TCET/FRM/IP-02/09 Revision: A

Semester Plan
(Theory)

Semester: V Course: EXTC

Subject: RF Modeling and Antennas Class: TE- A

S.No.	Bridge courses/Technology	Duration (Week/hrs)	Modes of Learning	Recommended Sources
1.	**Prerequisite course:** Wave Theory and Propagation	06 Hours	Technology Based learning	Principles of Electromagentics -Sadiku Chapter 2 (Pg. No. 25 -70) Chapter 8(Pg. No.327-370)

Class Room Teaching

Sr. No	Module No.	Lesson No.	Topics Planned (Technology to be used)	Teaching Aids Required	Planned /Completion Date	Resource Book Reference	Remarks
1	3-5	L1.1	SOP	LCD Projector	10/07/17		
2	3	L1.2	Fundamentals of Antenna Basic parameters G, D, Ap, Le, efficiency	LCD Projector	13/07/17	M 3.1	
3	3	L2.1	Zin, Gain, Radiation efficiency, Bandwidth and Beamwidth	LCD Projector	20/07/17	M 3.1	
4	3	L2.2	Derivation for D and solid beam angle, D & (Ae)max	LCD Projector	21/07/17	M3.2	
5	3	L3.1	FRIIS Transmission formula, Basic concept of Maxwell equation and	LCD Projector	24/07/17	M3.4	

			vector Potential				
6	3	L3.2	Wave equation in terms of E, H, B & D, Near field and Far field	LCD Projector	25/07/17	M3.5	
7	4	L4.1	Wire Antenna Derivation for Hq, Near field and far field	LCD Projector	31/07/17	M4.1	
Sr. No	Module No.	Lesson No.	Topics Planned (Technology to be used)	Teaching Aids Required	Planned /Completion Date	Resource Book Reference	Remarks
8	4	L4.2	Derivation for E field , Dual eqn for E and H field	LCD Projector	01/08/17	M4.2	
9	4	L5.1	Finite lengh dipole , half wave , folded and monopole dipole	LCD Projector	07/08/17	M4.3	
10	4	L5.2	Ground effect and loop antenna	LCD Projector	08/08/17	M4.4	
11	5	L6.1	Antenna Arrays Linear , planar and circular arrays	LCD Projector	14/08/17	M5.1	
12	5	L9.1	Array of 2 isotropic point source and non isotropic point source	LCD Projector	04/09/17	M5.2	
13	5	L9.2	Principle of pattern multiplication	LCD Projector	05/09/17	M5.3	
14	5	L10.1	Derivation for B.A. and E. A. radiation pattern	LCD Projector	11/09/17	M5.4	

15	5	L10.2	Array factor Yagi Uda array B.W. & Null directions	LCD Projector	12/09/17	M5.4	
16	5	L11.1	Antenna analysis using Binomial Array	LCD Projector	18/09/17	M5.5	
Sr. No	Module No.	Lesson No.	Topics Planned (Technology to be used)	Teaching Aids Required	Planned /Completion Date	Resource Book Reference	Remarks
17	5	L11.2	Antenna analysis using Dolph – Tshebyscheff array	LCD Projector	19/08/17	M5.6	
18	5	L12.1	Sums on Design of B.A.and E.A.	LCD Projector	25/09/17	M5.7	
19	5	L12.2	Sums on Principle of pattern multiplication	LCD Projector	26/09/17	M5.8	
20	5	L13.1	Sums on Dolph – Tshebyscheff array	LCD Projector	02/10/17	M5.8	
21	5	L13.2	Differentiation between Binomial and Linear array	LCD Projector	03/10/17	M 5.9	
22	3-5	L15.1	Revision and doubt solving	LCD Projector	16/10/17	M3-5	
23	3-5	L15.2	University paper solving	LCD Projector	17/10/17	M3-5	

Remark:: Course:		Syllabus Coverage:		Practice Session:		Beyond Syllabus:	
No. of (lectures planned)/(lecture taken): (23/)							

Bridge courses Objective: Bridging of gaps with respect to prerequisites and industry skills or to carryout research in signal processing field**. (20 Hrs / Semester / student)**

S.No.	Bridge courses/Technology	Duration (Week/hrs)	Modes of Learning	Recommended Sources
1	**Advanced course:** Microwave Theory and Techniques (NPTEL Course)	20 Hours	Technology Based learning	Module No. 1 to 5 http://nptel.ac.in/syllabus/117105029/

Text Books:

1) David M Pozar, "Microwave Engineering", John Wieley and Sons, Inc. Hobokenh, New Jersey, Fourth Edition, 2012
2) Costantine A. Balanis, "Antenna Theory Analysis And Design", John Wiley Publication
3) John D. Kraus, " Antennas", Tata McGraw Hill publication

Reference Books:

1. Annapurna Das and Sisir K Das, "Microwave Engineering", Tata McGraw Hill,New Delhi, Second Edition, 2009
2. Reinhold Ludwig and Pavel Bretchko, "RF Circuit Design", Pearson Education Asia.

Digital Reference:

- Wikipedia
- Google
- www.wiley.com /Communication Technology/Antennas & Propagation

Mr. DEEPAK S. SHETE

Name & Signature of Faculty	Signature of HOD	Signature of Principal /Dean (Academics)
Date:	Date:	Date:

Note:

1. Plan date and completion date should be in compliance
2. Courses are required to be taught with emphasis on resource book, course file, text books, reference books, digital references etc.
3. Planning is to be done for 15 weeks where 1st week will be AOP, 2nd -13th for effective teaching and 14th -15th week for effective university examination oriented teaching, mock practice session and semester consolidation.
4. According to university syllabus where lecture of 4 hrs/per week is mentioned minimum 55 hrs and in case of 3 lectures per week minimum 45 lectures are to be engaged are required to be engaged during the semester and therefore accordingly semester planning for delivery of theory lectures shall be planned.

5. In order to improve score in NBA, faculty members are also required to focus course teaching beyond university prescribed syllabus and measuring the outcomes w .r.t learning course and programme objectives.
6. Text books and reference books are available in syllabus. Here only additional references w .r.t. non –digital/ digital sources can be w ritten (if applicable)
7. Technology to be used in class room during lecture shall be w ritten below the topic planned w ithin the bracket.