Course Number and Name

BEC703- MICROWAVE ENGINEERING

## **Course Description**

- Microwave Engineering introduces the student to RF/microwave analysis methods and design techniques..
- Scattering parameters are defined and used to characterize devices and system behavior. Passive and active devices commonly utilized in microwave subsystems are analyzedTo analyze the current popular distributed systems such as peer-to-peer (P2P) systems will also be analyzed.
- To understand about microwave measurements.

| Prerequisites  |  |         |         |         |         |         | Co-requisites |           |    |   |   |   |   |  |
|--|--|---------|---------|---------|---------|---------|---------------|-----------|----|---|---|---|---|--|
| Electromagnetic Fields and waves   |  |         |         |         |         |         | Nil           |           |    |   |   |   |   |  |
| Cou  | Course Outcomes (COs)  |         |         |         |         |         |               |           |    |   |   |   |   |  |
| CO   | CO1 Demonstrate the ability to identify formulate and solve microwave network related    |         |         |         |         |         |               |           |    |   |   |   |   |  |
|  | problems   |         |         |         |         |         |               |           |    |   |   |   |   |  |
| CO2  | CO2 Understand the need for the different microwave components and their specifications. |         |         |         |         |         |               |           |    |   |   |   |   |  |
| CO3 Understand the working principles of different microwave sources                   |  |         |         |         |         |         |               |           |    |   |   |   |   |  |
| CO4  | CO4 Demonstrate the ability to identify microwave active devices along with their        |         |         |         |         |         |               |           |    |   |   |   |   |  |
|  | applications.  |         |         |         |         |         |               |           |    |   |   |   |   |  |
| CO5 Know how to model and determine the performance characteristics of a microwave     |  |         |         |         |         |         |               |           |    |   |   |   |   |  |
|  | circuit or system  |         |         |         |         |         |               |           |    |   |   |   |   |  |
| CO6 Identify the measurement techniques for different parameters like VSWR, impedance, |  |         |         |         |         |         |               |           |    |   |   |   |   |  |
|  | frequency  | y, powe | er of m | icrowa  | ve sour | ces and | d loads.      |           |    |   |   |   |   |  |
| Stu  | dent Outc  | omes (  | SOs) fr | om Crit | erion 3 | covere  | ed by th      | nis Cour: | se |   |   |   |   |  |
|  | COs/SOs  | а       | b       | С       | d       | е       | f             | g         | h  | i | j | k | 1 |  |
|  | CO1  | Н       |         |         |         |         | М             |           |    |   | М |   | - |  |
|  | CO2  | Μ       | М       | M       | M       |         |               |           |    | Н |   | M | _ |  |
|  | CO3  | Μ       |         | M       | M       | М       | _             |           |    |   |   |   | - |  |
|  | CO4  | Μ       |         |         |         | М       |               | M         |    |   | Н |   | - |  |
|  | CO5  |         | M       | М       |         |         | _             |           |    | M |   | M | - |  |
|  | CO6  |         |         |         | M       |         | Н             |           |    |   |   |   | - |  |