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

**Teaching Plan Session Even Semester**

**(2017-18)**

**Class: B.Sc IV (Semester) Name of the Teacher:Neeru Sehgal**

**Subject: Physics Period :V**

**Paper : C Room No : 129**

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| **S. No** | **Date From** | **Date Upto** | | **Topics to be covered** | |
| Week 1 | Jan 08, 2018 | Jan 13, 2018 | | Bohr model of atom, Hydrogen atom spectrum, energy level diagram of hydrogen, excitation and ionization potential | |
| Week 2 | Jan 15, 2018 | Jan 20, 2018 | | Electron spin, spin magnetic moment, orbital angular momentum, orbital magnetic moment, space quantization of orbital and spin angular momentum, Larmor’s frequency ,class test | |
| Week 3 | Jan 22, 2018 | Jan 27, 2018 | | Vector atom model,total angular momentum, Stern Gerlach expt., spin orbit interaction | |
| Week 4 | Jan 29, 2018 | Feb 3, 2018 | | Fine structure of hydrogen,Lande g-factor for electron, Degenerace, numericals | |
| Week 5 | Feb 5, 2018 | Feb 10, 2018 | | Zeeman effect and experiment, classical theory of normal Zeeman effect,quantum theory .Zeeman shift | |
| Week 6 | Feb 12, 2018 | Feb 17, 2018 | | Anomalous Zeeman effect, Quantum mechanical theory of Anomalous Zeeman effect, Anomalous Zeeman effect in Na | |
| Week 7 | Feb 19, 2018 | Feb 24, 2018 | | Interaction of radiation with matter,transitionprobability, radiative transition | |
| Week 8 | Feb 26, 2018 | Mar 03 , 2018 | | Selection rules, life time,Paschen-Back Effect, stark effect, numericals,class test | |
| **2nd week March (Mid Semester Exam)** | | | | | |  |  | **First Week March (Mid Semester Exam)** |
| Week 9 | March 15, 2018 | | March 17, 2018 | | Identical particles, symmetric and antisymmetricwavefunctions,Pauli exclusion principle, exchangeforce,shells and subshells in atom |
| Week 10 | March 19 , 2018 | | March 24, 2018 | | Coupling scheme-LS coupling,jjcoupling,spectral terms for LS coupling, Slater determinant, Hund’s rule |
| Week 11 | March 26, 2018 | | March 31, 2018 | | Atomic spectra of H,Na,He,Hg,, Production of X-ray, Properties, applications of X-rays, diffraction of Xays, Bragglaw, |
| Week 12 | April 02, 2018 | | April 07, 2018 | | absorption of X-rays, X-ray spectrum-origin of continuous spectrum, origin of characteristics spectrum,Moseley law |
| Week 13 | April 09, 2018 | | April 14 , 2018 | | Auger effect,molecularbonding,H ion,H molecule,complex molecules,types of molecular spectra |
| Week 14 | April 16, 2018 | | April 21, 2018 | | Symmetric structures, rotational energy leyels, rotational spectrum, Vibrational energy levels,vibrationalspectrum. |
| Week 15 | April 23, 2018 | | April 28, 2018 | | Vib.-rotational spectrum, Electronic spectrum,Ramaneffect, classicaltheory, Quantumtheory,experimental study |
| Week 16 | April 30, 2018 | | May 05, 2018 | | Selection rules of Raman effect,applications,nuclear magnetic resonance, Class test |
|  |  | |  | | Franck Condon principle,fluorescence and phosphorescence, Numerical |