independent and time dependent wave equations. Wave function properties – Significance.		Teaching Class Unit III	1 1	Yes		QUIZ	1	Yes		
16	4TH WEEK	3	Basic postulates of quantum mechanics. Operators, eigen functions and eigen values, expectation values.Application of Schrodinger wave equation to particle in one and three dimensional boxes.		Teaching Class	2	Yes		Ward Counseling, Book Reviews	1	Yes		
MONTH: OCTOBER													**YEAR: 2015-16**
17	1ST WEEK	3	potential step and potential barrier. Basic properties of nucleus – size, charge, mass, spin, magnetic dipole moment and electric quadrupole moment.		Teaching Class	3	Yes		Ward Counseling		Yes		
18	2ND WEEK	3	Binding energy of nucleus, deuteron binding energy, p-p and n-p scattering (concepts)Nuclear forces. Nuclear models – liquid drop model, shell model.		Teaching Class Unit IV	1 1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
19	3RD WEEK	2	Range of alpha particles, Geiger – Nuttal law. Gammow's theory of alpha decay.		Teaching Class	2	Yes		Ward Counseling		Yes		
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21	1ST WEEK	3	Types of nuclear reactions, channels, nuclear reaction kinematics.Compound nucleus, direct reactions (concepts).GM counter.		Teaching Class	3	Yes		Study Projects		Yes		
22	2ND WEEK	3	proportional counter, scintillation counter.Wilson cloud chamber and solid state detectorCrystalline nature of matter.		Teaching Class	2	Yes		Ward Counseling, Quiz	1			

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24	4th WEEK	3	**HALF-YEARLY EXAMINATIONS - 2015**		Teaching Class	2	Yes		Ward Counseling Seminars	1	Yes		
25	5TH WEEK	1	**HALF-YEARLY EXAMINATIONS - 2015**		Teaching Class	1	Yes						
MONTH: DECEMBER													**YEAR: 2015-16**
26	1ST WEEK	2	Diffraction of X –rays by crystals.Bragg's law, Experimental techniques - Laue's method and powder method.		Teaching Class	2	Yes						
27	2ND WEEK	3	Introduction, nanoparticles, metal nanoclusters, semiconductor nanoparticles, carbon clusters, carbon nanotubes, quantum nanostructures .		Teaching Class	3	Yes		Ward Counseling, Study Projects		Yes		
28	3rd WEEK	3	nanodot, nanowire and quantum well. Fabrication of quantum nanostructures. Types of bonding in crystals – characteristics of crystals with different bindings.Lattice energy of ionic crystals – determination of Medelung constant for NaCl crystal.		Teaching Class Unit V	2 1	Yes						

29	4TH WEEK	1	Calculation of Born coefficient and repulsive exponent. Born – Haber cycle.Magnetic properties of dia, para and ferromagnetic materials.		Teaching Class	1	Yes						
MONTH: JANUARY												YEAR: 2015-16	
30	1ST WEEK	2	Langevin's theory of paramagnetism. Weiss' theory of ferromagnetism –Concepts of magnetic domains, antiferromagnetism and ferrimagnetism ferrites and their applications.Basic experimental facts – zero resistance.		Teaching Class	2	Yes		Guest Lecture,Stud y Project		Yes		
31	2ND WEEK	2	Effect of magnetic field, Meissner effect, persistent current, Isotope effect Thermodynamic properties, specific heat, entropy. Type I and Type II superconductors. Elements of BCS theory-Cooper pairs. Applications. High temperature superconductors.		Teaching Class	2	Yes		Ward Counseling		Yes		
32	3RD WEEK		**PONGAL HOLIDAYS PRE- PUBLIC EXAMINATIONS**										
33	4TH WEEK	3	**REVISION**		Teaching Class	3	Yes						
34	5th WEEK	3	**REVISION**		Teaching Class	3	Yes						
MONTH: FEBRUARY												YEAR: 2015-16	
35	1ST WEEK	4	**REVISION**		Teaching Class	3	Yes		Group Discussion		Yes		
36	2ND WEEK	3	**REVISION**		Teaching Class	2	Yes						
37	3RD WEEK	2	**REVISION**		Teaching Class	3	Yes						

38	4TH WEEK	2	REVISION		Teaching Class	2	Yes						
MONTH: MARCH													YEAR: 2015-16
39	1ST WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										
40	2ND WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										

SIGNATURE OF THE LECTURER

SIGNATURE OF THE DEPARTMENT I/C

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CURRICULUM PLAN - 2015 - 16

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-I** | **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : R. Nageswara Rao M.Sc.(Tech.)

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY												**YEAR: 2015-16**	
1	1ST WEEK	4	Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field and related problems.		Teaching Class Assignment	3 1	Yes				Yes		
2	2ND WEEK	4	Vector integration, line, surface and volume integrals.Stokes theorem.		Teaching Class	4	Yes		Ward Counseling		Yes		
3	3RD WEEK	3	Gauss and Greens theorems- simple applications. Fundamentals of vibrations, Damped and forced oscillations		Teaching Class	3	Yes		Book Reviews		Yes		
4	4TH WEEK	4	Motion of variable mass system, motion of a rocket, multi-stage rocket. Collisions in two and three dimensions.		Teaching Class	4	Yes		Ward Counseling		Yes		
5	5th WEEK	2	concept of impact parameter scattering cross-section. Rutherford scattering.Definition of Rigid body, rotational kinematic relations		Teaching Class Unit I	1 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST												**YEAR: 2015-16**	
6	1ST WEEK		**I MID Examinations**								Yes		

7	2ND WEEK	3	Equation of motion for a rotating body, angular momentum and inertial tensor. Eulers equation, precession of a top, Gyroscope.		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	4	Mechanics of continuous media and Central Forces Classification of beams, types of bending, point load, distributed load		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	4	shearing force and bending moment. sign conventions simple supported beam carrying a concentrated load at mid span, cantilever with an end load.		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2015-16**

10	1ST WEEK	4	Central forces – definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class Assignment	3 1	Yes		Study Projects		Yes		
11	2ND WEEK	4	Equation of motion under a central force motion under inverse square law,		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK	4	Derivation of Kepler's laws.		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
13	4TH WEEK	3	Special theory of relativity, Galilean relativity, absolute frames,		Teaching Class	3	Yes		Ward Counseling Seminars		Yes		
14	5th WEEK	2	Michelson-Morley experimentPostulates of special theory of relativity.		Teaching Class	1	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2015-16**

15	1ST WEEK		**II MID Examinations**								Yes		

16	2ND WEEK	2	Postulates of special theory of relativity. Lorentz transformation.		Teaching Class	1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	time dilation, length contraction, mass-energy relation.		Teaching Class Unit IV	2 1	Yes		Ward Counseling, Quiz		Yes		
18	5th WEEK	2	**REVISION**										

YEAR: 2015-16

MONTH: NOVEMBER

19	2ND WEEK	3	**REVISION**										
20	3RD WEEK	4	**PRACTICAL EXAMINATIONS**										
21	4th WEEK	4	**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2015 - 16

Department :Physics

CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II

PAPER: Waves & Oscillations

Name of the Lecturer : R. Nageswara Rao M.Sc.(Tech.)

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: DECEMBER													**YEAR: 2015-16**
1	1ST WEEK	3	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	3	Yes						
2	2ND WEEK	4	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic		Teaching Class	4	Yes		Ward Counseling,		Yes		
3	3rd WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class Unit V	2 1	Yes		Guest Lecture	1	Yes		
4	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling		Yes		
5	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						
MONTH: JANUARY													**YEAR: 2015-16**
6	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	2	Yes		Guest Lecture,	1	Yes		

7	2ND WEEK		**I MID Examinations**								Yes		
8	3RD WEEK	2	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	2	Yes		Study Projects		Yes		
9	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one		Teaching Class	3	Yes						
10	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1							
MONTH: FEBRUARY													**YEAR: 2015-16**
11	1ST WEEK	2	General solution of wave equation and its significance.		Teaching Class	2	Yes						
12	2ND WEEK	2	General solution of wave equation and its significance.		Teaching Class	1	Yes		Quiz	1	Yes		
13	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,				Yes						
14	4TH WEEK	2	energy transport, transverse impedance.				Yes						
MONTH: MARCH													**YEAR: 2015-16**
15	1ST WEEK		**II MID Examinations**								Yes		
16	2ND WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic waves		Teaching Class	2	Yes		Group Discussion		Yes		

17	3RD WEEK	3	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	3	Yes						
18	4TH WEEK	2	Noise Pollution – origin, effect on the environment - prevention		Teaching Class	2	Yes		Study Project		Yes		
MONTH: APRIL													YEAR: 2015-16
19	1ST WEEK		**REVISION**										
20	2ND WEEK		**PRACTICAL EXAMINATIONS**										
21	3RD WEEK		**SEMESTER END EXAMINATIONS**										
22	4TH WEEK		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN 2015 - 16

Department :Physics

PAPER: II - Thermodynamics and Optics

CLASS: II B.Sc.(MPC)

Name of the Lecturer : S.Sattibabu M.Sc.,B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
													YEAR: 2015-16
MONTH: JUNE													
1	3RD WEEK	2	**Remedial Coaching**		Teaching Class	2	Yes						
2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
													YEAR: 2015-16
MONTH: JULY													
3	1ST WEEK	3	Deduction of Maxwell's law of distribution of molecular speeds, Experimental verification Toothed wheel experiment.Transport Phenamin Viscosity, thermal conductivity and diffusion of gases.Concept and derivation of translation and syste matrices.		Teaching Class Assignment	2 1	Yes						
4	2ND WEEK	4	position of the image planes and magnification of the optical system.Application of matrix methods to simple optical systems (1) thin lenses in contact (2) two thin lenses separated by distance.		Teaching Class	4	Yes		Ward Counseling		Yes		

5	3RD WEEK	4	cardinal points of lens system, unit and nodal planes.Chromatic aberration in a lense, the achromatic doublet.Achromatism for two lenses in contact and separated by a distance – monochromatic in aberration.		Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		
6	4TH WEEK	4	The spherical aberration (longtitudinal spherical aberration) due to (1_ a plane refracting surface and (2) a spherical surface (expressions without proof) Minimization of spherical aberrations – explanation of coma – astigmatism.		Teaching Class	4	Yes		Ward Counseling		Yes		
MONTH: AUGUST											YEAR: 2014-15		
7	1ST WEEK	3	Reversible and Irreversible process , Carnot's engine, efficiency.Carnot's theorem , Second law of thermodynamics, different statements Thermodynamic scale of temperature – Entropy		Teaching Class Assignment	2 1	Yes						
8	2ND WEEK	3	Entropy and disorder measurement of entropy changes in reversible and irreversible process Entropy of universe – Entropy .		Teaching Class	3	Yes		Ward Counseling		Yes		
9	3RD WEEK	4	Temperature diagrams, change of entropy of perfect gas-change of entropy when ice changes into steam.Thermodynamic Potentials – Derivation of Maxwell's thermodynamic relations.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
10	4TH WEEK	4	specific heats- Derivations for ratio and difference of two specific heats For perfect gas.Joule – Kelvin effect expression for Joule-Kelvin coefficient for perfect and wanderwaal's gas.		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER											YEAR: 2015-16		
11	1ST WEEK	3	Spontaneous stimulated emission – laser principle.Population inversion – Einstein coefficients – Types of lasers, He-Ne and Ruby lasers and the application of lasers.		Teaching Class Assignment	2 1	Yes		Study Projects		Yes		
12	2ND WEEK	4	Optical fiber types, rays and modes step and graded index fibers and their structure fiber materials,principles of fiber communication Basic principles of Holography.Gabor Hologram and its limitations applications of Hologram.		Teaching Class	4	Yes		Ward Counseling, Book Reviews		Yes		
13	3RD WEEK	3	Polarized light – Brewsters law – Malus law – phenomenon of double refraction in calcite .Refraction of plane wave incident on a negative crystal like calcite .		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
14	4TH WEEK	4	Nichol prism, Analysis of polarized light quarter wave plate, Babnet compensator.Optical activity Laurent's half shade polarimeter experiment.The superposition principle, coherence, temporal and spatial conditions for interference of light.		Teaching Class	4	Yes		Ward Counseling Seminars		Yes		
MONTH: OCTOBER											YEAR: 2015-16		
15	1ST WEEK	3	Interference by division of wave front Fresnel's biprism – determinination of wavelength of light change of phase on reflection determination of thickness of a transparent material using prism.		Teaching Class	2	Yes		Ward Counseling, Class Room Seminars	1	Yes		

16	2ND WEEK	4	Interference by division of amplitude – oblique incidence of a plane wave on a thn film (the cosine law)Colors of thin films – non reflecting thin films Liquefaction of gases using Joule-Kelvin effectPorous Plug experiment.		Teaching Class Unit IV	3 1	Yes		Ward Counseling		Yes		
17	3RD WEEK	4	Distinction between Joule's expansion, Adiabatic expansion and Joule-Thompson's expansion.expression for Joule-Kelvin cooling, liquefaction of Helium- Kapitza 's method, Adiabatic demagne-tization.		Teaching Class	4	Yes		Ward Counseling		Yes		
18	5th WEEK	4	production of low temperatures principles of Refrigeration – Vapour compression type.Working of refrigerator and air conditioning machine. Effect of cloro fluro carbon on ozone layer.		Teaching Class	4	Yes						
MONTH: NOVEMBER													**YEAR: 2015-16**
19	1ST WEEK	4	Applications of substances at low temp. Black body, Fery's black body, distribution of energy in the spectrum of a black body Wein's displacement law, Wien's law, Raleigh Jeans law – Quantum theory of radiation.		Teaching Class	3	Yes		Study Projects,Ward Counseling, Quiz	1	Yes		
20	2ND WEEK	4	Angstrom pyhheliometer, determination of Solar constant Introduction to statistical mechanics. concept of ensembles, Phase space.Maxwell-Boltzmann's distribution law, Molecular energies in an ideal gas Bose-Einstein Distribution law, Fermi-Dirac Distribution law, comparison of three distribution laws.		Teaching Class	3	Yes		Guest Lecture,Class Room Seminars	1	Yes		

21	3RD WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
22	4th WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
MONTH: DECEMBER													**YEAR: 2015-16**
23	1ST WEEK	4	Black Body Radiation, Rayleigh-Jean's formula.Planck's radiation law, Weins Displacement, Stefan's Boltzmann's law from Plancks formula.		Teaching Class	4	Yes						
24	2ND WEEK	3	Application of Fermi-Dirac statistics to white dwarfs and Neutron stars interference by a plane parallel film illuminated by a point surface.		Teaching Class	3	Yes		Ward Counseling, Study Projects		Yes		
25	3rd WEEK	4	Interference by film with two non parallel reflecting surfaces (wedge shaped film)determination of diameter of wire.Newton's rings in reflected and transmitted light, Determination of wavelength of monochromatic light Michelson Interferometer types of fringes		Teaching Class Unit V	3 1	Yes		Guest Lecture		Yes		
26	4TH WEEK	3	determination of wavelength of monochromatic light, thickness of thin plane.Fraunhofer diffraction – diffraction due to a single slit and circular aperture. Limit of resolution two-slit Fraunhofer Fraunhofer diffraction pattern with N – Slits .		Teaching Class	4	Yes		Ward Counseling		Yes		

27	5TH WEEK	3	The Fourier transform and its properties the shifting theorem . application of the FT to Fourier diffraction due to single slit.The diffraction grating – normal and oblique incidence determination of wavelength of light		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													**YEAR: 2015-16**
28	1ST WEEK	3	Fresnel diffraction – Fresnel half period zones.zone plated – diffraction at a straight edge – diffraction of plane waves by a straight edge. A double slit and diffraction grating,diffraction .		Teaching Class	3	Yes		Guest Lecture,Study Project		Yes		
29	2ND WEEK		**PONGAL HOLIDAYS PRE- PUBLIC EXAMINATIONS**										
30	3RD WEEK	1	**REVISION**		Teaching Class	2	Yes						
31	4TH WEEK	4	**REVISION**		Teaching Class	3	Yes						
32	5th WEEK	1	**REVISION**		Teaching Class								
MONTH: FEBRUARY													**YEAR: 2015-16**
33	1ST WEEK	4	**REVISION**		Teaching Class	4	Yes		Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	3	Yes						
35	3RD WEEK	2	**REVISION**		Teaching Class	2	Yes						

36	4TH WEEK	2	REVISION		Teaching Class	2	Yes						
MONTH: MARCH												YEAR: 2015-16	
37	1ST WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										
38	2ND WEEK		A.K.N.U. PRACTICAL EXAMINATIONS - 2016										

S. Sathibau
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CURRICULUM PLAN 2015 - 16

Department :Physics

PAPER: II - Thermodynamics and Optics

CLASS: II B.Sc.(MPCS)

Name of the Lecturer : S.Sattibabu M.Sc.,B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
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2	4TH WEEK	3	**Remedial Coaching**		Teaching Class	3	Yes						
MONTH: JULY													**YEAR: 2015-16**
3	1ST WEEK	3	Deduction of Maxwell's law of distribution of molecular speeds, Experimental verification Toothed wheel experiment.Transport Phenamin Viscosity, thermal conductivity and diffusion of gases.Concept and derivation of translation and syste matrices.		Teaching Class Assignment	2 1	Yes						
4	2ND WEEK	4	position of the image planes and magnification of the optical system.Application of matrix methods to simple optical systems (1) thin lenses in contact (2) two thin lenses separated by distance.		Teaching Class	4	Yes		Ward Counseling		Yes		

5	3RD WEEK	4	cardinal points of lens system, unit and nodal planes.Chromatic aberration in a lense, the achromatic doublet.Achromatism for two lenses in contact and separated by a distance – monochromatic in aberration.		Teaching Class Unit I	3 1	Yes		Book Reviews		Yes		
6	4TH WEEK	4	The spherical aberration (longtitudinal spherical aberration) due to (1_ a plane refracting surface and (2) a spherical surface (expressions without proof) Minimization of spherical aberrations – explanation of coma – astigmatism.		Teaching Class	4	Yes		Ward Counseling		Yes		
MONTH: AUGUST												YEAR: 2014-15	
7	1ST WEEK	3	Reversible and Irreversible process , Carnot's engine, efficiency.Carnot's theorem , Second law of thermodynamics, different statements Thermodynamic scale of temperature – Entropy		Teaching Class Assignment	2 1	Yes						
8	2ND WEEK	3	Entropy and disorder measurement of entropy changes in reversible and irreversible process Entropy of universe – Entropy .		Teaching Class	3	Yes		Ward Counseling		Yes		
9	3RD WEEK	4	Temperature diagrams, change of entropy of perfect gas-change of entropy when ice changes into steam.Thermodynamic Potentials – Derivation of Maxwell's thermodynamic relations.		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
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16	2ND WEEK	4	Interference by division of amplitude – oblique incidence of a plane wave on a thn film (the cosine law)Colors of thin films – non reflecting thin films Liquefaction of gases using Joule-Kelvin effectPorous Plug experiment.		Teaching Class Unit IV	3 1	Yes		Ward Counseling		Yes		
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18	5th WEEK	4	production of low temperatures principles of Refrigeration – Vapour compression type.Working of refrigerator and air conditioning machine. Effect of cloro fluro carbon on ozone layer.		Teaching Class	4	Yes						
MONTH: NOVEMBER													**YEAR: 2015-16**
19	1ST WEEK	4	Applications of substances at low temp. Black body, Fery's black body, distribution of energy in the spectrum of a black body Wein's displacement law, Wien's law, Raleigh Jeans law – Quantum theory of radiation.		Teaching Class	3	Yes		Study Projects,Ward Counseling, Quiz	1	Yes		
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21	3RD WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
22	4th WEEK		**HALF-YEARLY EXAMINATIONS - 2015**								Yes		
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25	3rd WEEK	4	Interference by film with two non parallel reflecting surfaces (wedge shaped film)determination of diameter of wire.Newton's rings in reflected and transmitted light, Determination of wavelength of monochromatic light Michelson Interferometer types of fringes		Teaching Class Unit V	3 1	Yes		Guest Lecture		Yes		
26	4TH WEEK	3	determination of wavelength of monochromatic light, thickness of thin plane.Fraunhofer diffraction – diffraction due to a single slit and circular aperture. Limit of resolution two-slit Fraunhofer Fraunhofer diffraction pattern with N – Slits .		Teaching Class	4	Yes		Ward Counseling		Yes		

27	5TH WEEK	3	The Fourier transform and its properties the shifting theorem . application of the FT to Fourier diffraction due to single slit.The diffraction grating – normal and oblique incidence determination of wavelength of light		Teaching Class	2	Yes		Quiz	1	Yes		
MONTH: JANUARY													**YEAR: 2015-16**
28	1ST WEEK	3	Fresnel diffraction – Fresnel half period zones.zone plated – diffraction at a straight edge – diffraction of plane waves by a straight edge. A double slit and diffraction grating,diffraction .		Teaching Class	3	Yes		Guest Lecture,Study Project		Yes		
29	2ND WEEK		**PONGAL HOLIDAYS PRE- PUBLIC EXAMINATIONS**										
30	3RD WEEK	1	**REVISION**		Teaching Class	2	Yes						
31	4TH WEEK	4	**REVISION**		Teaching Class	3	Yes						
32	5th WEEK	1	**REVISION**		Teaching Class								
MONTH: FEBRUARY													**YEAR: 2015-16**
33	1ST WEEK	4	**REVISION**		Teaching Class	4	Yes		Group Discussion		Yes		
34	2ND WEEK	3	**REVISION**		Teaching Class	3	Yes						
35	3RD WEEK	2	**REVISION**		Teaching Class	2	Yes						

36	4TH WEEK	2	**REVISION**		Teaching Class	2	Yes						
MONTH: MARCH													**YEAR: 2015-16**
37	1ST WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**										
38	2ND WEEK		**A.K.N.U. PRACTICAL EXAMINATIONS - 2016**										

SIGNATURE OF THE LECTURER

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CURRICULUM PLAN - 2015 - 16

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-I** | **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : S.Sattibabu M.Sc., B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY												**YEAR: 2015-16**	
1	1ST WEEK	4	Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field and related problems.		Teaching Class Assignment	3 1	Yes				Yes		
2	2ND WEEK	3	Vector integration, line, surface and volume integrals.Stokes theorem.		Teaching Class	3	Yes		Ward Counseling		Yes		
3	3RD WEEK	3	Gauss and Greens theorems- simple applications. Fundamentals of vibrations, Damped and forced oscillations		Teaching Class	3	Yes		Book Reviews		Yes		
4	4TH WEEK	3	Motion of variable mass system, motion of a rocket, multi-stage rocket. Collisions in two and three dimensions.		Teaching Class	3	Yes		Ward Counseling		Yes		
5	5th WEEK	2	concept of impact parameter scattering cross-section. Rutherford scattering.Definition of Rigid body, rotational kinematic relations		Teaching Class Unit I	1 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST												**YEAR: 2015-16**	
6	1ST WEEK		**I MID Examinations**								Yes		

7	2ND WEEK	3	Equation of motion for a rotating body, angular momentum and inertial tensor. Eulers equation, precession of a top, Gyroscope.		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	4	Mechanics of continuous media and Central Forces Classification of beams, types of bending, point load, distributed load		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	4	shearing force and bending moment. sign conventions simple supported beam carrying a concentrated load at mid span, cantilever with an end load.		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2015-16**

10	1ST WEEK	4	Central forces – definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class Assignment	3 1	Yes		Study Projects		Yes		
11	2ND WEEK	4	Equation of motion under a central force motion under inverse square law,		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK	4	Derivation of Kepler's laws.		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
13	4TH WEEK	3	Special theory of relativity, Galilean relativity, absolute frames,		Teaching Class	3	Yes		Ward Counseling Seminars		Yes		
14	5th WEEK	2	Michelson-Morley experimentPostulates of special theory of relativity.		Teaching Class	1	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2015-16**

15	1ST WEEK		**II MID Examinations**								Yes		

16	2ND WEEK	2	Postulates of special theory of relativity. Lorentz transformation.		Teaching Class	1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	time dilation, length contraction, mass-energy relation.		Teaching Class Unit IV	2 1	Yes		Ward Counseling, Quiz		Yes		
18	5th WEEK	2	**REVISION**										

MONTH: NOVEMBER **YEAR: 2015-16**

19	2ND WEEK	3	**REVISION**										
20	3RD WEEK	4	**PRACTICAL EXAMINATIONS**										
21	4th WEEK	4	**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2015 - 16

Department :Physics

CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II

PAPER: Waves & Oscillations

Name of the Lecturer : S.Sattibabu M.Sc., B.Ed.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: DECEMBER													**YEAR: 2015-16**
1	1ST WEEK	3	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	3	Yes						
2	2ND WEEK	4	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic		Teaching Class	4	Yes		Ward Counseling,		Yes		
3	3rd WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class Unit V	2 1	Yes		Guest Lecture	1	Yes		
4	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling		Yes		
5	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						
MONTH: JANUARY													**YEAR: 2015-16**
6	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	2	Yes		Guest Lecture,	1	Yes		

7	2ND WEEK		**I MID Examinations**									Yes		
8	3RD WEEK	2	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	2	Yes		Study Projects		Yes		
9	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one		Teaching Class	3	Yes						
10	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1							
MONTH: FEBRUARY													**YEAR: 2015-16**
11	1ST WEEK	2	General solution of wave equation and its significance.		Teaching Class	2	Yes						
12	2ND WEEK	2	General solution of wave equation and its significance.		Teaching Class	1	Yes		Quiz	1	Yes		
13	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,				Yes						
14	4TH WEEK	2	energy transport, transverse impedance.				Yes						
MONTH: MARCH													**YEAR: 2015-16**
15	1ST WEEK		**II MID Examinations**								Yes		
16	2ND WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic		Teaching Class	2	Yes		Group Discussion		Yes		

17	3RD WEEK	3	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	3	Yes						
18	4TH WEEK	2	Noise Pollution – origin, effect on the environment - prevention		Teaching Class	2	Yes		Study Project		Yes		
MONTH: APRIL													YEAR: 2015-16
19	1ST WEEK		**REVISION**										
20	2ND WEEK		**PRACTICAL EXAMINATIONS**										
21	3RD WEEK		**SEMESTER END EXAMINATIONS**										
22	4TH WEEK		**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2015 - 16

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-I** | **PAPER: I -Mechanics and Properties of Matter**

Name of the Lecturer : M.Bhimeswara Reddy M.Sc.

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
					ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	ACTIVITY	HOURS ALLOTTED	WHETHER CONDUCTED	IF NOT, ALTERNATE DATE	
MONTH: JULY												**YEAR: 2015-16**	
1	1ST WEEK	4	Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field and related problems.		Teaching Class Assignment	3 1	Yes				Yes		
2	2ND WEEK	3	Vector integration, line, surface and volume integrals.Stokes theorem.		Teaching Class	3	Yes		Ward Counseling		Yes		
3	3RD WEEK	3	Gauss and Greens theorems- simple applications. Fundamentals of vibrations, Damped and forced oscillations		Teaching Class	3	Yes		Book Reviews		Yes		
4	4TH WEEK	4	Motion of variable mass system, motion of a rocket, multi-stage rocket. Collisions in two and three dimensions.		Teaching Class	4	Yes		Ward Counseling		Yes		
5	5th WEEK	2	concept of impact parameter scattering cross-section. Rutherford scattering.Definition of Rigid body, rotational kinematic relations		Teaching Class Unit I	1 1	Yes		Guest Lecture, Class Room Seminars	1 1	Yes		
MONTH: AUGUST												**YEAR: 2015-16**	
6	1ST WEEK		**I MID Examinations**								Yes		

7	2ND WEEK	3	Equation of motion for a rotating body, angular momentum and inertial tensor. Eulers equation, precession of a top, Gyroscope.		Teaching Class	3	Yes		Ward Counseling		Yes		
8	3RD WEEK	4	Mechanics of continuous media and Central Forces Classification of beams, types of bending, point load, distributed load		Teaching Class Unit II	2 1	Yes		Group Discussion	1	Yes		
9	4TH WEEK	4	shearing force and bending moment. sign conventions simple supported beam carrying a concentrated load at mid span, cantilever with an end load.		Teaching Class	4	Yes		Ward Counseling		Yes		

MONTH: SEPTEMBER **YEAR: 2015-16**

10	1ST WEEK	4	Central forces – definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy		Teaching Class Assignment	3 1	Yes		Study Projects		Yes		
11	2ND WEEK	4	Equation of motion under a central force motion under inverse square law,		Teaching Class	3	Yes		Ward Counseling, Book Reviews	1	Yes		
12	3RD WEEK	4	Derivation of Kepler's laws.		Teaching Class Unit III	2 1	Yes		QUIZ	1	Yes		
13	4TH WEEK	3	Special theory of relativity, Galilean relativity, absolute frames,		Teaching Class	3	Yes		Ward Counseling Seminars		Yes		
14	5th WEEK	2	Michelson-Morley experimentPostulates of special theory of relativity.		Teaching Class	1	Yes		Group Discussion	1	Yes		

MONTH: OCTOBER **YEAR: 2015-16**

15	1ST WEEK		**II MID Examinations**								Yes		

16	2ND WEEK	2	Postulates of special theory of relativity. Lorentz transformation.		Teaching Class	1	Yes		Ward Counseling, Class Room Seminars	1	Yes		
17	3RD WEEK	3	time dilation, length contraction, mass-energy relation.		Teaching Class Unit IV	2 1	Yes		Ward Counseling, Quiz		Yes		
18	5th WEEK	2	**REVISION**										

MONTH: NOVEMBER **YEAR: 2015-16**

19	2ND WEEK	3	**REVISION**										
20	3RD WEEK	4	**PRACTICAL EXAMINATIONS**										
21	4th WEEK	4	**SEMESTER END EXAMINATIONS**										

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CURRICULUM PLAN - 2015 - 16

Department :Physics | **CLASS: I B.Sc. (MPC and MPCS) SEMISTER-II** | **PAPER: Waves & Oscillations**

Name of the Lecturer : M.Bhimeswara Reddy M.Sc.,

SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPICS	ADDITIONAL INPUTS / VALUES ADDITION	CURRICULAR ACTVITY				CO-CURRICULAR ACTIVITY				REMARKS
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MONTH: DECEMBER													**YEAR: 2015-16**
1	1ST WEEK	3	Simple harmonic oscillator, and solution of the differential equation– Physical . characteristics of SHM		Teaching Class	3	Yes						
2	2ND WEEK	4	torsion pendulum. measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic		Teaching Class	4	Yes		Ward Counseling,		Yes		
3	3rd WEEK	4	Lissajous figures, Damped harmonic oscillator, solution of the differential equation of damped oscillator.		Teaching Class Unit V	2 1	Yes		Guest Lecture	1	Yes		
4	4th WEEK	2	Energy considerations.Relaxation time quality factor		Teaching Class	2	Yes		Ward Counseling		Yes		
5	5th WEEK	2	differential equation of forced oscillator and its solution. logarithmic decrement.		Teaching Class	2	Yes						
MONTH: JANUARY													**YEAR: 2015-16**
6	1ST WEEK	3	Complex vibrations Fourier theorem and evaluation of the Fourier coefficients.		Teaching Class	2	Yes		Guest Lecture,	1	Yes		

7	2ND WEEK		**I MID Examinations**								Yes		
8	3RD WEEK	2	Analysis of periodic wave functions-square wave, triangular wave.Longitudinal vibrations in bars.		Teaching Class	2	Yes		Study Projects		Yes		
9	4TH WEEK	3	wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one		Teaching Class	3	Yes						
10	5th WEEK	1	Transverse wave propagation along a stretched string.		Teaching Class	1							
MONTH: FEBRUARY													**YEAR: 2015-16**
11	1ST WEEK	2	General solution of wave equation and its significance.		Teaching Class	2	Yes						
12	2ND WEEK	2	General solution of wave equation and its significance.		Teaching Class	1	Yes		Quiz	1	Yes		
13	3RD WEEK	3	Modes of vibration of stretched string clamped at both ends,Overtones,				Yes						
14	4TH WEEK	2	energy transport, transverse impedance.				Yes						
MONTH: MARCH													**YEAR: 2015-16**
15	1ST WEEK		**II MID Examinations**								Yes		
16	2ND WEEK	2	Ultrasonics Ultrasonics, properties of ultrasonic waves		Teaching Class	2	Yes		Group Discussion		Yes		

17	3RD WEEK	3	production of ultrasonics by piezoelectric and magnetostriction methods Detection of ultrasonics, Applications of ultrasonic waves.		Teaching Class	3	Yes						
18	4TH WEEK	2	Noise Pollution – origin, effect on the environment - prevention		Teaching Class	2	Yes		Study Project		Yes		
MONTH: APRIL													**YEAR: 2015-16**
19	1ST WEEK		**REVISION**										
20	2ND WEEK		**PRACTICAL EXAMINATIONS**										
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