**CURRICULUM PLAN 2025-26**

Odd Semester: I, III, V

**Dr. Savita Sharma**

Department of Physics

**DSE Paper: Physics of Materials**

**B.Sc. (H) Physics – III year, V Sem**

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| Content | Allocation of Lectures | Month-wise Schedule followed | Tutorial/assignment/  presentation etc |
| **Physics of Materials** | | |  |
| **Unit – II - Dielectric and magnetic materials:**  Dielectrics, Ferroelectric, Piezoelectric and Pyroelectric materials, applications of  ferroelectrics in capacitors and memory device, Piezoelectrics in micro positioner and actuator,  Pyroelectrics in radiation detectors and thermometry  Classification and applications of soft and hard magnetic materials, application in transformers,  memory device, introduction of spintronics based systems (spin transport) | 9 | 01-August to 30-Sep | Syllabus Overview  Reference books  Derivations and  Numericals  Discussion of  Important questions |
| **Unit – III – Polymers:**  Chemical structure of polymers of few thermoplastic (polyethylene, PVC, PTFE, PMMA,  Polyester, Nylons) and thermosetting (Epoxy resin) polymers, conducting polymersapplication  in organicelectronics | 3 | 01 October to 21-October | Derivations and  Numericals  Discussion of  Important questions  Home Register Checking |
| **Unit – IV – Liquid crystals:**  Classification of liquid crystals, structural and orientational ordering (isotropic to Nematic),  thermotropic liquid crystals, Phases and phase transitions; anisotropic; Birefringence and  display devices | 3 | 22 October- to 25-November | Derivations and  Numericals  Revision of Syllabus,  Discussion of previous year Question papers,  Test of IA. |