**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Session Odd Semester**

**(2017-18)**

**Class: B.Sc.III Name of the Teacher: Suresh Kumar**

**Subject: Physics Period :3rd**

**Paper : II/I Room No : 129**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No** | **Date From** | **Date Upto** | | **Topics to be covered** |
| Week 1 | July 22 & July 24 2017 | July 29, 2017 | | Concept of current and voltage sources, Thevenin’s theorem/ Symmetry operations two dimensional crystal. |
| Week 2 | July 31 2017 | Aug 5, 2017 | | Norton’s theorem, sources conversion/ Symmetry operations two dimensional crystal. |
| Week 3 | Aug 7, 2017 | Aug 12, 2017 | | CRO, Block diagram, construction and principle of working/ Two dimensional Bravais lattices |
| Week 4 | Aug 14, 2017 | Aug 19, 2017 | | Use of CRO for frequency, time period, special features of dual trace phase measurements/ Two dimensional Bravais lattices |
| Week 5 | Aug 21, 2017 | Aug 26, 2017 | | Energy band diagrams in semiconductors, direct and indirect semiconductors/ Three dimensional Bravais lattices |
| Week 6 | Aug 28, 2017 | Sept 2, 2017 | | Formula to calculate position of Fermi level in p and n semiconductors, Barrier formation/ Three dimensional Bravais lattices |
| Week 7 | Sept 4, 2017 | Sept 9, 2017 | | Energy band diagram of p-n junction, formula for depletion width, qualitative ideas of current flow mechanism in forward and reverse biased diode / Basic primitive cells, crystal planes and Miller indices, Diamond and NaCl structure |
| Week 8 | Sept 11, 2017 | Sept 16, 2017 | | The characteristics of static and dynamic resistance, depletion and diffusion capacitance, Zener diode, LED, photodiode and solar cell/ Basic primitive cells, crystal planes and Miller indices, Diamond and NaCl structure |
| Week 9 | Sept 18, 2017 | Sept 23, 2017 | | Diode circuit, clipping circuits, rectification: half wave, full wave and bridge rectifiers/ Crystal diffraction , Bragg’s law, determination of crystal structure |
| Week 10 | Sept 25, 2017 | Sept 29, 2017 | | Filter circuits(C, LC and π-filter), rectification efficiency and ripple factor in LC filter/ Crystal diffraction , Bragg’s law, determination of crystal structure |
| **Autumn Break (30 Sept 2017- 09 Oct 2017)**  **Mid Semester Exam (10 Oct 2017 – 17 Oct 2017)** | | | | |  |  | Voltage regulation circuit using Zener diode, voltage amplifier circuit /Laue’s equations, Reciprocal lattices of SC |
| Week 11 | Oct 18, 2017 | | Oct 21, 2017 | BJT: Structure and working, different current in transistor, switching action/Laue’s equations, Reciprocal lattices of SC |
| Week 12 | Oct 23, 2017 | | Oct 28, 2017 | Characteristics of CB, CE and CC configuration, active, cut off and saturation region/ Reciprocal lattices of BCC and FCC |
| Week 13 | Oct 30, 2017 | | Nov 4, 2017 | Load line analysis of transistors, Q-point, transistor biasing and stabilization of operating point, fixed bias/ Reciprocal lattices of BCC and FCC |
| Week 14 | Nov 6, 2017 | | Nov 11, 2017 | Collector to base bias, bias circuit with emitter resistor, voltage divider biasing circuit/Bragg’s law in reciprocal lattice, Brillion zones |
| Week 15 | Nov 13, 2017 | | Nov 18, 2017 | Working and analysis of CE amplifier using h-parameters, current, voltage and power gain, input and output impedance/Bragg’s law in reciprocal lattice, Brillion zones |
| Week 16 | Nov 20, 2017 | | Nov 25, 2017 | Class A,B amplifiers/The derivation in two dimensions, structure factor |
| Week 17 | Nov 27, 2017 | | Dec 1, 2017 | Class C amplifiers/ atomic form factor. |

**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Session Even Semester**

**(2017-18)**

**Class: B.Sc.III Name of the Teacher:Suresh Kumar**

**Subject: Physics Period :3rd**

**Paper : I/II Room No : 129**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No** | **Date From** | **Date Upto** | | **Topics to be covered** |
| Week 1 | Jan 08, 2018 | Jan 13, 2018 | | Lattice vibrations and phonons/Structure and working of JFET, characteristics, and transconductance curve |
| Week 2 | Jan 15, 2018 | Jan 20, 2018 | | Lattice vibrations and phonons/ FET amplifier and its voltage gain, structure and working of MOSFET |
| Week 3 | Jan 22, 2018 | Jan 27, 2018 | | Scattering of photons by phonons/Feed back in amplifier, voltage gain of negative feedback amplifier |
| Week 4 | Jan 29, 2018 | Feb 3, 2018 | | Scattering of photons by phonons/Advantages of negative voltage feedback, negative feedback current circuit, emitter follower |
| Week 5 | Feb 5, 2018 | Feb 10, 2018 | | Dynamics of a linear chain of similar atoms and chain of two types of atoms/Theory of sinusoidal oscillations, loop gain and phase, lead-lag RC circuit |
| Week 6 | Feb 12, 2018 | Feb 17, 2018 | | Dynamics of a linear chain of similar atoms and chain of two types of atoms/Wien bridge oscillator, Barkhausen criterion of sustained oscillations |
| Week 7 | Feb 19, 2018 | Feb 24, 2018 | | Optical and acoustic modes, Density of modes/Positive feedback amplifier LC and Colpitts oscillators |
| Week 8 | Feb 26, 2018 | Mar 03 , 2018 | | Optical and acoustic modes, Density of modes/Hartley oscillator |
| **2nd week March (Mid Semester Exam)** | | | | |  |  | **First Week March (Mid Semester Exam)** |
| Week 9 | March 15, 2018 | | March 17, 2018 | Einstein and Debye theories of specific heats of solids/OPAMP: characteristics of ideal and practical OPAMP 741, open-loop and close-loop gain, characteristics and application-inverting and non-inverting amplifier, adder, subtractor |
| Week 10 | March 19 , 2018 | | March 24, 2018 | Einstein and Debye theories of specific heats of solids/Differentiator and integrator, comparator, timerIC555, pin diagram and its application as astable and monostable multivibrator |
| Week 11 | March 26, 2018 | | March 31, 2018 | Magnetic classification of materials(dia, para, ferro, ferri, antiferro)/Analog and digital circuits, binary numbers, decimal to binary conversions, AND, OR, NOT gate, NAND , NOR gates as universal gates, XOR and XNOR gates |
| Week 12 | April 02, 2018 | | April 07, 2018 | Magnetic classification of materials(dia, para, ferro, ferri, antiferro)/De Morgan’s theorem, simplification of logic circuits using Boolean algebra, Minterms and Maxterms, conversion of a truth table into an equivalent logic circuit by sum of products method. |
| Week 13 | April 09, 2018 | | April 14 , 2018 | Langevin theory of dia and paramagnetism/Analog and digital communication systems, Amplitude and Frequency modulation, power in AM wave |
| Week 14 | April 16, 2018 | | April 21, 2018 | Langevin theory of dia and paramagnetism/ Generation and detection |
| Week 15 | April 23, 2018 | | April 28, 2018 | Quantum theory, Weiss’s theory of ferromagnetism, temperature dependence/Brief account of Satellite communication |
| Week 16 | April 30, 2018 | | May 05, 2018 | Quantum theory, Weiss’s theory of ferromagnetism, temperature dependence/Sky-wave communication, Hysteresis of ferromagnetic materials/ Mobile communication |