

**LESSON PLAN**

| Period | Date (Tentative) | Topic  | Unit No. | Teaching Methodology | Remarks | Corrective Action Upon Review |
|--------|------------------|--|----------|----------------------|---------|-------------------------------|
| 1      | 22/6/16          | Introduction to microwave Engg.                | I        | B-D                  |         |                               |
| 2      | 28/6/16          | MicroWave Tx Line Introduction                 | "        | "                    |         |                               |
| 3      | 28/6/16          | Various kinds of microwave and they            | "        | PPT                  |         |                               |
| 4      | 29/6/16          | Application Introduction to guided waves.      | "        | "                    |         |                               |
| 5      | 30/6/16          | TE, TM, TEM - modes.                           | "        | "                    |         |                               |
| 6      | 1/7/16           | Ex, Fr, Ez Question for various modes.         | "        | B-D                  |         |                               |
| 7      | 4/7/16           | Wave guides Introduction                       | "        | "                    |         |                               |
| 8      | 5/7/16           | TE/TM modes in Rectangular wave guide          | "        | "                    |         |                               |
| 9      | 7/7/16           | Expressions for various fields.                | "        | "                    |         |                               |
| 10     | 8/7/16           | Characteristic Equations & Cut off wave length | "        | "                    |         |                               |
| 11     | 11/7/16          | Dominant mode and degenerating modes.          | "        | "                    |         |                               |
| 12     | 12/7/16          | Mode Characteristics in Rectangular W.G.       | "        | "                    |         |                               |
| 13     | 12/7/16          | Introduction to Cavity Resonators              | "        | "                    |         |                               |
| 14     | 13/7/16          | Types of Cavity Resonators.                    | "        | PPT                  |         |                               |
| 15     | 14/7/16          | Introduction to Wave guide components          | II       | "                    |         |                               |
| 16     | 15/7/16          | Coupling mechanism in wave guides.             | "        | B-D                  |         |                               |
| 17     | 16/8/16          | Coupling mechanism - probe, loop.              | "        | "                    |         |                               |
| 18     | 16/8/16          | Wave guide attenuators.                        | "        | "                    |         |                               |
| 19     | 17/8/16          | Wave guide phase shifters.                     | "        | "                    |         |                               |
| 20     | 18/8/16          | Numerical Examples on field Equns              | "        | V)                   |         |                               |

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| 21     | 19/8/16          | Wave guide<br>Plane Shifters                       | I        | B.B                  |         |                               |
| 22     | 20/8/16<br>mid   | Scattering<br>matrix                               | "        | B.B                  |         |                               |
| 23     | 23/8/16          | Wave guide multi<br>port SWR Example.              | "        | "                    |         |                               |
| 24     | 24/8/16          | Explain, E1-plane<br>Feeds, Magic Tee              | "        | B.B.                 |         |                               |
| 25     | 20/8/16          | Hybrid Ring,<br>Directional Couplers               | "        | PPT                  |         |                               |
| 26     | 30/8/16          | Attenuator, Isolator,<br>Circulator                | "        | PPT                  |         |                               |
| 27     | 31/8/16          | Introduction to<br>microwave Tubes                 | III      | "                    |         |                               |
| 28     | 6/9/16           | Limitations of Conventional<br>tube manufacturing. | "        | B.B                  |         |                               |
| 29     | 6/9/16           | Classification of<br>microwave Tubes.              | "        | B.P.T                |         |                               |
| 30     | 3/9/16           | O-type & M-type<br>tubes.                          | "        | "                    |         |                               |
| 31     | 21/9/16          | Two cavity Klystrons<br>- velocity modulation      | "        | "                    |         |                               |
| 32     | 14/9/16          | Punching process.                                  | "        | BB                   |         |                               |
| 33     | 15/9/16          | o/p power and<br>Efficiency Calculation            | "        | "                    |         |                               |
| 34     | 16/9/16          | Multi Cavity<br>Klystrons.                         | "        | "                    |         |                               |
| 35     | 18/9/16          | Peterson klystrons<br>- Mathematically they        | "        | "                    |         |                               |
| 36     | 19/9/16          | power output,<br>Efficiency.                       | "        | "                    |         |                               |
| 37     | 20/9/16          | Electronic<br>Admittance                           | "        | "                    |         |                               |
| 38     | 20/9/16          | Oscillating modes<br>and o/p Characteristics.      | "        | "                    |         |                               |
| 39     | 22/9/16<br>mid   | Introduction to some<br>other M.W. Tubes.          | IV       | P.P.T                |         |                               |
| 40     | 28/9/16          | Travelling Wave<br>Tube (TWT)                      | "        | "                    |         |                               |



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| 41     | 30/10/16         | Slow wave structure in TWT.                          | "        | B.B                  |         |                               |
| 42     | 31/10/16         | Amplification modes in TWT.                          | "        | "                    |         |                               |
| 43     | 1/11/16          | Suppression of oscillations.                         | "        | "                    |         |                               |
| 44     | 4/11/16          | Nature of slow wave propagation in TWT.              | "        | "                    |         |                               |
| 45     | 5/11/16          | Constant and Gain Considerations.                    | "        | "                    |         |                               |
| 46     | 6/11/16          | M-type tubes - Introduction.                         | "        | PPT                  |         |                               |
| 47     | 8/11/16          | Magnetron types.                                     | "        | "                    |         |                               |
| 48     | 11/11/16         | 8-Cavity Cylindrical Magnetron.                      | "        | B.B                  |         |                               |
| 49     | 12/11/16         | Hall - cut-off Conditions.                           | "        | "                    |         |                               |
| 50     | 12/11/16         | Hall - cut-off Conditions and $\pi$ -mode operation. | "        | "                    |         |                               |
| 51     | 13/11/16         | Introduction to Solid State device.                  | <u>5</u> | "                    |         |                               |
| 52     | 13/11/16         | Gun Diode - principles.                              | "        | "                    |         |                               |
| 53     | 14/11/16         | RWH - Theory - Characteristics.                      | "        | "                    |         |                               |
| 54     | 16/11/16         | Avalanche transit time devices.                      | "        | "                    |         |                               |
| 55     | 18/11/16         | IMPATT and TRAPATT modes -                           | "        | PPT                  |         |                               |
| 56     | 19/11/16         | Principle & Operation and Characteristics of         | "        | "                    |         |                               |
| 57     | 30/11/16         | MicroWave measurements - Introduction.               | "        | "                    |         |                               |
| 58     | 21/11/16         | Derivation of MW Bench.                              | "        | "                    |         |                               |
| 59     | 24/11/16         | - Different Blocks and their features.               | "        | "                    |         |                               |
| 60     | 25/11/16         | MicroWave power measurement.                         | "        | "                    |         |                               |