Arts, Science and Commerce College, Indapur, Dist. Pune

TEACHING AND EVALUATION PLAN

Name of the teacher	**Dr. Veer Shivaji Shamrao**	**Year: 2018-19**	**Semester: 3**
Subject: Physics		**Paper PH212: ELECTRONICS**	**Class: S.Y.B.Sc.**

Part I : Teaching Plan						**Part II : Evaluation of Plan**			
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Sr. No.	**Month**	**Week**	**No. of working days**	**No. of periods available**	**Topics to be taught**	**No. of periods engaged**	**Topics taught**	**Deviation in periods**	**Remarks**
1	Jun	1&2	8	3	**NETWORK THEOREMS** Kirchhoff's laws (revision) Voltage and Current divider circuits Thevenin's theorem Norton's theorem	3	**NETWORK THEOREMS** Kirchhoff's laws (revision) Voltage and Current divider circuits Thevenin's theorem Norton's theorem	Nil	
		3&4	11	6	Super-position theorem Maximum power transfer theorem (All theorems 1.3 to with proof) Problems.	6	Super-position theorem Maximum power transfer theorem (All theorems 1.3 to 1.6 with proof) Problems.	Nil	
		5	6	3	**BIJUNCTION TRANSISTOR** Revision of bipolar junction transistor, types, symbols and basic action. Configurations (Common Base, Common Emitter & Common Collector)	3	**BIJUNCTION TRANSISTOR** Revision of bipolar junction transistor, types, symbols and basic action Configurations (Common Base, Common Emitter & Common Collector)	Nil	
2	July	1&2	12	6	. Current gain factors (α &β) and their relations. Input, output and transfer characteristics of CE, CB & CC configurations. Biasing methods: Base bias, Emitter feedback and voltage divider DC load lines (CE), Operating point (Q point) Transistor as a switch Problems.	6	. Current gain factors (α &β) and their relations. Input, output and transfer characteristics of CE, CB & CC configurations. Biasing methods: Base bias, Emitter feedback and voltage divider DC load lines (CE), Operating point (Q point) Transistor as a switch Problems.	Nil	
		3&4	12	6	**OPERTAIONAL AMPLIFIERS** Introduction Ideal and practical Characteristics Operational amplifier: IC 741- Block diagram and Pin diagramConcept of virtual groundInverting and non-inverting operational amplifiers with concept of gain	6	**OPERTAIONAL AMPLIFIERS** Introduction Ideal and practical Characteristics Operational amplifier: IC 741- Block diagram and Pin diagramConcept of virtual groundInverting and non-inverting operational amplifiers with concept of gain	Nil	

		5	2	2	Operational amplifier as an adder and substracter.Problems	2	Operational amplifier as an adder and substracter.Problems	Nil	
3	Aug	1&2	10	6	**OSCILLATROS** Concept of positive and negative feedback Barkhausein criteria for an oscillator Construction, working and applications ofPhase shift oscillator using IC-741Problems.	6	**OSCILLATROS** Concept of positive and negative feedback Barkhausein criteria for an oscillator Construction, working and applications ofPhase shift oscillator using IC-741Problems.	Nil	
		3&4	8	4	**POWER SUPPLY** Concept and working of rectifier half wave, full wave and bridge rectifierRipple voltageRC filter circuit	4	**POWER SUPPLY** Concept and working of rectifier half wave, full wave and bridge rectifierRipple voltageRC filter circuit	Nil	
		5	5	3	Unregulated and regulated power supplyConcept of load and line regulation Zener as regulator Problems.	3	Unregulated and regulated power supplyConcept of load and line regulation Zener as regulator Problems.		
4	Sep.	1&2	7	3	**NUMBER SYSTEM AND LOGIC GATES** Number systems: Binary, Binary coded decimal (BCD), Octal, Hexadecimal Addition and subtraction of binary numbers and binary fractions using one's and two's complement.	3	**NUMBER SYSTEM AND LOGIC GATES** Number systems: Binary, Binary coded decimal (BCD), Octal, Hexadecimal Addition and subtraction of binary numbers and binary fractions using one's and two's complement.	Nil	
		3&4	10	5	Basic logic gates (OR, AND, NOT) Derived gates: NOR, NAND, EXOR, EXNOR with symbols and truth tables Boolean Algebra	5	Basic logic gates (OR, AND, NOT) Derived gates: NOR, NAND, EXOR, EXNOR with symbols and truth tables Boolean Algebra	Nil	
		5	6	3	De Morgan's theorems and its verification Problems	3	De Morgan's theorems and its verification Problems	Nil	

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Signature of Teacher

Signature of Head of Department

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Department of Physics
Arts,Science & Commerce
College,Indapur, Dist.Pune

Signature of Faculty In-charge

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Signature of the Principal

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TEACHING AND EVALUATION PLAN

Name of the teacher Mr. Kamble Akin Vasant **Year:** 2018-19 **Semester:** 5

Subject: Physics **Paper** PHY-354: Atomic and Molecular Physics **Class:** T.Y.B.Sc.

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	Jun	1&2	8	3	**Atomic structure** . Revision of various atomic models Vector atom model (Concepts of space quantization and electron spin) Pauli Exclusion Principle and electron configuration, Quantum states, Spectral notations of quantumstates. Problems	3	**Atomic structure** . Revision of various atomicmodels Vector atom model (Concepts of spacequantization and electron spin) Pauli ExclusionPrinciple and electron configuration, Quantumstates, Spectral notations of quantum states. Problems	Nil	
		3&4	11	6	**One and Two Valence electron systems** Spin-Orbit Interaction (Single valence electron atom), Energy levels of Na-atom, Selection rules, Spectra of sodium atom, Sodium doublet	6	**One and Two Valence electron systems** Spin-Orbit Interaction (Single valence electron atom), Energy levels of Na-atom, Selection rules, Spectra of sodium atom, Sodium doublet	Nil	
		5	6	3	Spectral terms of two electron atoms, terms for equivalent electrons	3	Spectral terms of two electron atoms, terms for equivalent electrons	Nil	
2	July	1&2	12	6	Singlet-Triplet separations for interaction energy of LS coupling, Lande's interval rule, Spectra of Helium atom. . Problems	6	Singlet-Triplet separations for interaction energy of LS coupling, Lande's interval rule, Spectra of Helium atom. . Problems	Nil	
		3&4	12	6	**Zeeman Effect** Zeeman EffectExperimental arrangement Normal and anomalous Zeeman Effect	6	**Zeeman Effect** Zeeman EffectExperimental arrangement Normal and anomalous Zeeman Effect	Nil	
		5	2	2	Stark effect (Qualitative discussion) Applications of Zeeman effects Problems	2	Stark effect (Qualitative discussion) Applications of Zeeman effects Problems	Nil	

3	**Aug**	1&2	10	6	**Molecular spectroscopy** Introduction of molecular spectra and its types Rotational energy levels, Rotational spectra of rigid diatomic molecule Vibrational energy levels	6	**Molecular spectroscopy** Introduction of molecular spectra and its types Rotational energy levels, Rotational spectra of rigid diatomic molecule Vibrational energy levels	Nil	
		3&4	8	4	Rotational and Vibrational spectra Electronic spectra of molecules	4	Rotational and Vibrational spectra Electronic spectra of molecules	Nil	
		5	5	3	Applications of UV-Vis spectroscopy Problems	3	Applications of UV-Vis spectroscopy Problems		
4	**Sep.**	1&2	7	3	**Raman spectroscopy** History of Raman effect, Molecular polarizability	3	**Raman spectroscopy** History of Raman effect, Molecular polarizability	Nil	
		3&4	10	5	Classical theory and Quantum theory of Raman Effect Characteristics Raman Lines	5	Classical theory and Quantum theory of Raman Effect Characteristics Raman Lines	Nil	
		5	6	3	Applications of Raman spectroscopy Problems	3	Applications of Raman spectroscopy Problems	Nil	

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TEACHING AND EVALUATION PLAN

Name of the teacher Mr. Holkunde Viresh Chandrakant **Year:** 2018-19 **Semester:** 5

Subject: Physics **Paper** PHY-352: Electrodynamics **Class:** T.Y.B.Sc.

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	Jun	1&2	8	3	**Electrostatics** Revision of Coulomb's law, Gauss law, Electric field, Electrostatic Potential. Potential energy of system ofcharges.Statement of Poisson's and Laplace's equation,	3	**Electrostatics** Revision of Coulomb's law. Gauss law, Electric field, Electrostatic Potential. Potential energy of system ofcharges.Statement of Poisson's and Laplace's equation.	Nil	
		3&4	11	6	Boundary Value problems in electrostatics-Solution of Laplace equation in Cartesian system, Boundary conditions.	6	Boundary Value problems in electrostatics-Solution of Laplace equation in Cartesian system, Boundary conditions.	Nil	
		5	6	3	Polarization **P**, Electric displacement **D**, Electric susceptibility and dielectric constant, bound volume and surface charge densities.	3	Polarization **P**, Electric displacement **D**, Electric susceptibility and dielectric constant, bound volume and surface charge densities.	Nil	
2	July	1&2	12	6	**e.** Electric field at an exterior and interior point of dielectric	6	**e.** Electric field at an exterior and interior point of dielectric	Nil	
		3&4	12	6	**Magnetostatics** Concepts of magnetic induction, magnetic flux and magnetic field. Magnetic induction due to straight current carrying conductor, magnetization of matter, relationship between **B, H** and **M.**	6	**Magnetostatics** Concepts of magnetic induction, magnetic flux and magnetic field. Magnetic induction due to straight current carrying conductor, magnetization of matter, relationship between **B, H** and **M.**	Nil	
		5	2	2	Boundary conditions at the interface of two magnetic media (Normal and tangential components	2	Boundary conditions at the interface of two magnetic media (Normal and tangential components	Nil	

3	Aug	1&2	10	6	Day to day applications of Electrodynamics. Concept of electromagnetic induction, Faradays law of induction	6	Day to day applications of Electrodynamics. Concept of electromagnetic induction, Faradays law of induction	Nil	
		3&4	8	4	Lenz's law, displacement current, generalization	4	Lenz's law, displacement current, generalization	Nil	
		5	5	3	Amperes' law. Maxwell's equations (Differential and Integral form)	3	Amperes' law. Maxwell's equations (Differential and Integral form)		
4	Sep.	1&2	7	3	physical significance	3	physical significance	Nil	
		3&4	10	5	Polarization, reflection and refraction of electromagnetic waves through media.	5	Polarization, reflection and refraction of electromagnetic waves through media.	Nil	
		5	6	3	Wave equation and plane waves in free space. Poynting theorem and Poynting vector.	3	Wave equation and plane waves in free space. Poynting theorem and Poynting vector.	Nil	

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