**19EC32P1-DIGITAL COMMUNICATION LAB**

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| **Course Category:** | Program Core | **Credits:** | 1.5 |
| **Course Type:** | Practical | **Lecture-Tutorial- Practice:** | 0 - 0 - 3 |
| **Prerequisite:** | Analog Communication, Digital Communication and Information Theory & Coding. | **Sessional Evaluation:**  **External Evaluation :**  **Total Marks:** | 40  60  100 |

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| **Course**  **Objectives** | Students undergoing this course are expected tounderstand: | |
| 1. Analog signal sampling and re-construction. 2. Different modulation and demodulation schemes. 3. The encoder and decoders of Linear Block Codes. 4. The Binary Cyclic Code encoder and decoder. | |
| **Course Outcomes** | Upon successful completion of the course , the students will be able to: | |
| CO1 | Modulate and demodulate a message Signal with a high frequency carrier using DM. |
| CO2 | Modulate and demodulate a message Signal with a high frequency carrier using PCM |
| CO3 | Understand signal sampling and re-construction |
| CO4 | Understand time division multiplexing & de-multiplexing |
| CO5 | Know the different shift keying methods. |
| CO6 | Understand the encoder and decoders of Linear Block Codes. |
| **Course**  **Content** | **LIST OF EXPERIMENTS**   1. Verifying Sampling Theorem. 2. Time Division Multiplexing and De-multiplexing. 3. Pulse Code Modulation and Demodulation. 4. Differential Pulse Code Modulation and Demodulation. 5. Delta Modulation and Demodulation. 6. Amplitude Shift Keying Modulation and Demodulation. 7. Frequency Shift Keying Modulation and Demodulation. 8. Binary Phase Shift Keying Modulation and Demodulation. 9. Differential Phase Shift Keying Modulation and Demodulation. 10. Linear Block Code-Encoder and Decoder. 11. Binary Cyclic Code- Encoder and Decoder. 12. Companding. | |

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| **Contribution of Course Outcomes towards achievement of Program Outcomes** | | | | | | | | | | | | | | |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| CO1 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 3 | 3 |
| CO2 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 3 | 2 |
| CO3 | 3 | 3 | 3 | 1 | 1 | - | - | - | - | - | - | 2 | 2 | 3 |
| CO4 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | 3 |
| CO5 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 3 | 2 |
| CO6 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 3 | 2 |