MI 566/ MS 566: Fourier Analysis

The registered students are advised to read the **Chapter 4** and **Chapter 5** of the online course material Fourier Analysis of NPTL by Prof. R. Radha and Prof. S. Thangavelu at "https://nptel.ac.in/courses/111106046/"

It is expected to learn the following topics from the above chapters:

1. Weak derivative, Space of test functions and distributions and topologies embedded therein.

2. Schwartz space and its topology. Behaviour of Fourier Transform on Schwartz space.

3. Fourier Transform of L_p functions p>2 as tempered distributions.

4. Poisson summation formula.

5. Paley-Weiner theorem. (Reference Complex analysis by E. M. Stein and R. Sharkarchi).

The Test III of the course will be based on the exercise at the end of the chapters 4, 5 namely section 4.5 and 5.7 of the NPTL course. Presentation slides may be sent if required.

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