



## **Bridge Course**

### **Antenna Design**

**Class: TE – EXTC (A&B)**

#### **Gap Identification:**

- Lack of research awareness, importance and means and ways to pursue research
- Lack of research attitude and motivation to pursue research
- Lack of basic understanding of subject area and different approaches to solve a particular problems.
- Lack of updated knowledge and or information in the chosen area and literature survey to find the research gap.
- Inadequate knowledge on how to define research problem, methodology to be used, planning and means to be used for analysis of the outcomes.
- Lack of knowledge to publish research and its importance, and writing an ethics submission, patents and other aspects.

#### **Course Description:**

Provides an overview of the steps involved to design and develop research project starting with problem definition and required literature survey, through to key issues of research design and choices of methodology, planning and analysis and writing an ethics submission. Key underpinning principles of validity and reliability will be emphasized. Both quantitative and qualitative methodologies will be discussed, including critical appraisal of relevant published research papers.

#### **Prerequisites:**

Third Year students of Electronics and Telecommunication Engineering.

#### **Learning Objectives:**

Student shall

1. Conduct Literature Survey
2. Plan the Proposed Work
3. Design, implementation, testing and analysis
3. Derive Results, means to validation the results.
4. Extract Conclusion

5. Potential area for Future Scope and or extension of proposed method for particular application.
6. Publish a paper

**Learning Outcomes:**

Student will be able to

1. Define research problem
2. Write a literature survey
3. Write Plan to execute proposed work
4. Write project analysis and planning
5. Write the derived results
6. Write the extracted Conclusion
7. Write the future scope of research
8. Publish a paper

**Details for Course Conduction:**

Sr.	No. of Hours	Date		Units Covered
		TEEXTC A	TEEXTC B	
1	02			<b>Balanced and unbalanced transmission Lines</b>
		27/07/2017	27/07/2017	Parallel cable
		27/07/2017	27/07/2017	Coaxial Cable
		27/07/2017	27/07/2017	Why 50 ohm?
		27/07/2017	27/07/2017	When 75 ohm?
2	04			<b>Current distribution and antenna pattern</b>
		03/08/2017	03/08/2017	Current distribution in wire antenna
		31/08/2017	31/08/2017	Monopole
		31/08/2017	31/08/2017	Dipole and loop antenna
3	02			<b>Dielectric material/substrate and different feed for antenna</b>
		10/08/2017	10-/08/2017	SMA connectors
		10/08/2017	10/08/2017	N- Connectors
4	06	10/08/2017	10-/08/2017	Other available connectors at high frequency
		07/09/2017	07/09/2017	Helical



				<b>Introduction to IE3-D</b>
		14/09/2017	14/09/2017	Training on IE3-D (structure modeling)
		28/09/2017	28/09/2017	Design of printed dipole
		28/09/2017	28/09/2017	How to analyze antenna results in IE3-D
				<b>Design of printed antenna using IE3-D</b>
5	04	5/10/2017	5/10/2017	Design of printed antenna (structure modeling)
		5/10/2017	5/10/2017	Mode analysis
		12/10/2017	12/10/2017	Polarization analysis
		Total hours: 18Hrs		

**Digital Reference:**

1. <https://onlinecourses.nptel.ac.in>
2. <https://www.coursera.org/>
3. [https://en.wikipedia.org/wiki/Main\\_Page](https://en.wikipedia.org/wiki/Main_Page)

**Faculty Coordinators:**

**Sd/-**

Mr. Shailendra Shastri  
Mrs. Archana Deshpande  
Mr. Nishant Kumar

**HOD-EXTC**

**Sd/-**

Dr. Vinitkumar Dongre