CT111  Introduction to Communication Systems

1. **Title:** Introduction to Communication Systems

2. **Credit Structure (L-T-P-Cr):** 3-0-3-4.5

3. **Course Number:** CT111

4. **Slot:** 2\textsuperscript{nd} Semester

5. **Category:** Foundation (Core) Course

6. **Prerequisite:** Basic Electronic Circuits

7. **Foundation for:** Analog and Digital Communication and other advanced Communication Group Courses

8. **Abstract:**

9. **Suggested Text/s:**

10. **Other References:**
10. Detailed Contents:


The Basic Telephone System: Basic Telephone System, Numbering and Dialling, Switching and Types of Switching, Telephone Line (local loop) signalling, Local Exchange and its organisation.


11. Outcomes and Objectives:

The objective of this course is to –

- **Appreciate** what a telecommunication system is, why it is required and its fundamental concepts.
- **Know** some of different types of basic blocks used in a telecommunication system.
- **Perform** experiments with some of the basic sub-systems used for telecommunication, measure some of the parameters and validate various concepts.
- **Simulate** certain components of a telecommunication system and observe some of the relevant parameters using PSpice, Scilab, Matlab, OMNET, etc.
- **Know** details of the telecommunication systems like the telephone, optical fibre communication, wireless and mobile communication, and satellite communication systems.

**Outcome:** At the end of the course, the student should be able to –

- understand the basic principles of telecommunication.
- articulate the basic blocks of a typical communication system.
- identify the most common types of transmission media.
- appreciate and becomes familiar with various modern communication systems.
- learn the concepts of telecommunication through experimentation and use of modern engineering tools (like PSpice, Scilab, Matlab, OMNET, etc.).

12. Evaluation (tentative):

<table>
<thead>
<tr>
<th>Assessment Type</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>In-Semester Examination</td>
<td>30%</td>
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<tr>
<td>End-Semester Examination</td>
<td>40%</td>
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<tr>
<td>Project (in groups of 10 each)</td>
<td>10%</td>
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<tr>
<td>Labs-Attendance &amp; Record</td>
<td>10%</td>
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<tr>
<td>Attendance in Lectures</td>
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Total marks out of 100 will be converted to a letter (performance) grade using a 10-point scale.