

PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement
facilitated by the Institute of Smart Structures and Systems



Module PMRF-ISSS074/III/2024

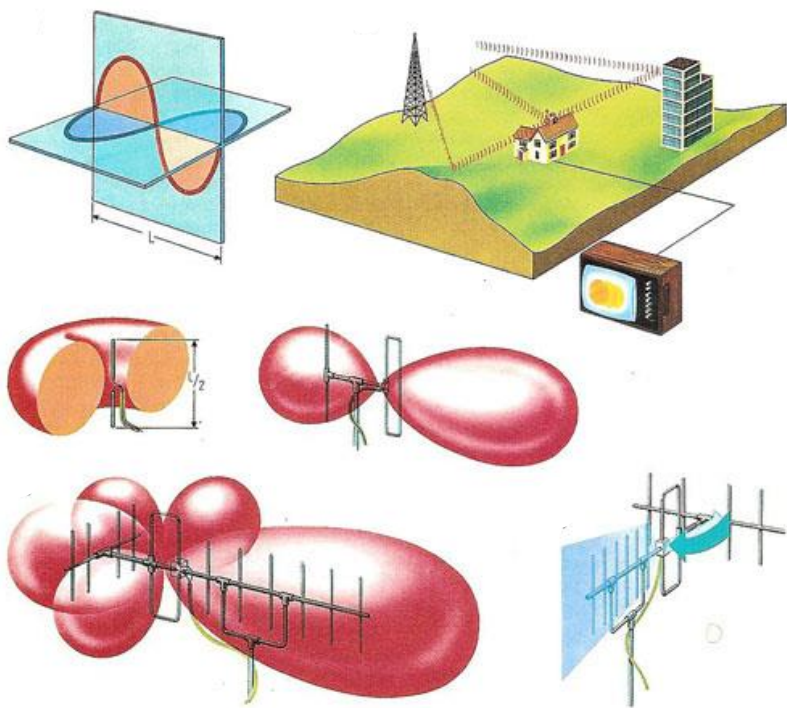
Antennas and Radiating Systems

Name of the PMRF student

ANAND KUMAR

Required background of the students taught

Electrical, Electronics,
Communication, Instrumentation,
Physics, Aerospace



Details of the content of the module

1. Introduction
2. Radiation Fields of Elemental Dipoles
 - i. The Elemental Electric and Magnetic Dipoles
3. Antenna Patterns and Antenna Parameters
4. Thin Linear Antennas
 - i. The Half-Wave Dipole
 - ii. Effective Antenna Length
5. Antenna Arrays
 - i. Two-Element Arrays
 - ii. General Uniform Linear Arrays
6. Receiving Antennas
 - i. Internal Impedance and Directional Pattern
 - ii. Effective Area
 - iii. Backscatter Cross Section
7. Transmit-Receive Systems
 - i. Friis Transmission Formula and Radar Equation
 - ii. Wave Propagation near Earth's Surface
8. Some Other Antenna Types
 - i. Traveling-Wave, Helical, Yagi-Uda, Broadband Antennas
9. Aperture Radiators

Schedule of the module

Class Timing: **3:00-5:30 PM (Saturday/Sunday)**
([Course Website](#))

Class Begins: **12th May 2024**

Total Hours: **30 (12 lectures)**

E-mail: anandkumar13@iisc.ac.in



Meeting link : Will be shared later

Contact email ID: iss.forum@gmail.com

Registration link:

<https://forms.gle/XFjxJebn8wUHL5KC9>