Krishna Engineering College, Ghaziabad

Electronics and Communication Department

IE3D Skill Development

Course Name- Design and Simulation of antennas on IE3D simulator.

IE3D Tool-IE3D is an integral equation and method of moment based EM simulator.IE3D mainly focuses on general planar and 3D metallic structures in layered dielectric environments. It is extremely efficient, accurate and flexible for such structures.It is a complete electromagnetic tool, a Computer Aided Design switch.Integral equation in three dimensions (IE3D) is basically used as simulation tool for fractal antenna.IE3D is more suitable tool in designing of planer antennas.

Lab Required- CAD Lab and PCB Lab.

Coordinators- Ms. Renu Dubey, Mr. Ashok Yadav

Duration- 24th August- 28th September (25 Hrs)

Objective-This workshop is to understand the concept of antenna designing which gives knowledge to the student about the IE3D (Antenna Tool). Designing of antennas(Micro-strip, Patch antennas) at software as well as its fabrication in PCB lab enhance their knowledge theoretically and practically. By this workshop they easily draft their theoretical knowledge.

Benefit to the students- The workshop apart from designing, Simulation should offer scope for following purposes-

  i.   B,Tech Students can utilize this workshop as a platform for projects in the field of antenna design.
 ii.   As college have M.Tech program in Electronics & Communication. So this workshop provides software as well hardware implementation of antennas.
iii.   Advance research work related to antennas can be done.

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Schedule-

Date	Time	Topics	Description
Day-1 **24th Aug**	2.45pm - 4.25pm	Introduction	Basic antenna theory and Calculation of Dimensions
Day-2 **27th Aug**	9.30am- 2.30pm	Operation of Tool	Design-1 (Initial design steps of IE3D)
Day-3 **31st Aug**	2.45pm - 4.25pm	Simple Patch with Co-axial Feed	Design-2(Simple Patch with Co-axial Feed with different slots) Implementation
Day-4 **3rd Sept**	9.30am- 2.30pm	Simple Patch with Co-axial Feed	Design-2 (Simple Patch with Co-axial Feed with different slots) Simulation (S-parameter, VSWR, Current Distribution, Radiation Pattern)
Day-5 **14th Sept**	2.45pm - 4.25pm	Rectangle Patch with micro-strip Feed	Design-3, 4 (Rectangle Patch with micro-strip Feed with different slots) Implementation
Day-6 **21st Sept**	2.45pm - 4.25pm	Rectangle Patch with micro-strip Feed	Design-3, 4 (Rectangle Patch with micro-strip Feed with different slots) Simulation (S-parameter, VSWR, Current Distribution, Radiation Pattern)
Day-7 **24th Sept**	9.30am- 2.30pm	Simulation of Different Problems	Design and simulation of different problems and its optimization
Day-8 **28th Sept**	2.45pm - 4.25pm	PCB Drafting and Fabrication/ Antenna Testing	Design layout on paper and preparation of negative, Antenna Testing through VSWR meter

Coordinators-   Hod (ECE)

Ms. Renu Dubey,   **Dr. A. N. Mishra**

Mr. Ashok Yadav