

Lecture Plan - APPLIED PHYSICS II					
Text Book		Concepts in Physics by HC Verma, Vol. I & II, Bharti Bhawan Ltd. New Delhi			
		Practical Physics, by C. L. Arora, S Chand Publication			
Course		DIPLOMA	Branch	CIVIL/ME	2nd Semester
Paper code:				Name of the Subject:	APPLIED PHYSICS – II
Lecture No.	Topics to be covered	Learning Objective		Books	Mode of Teaching
1	Wave motion, transverse and longitudinal wave motion with examples, Terms used in wave motion like displacement, amplitude, time period, frequency, wavelength, wave velocity, relationship among wave velocity, frequency and wave length	The Student will learn about basics of wave motion, transverse and longitudinal wave motion with examples, Terms used in wave motion like displacement, amplitude, time period, frequency, wavelength, wave velocity,		Text Books	White Board/PPT
2	Wave motion, transverse and longitudinal wave motion with examples, Terms used in wave motion like displacement, amplitude, time period, frequency, wavelength, wave velocity, relationship among	The Student will learn about basics of wave motion, transverse and longitudinal wave motion with examples, Terms used in wave motion like displacement, amplitude, time period, frequency, wavelength, wave velocity, relationship among		Text Books	White Board/PPT
3	Simple Harmonic Motion (SHM): definition, examples	The Student will learn about basics of Simple Harmonic Motion (SHM): definition, examples		Text Books	White Board/PPT
4	Simple Harmonic Motion (SHM): definition, examples	The Student will learn about basics of Simple Harmonic Motion (SHM): definition, examples		Text Books	White Board/PPT
5	Cantilever (definition, formula of time period (without derivation)	The Student will learn about basics of Cantilever (definition, formula of time period (without derivation)		Text Books	White Board/PPT
6	Cantilever (definition, formula of time period (without derivation)	The Student will learn about basics of Cantilever (definition, formula of time period (without derivation)		Text Books	White Board/PPT
7	Free, forced and resonant vibrations with examples	The Student will learn about basics of Free, forced and resonant vibrations with examples		Text Books	White Board/PPT
8	Free, forced and resonant vibrations with examples	The Student will learn about basics of Free, forced and resonant vibrations with examples		Text Books	White Board/PPT
9	Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound, methods to control reverberation time.	The Student will learn about basics of Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound, methods to control reverberation time.		Text Books	White Board/PPT
10	Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound, methods to control reverberation time.	The Student will learn about basics of Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound, methods to control reverberation time.		Text Books	White Board/PPT
11	Ultrasonics – Introduction and their engineering applications (cold welding, drilling, SONAR)	The Student will learn about basics of Ultrasonics – Introduction and their engineering applications (cold welding, drilling, SONAR)		Text Books	White Board/PPT
12	Ultrasonics – Introduction and their engineering applications (cold welding, drilling, SONAR)	The Student will learn about basics of Ultrasonics – Introduction and their engineering applications (cold welding, drilling, SONAR)		Text Books	White Board/PPT
13	Reflection and refraction with laws, refractive index, lens formula (no derivation), power of lens (related numerical problems).	The Student will learn about basics of Reflection and refraction with laws, refractive index, lens formula (no derivation), power of lens (related numerical problems).		Text Books	White Board/PPT
14	Reflection and refraction with laws, refractive index, lens formula (no derivation), power of lens (related numerical problems).	The Student will learn about basics of Reflection and refraction with laws, refractive index, lens formula (no derivation), power of lens (related numerical problems).		Text Books	White Board/PPT
15	Total internal reflection and its applications, Critical angle and conditions for total internal reflection	The Student will learn about basics of Total internal reflection and its applications, Critical angle and conditions for total internal reflection		Text Books	White Board/PPT
16	Total internal reflection and its applications, Critical angle and conditions for total internal reflection	The Student will learn about basics of Total internal reflection and its applications, Critical angle and conditions for total internal reflection		Text Books	White Board/PPT
17	Microscope, Telescope (definition)	The Student will learn about basics of Microscope, Telescope (definition)		Text Books	White Board/PPT

18	Uses of microscope and telescope	The Student will learn about basics of Uses of microscope and telescope	Text Books	White Board/PPT
19	Coulombs law, unit charge	The Student will learn about basics of Coulombs law, unit charge	Text Books	White Board/PPT
20	Coulombs law, unit charge	The Student will learn about basics of Coulombs law, unit charge	Text Books	White Board/PPT
21	Coulombs law, unit charge	The Student will learn about basics of Coulombs law, unit charge	Text Books	White Board/PPT
22	Electric field, Electric lines of force(definition and properties),Electric flux,Electric Intensity and Electric potential(definition,formula).Electric field	The Student will learn about basics of Electric field, Electric lines of force(definition and properties),Electric flux,Electric Intensity and Electric potential(definition,formula).Electric field	Text Books	White Board/PPT
23	Electric field, Electric lines of force(definition and properties),Electric flux,Electric Intensity and Electric potential(definition,formula).Electric field	The Student will learn about basics of Electric field, Electric lines of force(definition and properties),Electric flux,Electric Intensity and Electric potential(definition,formula).Electric field	Text Books	White Board/PPT
24	Electric field, Electric lines of force(definition and properties),Electric flux,Electric Intensity and Electric potential(definition,formula).Electric field intensity due to a point charge	The Student will learn about basics of Electric field, Electric lines of force(definition and properties),Electric flux,Electric Intensity and Electric potential(definition,formula).Electric field intensity due to a point charge	Text Books	White Board/PPT
25	Gauss law(Statement and derivation)	The Student will learn about basics of Gauss law(Statement and derivation)	Text Books	White Board/PPT
26	Gauss law(Statement and derivation)	The Student will learn about basics of Gauss law(Statement and derivation)	Text Books	White Board/PPT
27	Gauss law(Statement and derivation)	The Student will learn about basics of Gauss law(Statement and derivation)	Text Books	White Board/PPT
28	Capacitor and Capacitance (with formula and units), Series and parallel combination of capacitors (simple numerical problems)	The Student will learn about basics of Capacitor and Capacitance (with formula and units), Series and parallel combination of capacitors (simple numerical problems)	Text Books	White Board/PPT
29	Capacitor and Capacitance (with formula and units), Series and parallel combination of capacitors (simple numerical problems)	The Student will learn about basics of Capacitor and Capacitance (with formula and units), Series and parallel combination of capacitors (simple numerical problems)	Text Books	White Board/PPT
30	Capacitor and Capacitance (with formula and units), Series and parallel combination of capacitors (simple numerical problems)	The Student will learn about basics of Capacitor and Capacitance (with formula and units), Series and parallel combination of capacitors (simple numerical problems)	Text Books	White Board/PPT
31	Electric Current and its Unit, Direct and alternating current	The Student will learn about basics of Electric Current and its Unit, Direct and alternating current	Text Books	White Board/PPT
32	Electric Current and its Unit, Direct and alternating current	The Student will learn about basics of Electric Current and its Unit, Direct and alternating current	Text Books	White Board/PPT
33	Resistance and Specific Resistance(definition and units) Conductance, Series and Parallel combination of Resistances.	The Student will learn about basics of Resistance and Specific Resistance(definition and units) Conductance, Series and Parallel combination of Resistances.	Text Books	White Board/PPT
34	Resistance and Specific Resistance(definition and units) Conductance, Series and Parallel combination of Resistances.	The Student will learn about basics of Resistance and Specific Resistance(definition and units) Conductance, Series and Parallel combination of Resistances.	Text Books	White Board/PPT
35	Ohm's law (statement and formula),superconductivity(definition only)	The Student will learn about basics of Ohm's law (statement and formula),superconductivity(definition only)	Text Books	White Board/PPT
36	Ohm's law (statement and formula),superconductivity(definition only)	The Student will learn about basics of Ohm's law (statement and formula),superconductivity(definition only)	Text Books	White Board/PPT

37	Ohm's law (statement and formula),superconductivity(definition only)	The Student will learn about basics of Ohm's law (statement and formula),superconductivity(definition only)	Text Books	White Board/PPT
38	Heating effect of current, Electric power, Electric energy and its units	The Student will learn about basics of Heating effect of current, Electric power, Electric energy and its units	Text Books	White Board/PPT
39	Heating effect of current, Electric power, Electric energy and its units	The Student will learn about basics of Heating effect of current, Electric power, Electric energy and its units	Text Books	White Board/PPT
40	Kirchhoff's laws(statement and formula)	The Student will learn about basics of Kirchhoff's laws(statement and formula)	Text Books	White Board/PPT
41	Kirchhoff's laws(statement and formula)	The Student will learn about basics of Kirchhoff's laws(statement and formula)	Text Books	White Board/PPT
42	Kirchhoff's laws(statement and formula)	The Student will learn about basics of Kirchhoff's laws(statement and formula)	Text Books	White Board/PPT
43	Introduction to magnetism, Types of magnetic materials. Dia, para and ferromagnetic materials with examples.	The Student will learn about basics of Introduction to magnetism, Types of magnetic materials. Dia, para and ferromagnetic materials with examples.	Text Books	White Board/PPT
44	Introduction to magnetism, Types of magnetic materials. Dia, para and ferromagnetic materials with examples.	The Student will learn about basics of Introduction to magnetism, Types of magnetic materials. Dia, para and ferromagnetic materials with examples.	Text Books	White Board/PPT
45	Introduction to magnetism, Types of magnetic materials. Dia, para and ferromagnetic materials with examples.	The Student will learn about basics of Introduction to magnetism, Types of magnetic materials. Dia, para and ferromagnetic materials with examples.	Text Books	White Board/PPT
46	Magnetic field,magnetic intensity, magnetic lines of force, magnetic flux and their units	The Student will learn about basics of Magnetic field,magnetic intensity, magnetic lines of force, magnetic flux and their units	Text Books	White Board/PPT
47	Magnetic field,magnetic intensity, magnetic lines of force, magnetic flux and their units	The Student will learn about basics of Magnetic field,magnetic intensity, magnetic lines of force, magnetic flux and their units	Text Books	White Board/PPT
48	Magnetic field,magnetic intensity, magnetic lines of force, magnetic flux and their units	The Student will learn about basics of Magnetic field,magnetic intensity, magnetic lines of force, magnetic flux and their units	Text Books	White Board/PPT
49	Electromagnetic induction (definition)	The Student will learn about basics of Electromagnetic induction (definition)	Text Books	White Board/PPT
50	Electromagnetic induction (definition)	The Student will learn about basics of Electromagnetic induction (definition)	Text Books	White Board/PPT
51	Energy bands, types of materials (insulator, semi conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction diode and its V-I characteristics	The Student will learn about basics of Energy bands, types of materials (insulator, semi conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction diode and its V-I characteristics	Text Books	White Board/PPT
52	Energy bands, types of materials (insulator, semi conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction diode and its V-I characteristics	The Student will learn about basics of Energy bands, types of materials (insulator, semi conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction diode and its V-I characteristics	Text Books	White Board/PPT
53	Energy bands, types of materials (insulator, semi conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction diode and its V-I characteristics	The Student will learn about basics of Energy bands, types of materials (insulator, semi conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction diode and its V-I characteristics	Text Books	White Board/PPT
54	Diode as rectifier – half wave and full wave rectifier (centre tap only)	The Student will learn about basics of Diode as rectifier – half wave and full wave rectifier (centre tap only)	Text Books	White Board/PPT
55	Diode as rectifier – half wave and full wave rectifier (centre tap only)	The Student will learn about basics of Diode as rectifier – half wave and full wave rectifier (centre tap only)	Text Books	White Board/PPT

56	Semiconductor transistor; pnp and npn (Introduction only).	The Student will learn about basics of Semiconductor transistor; pnp and npn (Introduction only).	Text Books	White Board/PPT
57	Semiconductor transistor; pnp and npn (Introduction only).	The Student will learn about basics of Semiconductor transistor; pnp and npn (Introduction only).	Text Books	White Board/PPT
58	Semiconductor transistor; pnp and npn (Introduction only).	The Student will learn about basics of Semiconductor transistor; pnp and npn (Introduction only).	Text Books	White Board/PPT
59	Lasers: full form, characteristics, engineering and medical applications of lasers	The Student will learn about basics of Lasers: full form, characteristics, engineering and medical applications of lasers	Text Books	White Board/PPT
60	Lasers: full form, characteristics, engineering and medical applications of lasers	The Student will learn about basics of Lasers: full form, characteristics, engineering and medical applications of lasers	Text Books	White Board/PPT
61	Fibre optics: Introduction to optical fibers(definition ,parts),applications of optical fibers in different fields.	The Student will learn about basics of Fibre optics: Introduction to optical fibers(definition ,parts),applications of optical fibers in different fields.	Text Books	White Board/PPT
62	Fibre optics: Introduction to optical fibers(definition ,parts),applications of optical fibers in different fields.	The Student will learn about basics of Fibre optics: Introduction to optical fibers(definition ,parts),applications of optical fibers in different fields.	Text Books	White Board/PPT
63	Introduction to nanotechnology(definition of nanomaterials with examples) and its applications.	The Student will learn about basics of Introduction to nanotechnology(definition of nanomaterials with examples) and its applications.	Text Books	White Board/PPT
64	Introduction to nanotechnology(definition of nanomaterials with examples) and its applications.	The Student will learn about basics of Introduction to nanotechnology(definition of nanomaterials with examples) and its applications.	Text Books	White Board/PPT

Note for Faculty: Any variation in Leture plan and actual syllabus coverage is to be notified to HOD/Principal with valid reason and measures to cover that variation.