

**CURRICULUM PLAN of Prof. Rachana Kumar**  
(Even Semester, 2025-26)

**B. Sc. (H) Physics, I Year**

**Semester-II**

**I) Name of the Paper: – DSC-4: Mathematical Physics-II, 1 Period per week**

Contents	Allocation of Lectures	Month wise schedule to be followed	Tutorial/Assignment/ Presentation etc.
<p><b>Unit-I</b></p> <p><b>Orthogonal Curvilinear Coordinates:</b></p> <p>Orthogonal Curvilinear Coordinates, Scale factors, element of area and volume in spherical and cylindrical coordinate Systems. Derivation of Gradient, Divergence, Curl and Laplacian in Spherical and Cylindrical Coordinate Systems.</p>	13 lectures	February-March 1 <sup>st</sup> march-8 <sup>th</sup> march Mid Sem break	<ul style="list-style-type: none"> <li>• Syllabus Overview</li> <li>• Reference Books</li> <li>• Classes</li> <li>• Problem solving</li> </ul> <p>Assignment for IA</p>
<p>Unit II:</p> <p><b>Fourier Series:</b> periodic functions, Orthogonality of Sine and Cosine functions, Convergence of Fourier series and Dirichlet conditions (Statement only)</p>	2 lectures	April end till dispersal of classes	<ul style="list-style-type: none"> <li>• Course progression,</li> <li>• problem solving</li> <li>• Previous years question papers discussion</li> </ul>