**20EC22P1 – IC APPLICATIONS LAB**

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| **Course Category:** | Program Core | **Credits:** | 1.5 |
| **Course Type:** | Practical | **Lecture-Tutorial- Practice:** | 0 - 0 - 3 |
| **Prerequisite:** | Analog Integrated Circuit Applications | **Sessional Evaluation:**  **External Evaluation :**  **Total Marks:** | 40  60  100 |

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| **Course**  **Objectives** | Students undergoing this course are expected to understand: | |
| 1. The basic applications of Op-Amp 2. The R-2R ladder network used as an A/D converter in interfacing between Analog and digital. 3. 555 Timer applications –in various timer circuits and Delay circuits. | |
| **Course Outcomes** | Upon successful completion of the course , the students will be able to: | |
| CO1 | Design Rectifiers without and with Filters (HWR, FWR, BR). |
| CO2 | Design various amplifier circuits using op-amp |
| CO3 | Design various oscillator circuits using op-amp |
| CO4 | Design regulator circuit using op-amp |
| CO5 | Design various feedback amplifier circuits using op-amp |
| CO6 | Determine the fT of a given Transistor. |
| **Course**  **Content** | Minimum of **TEN** experiments to be completed out of the following:  **LIST OF EXPERIMENTS**   1. Voltage Follower, Inverting Amplifier 2. Summing Amplifier & Difference Amplifier 3. Astable Multivibrator using Op-Amp. 4. Astable Multivibrator using 555 Timer. 5. Comparator using Op-Amp. 6. Zero crossing Detector using Op-Amp. 7. Ramp Generator using 555 Timer. 8. Op-Amp Frequency Response. 9. Narrow band pass filter using IC 747. 10. Full Wave Rectifier using Op-Amp. 11. R-2R Ladder Network. 12. Schmitt Trigger using Op-Amp. | |

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| Contribution of Course Outcomes towards achievement of Program Outcomes (3-High, 2-Medium, 1-Low) | | | | | | | | | | | | | | |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| CO1 | 3 | 3 | 2 | 2 | 1 | - | - | 2 | 1 | - | - | 2 | - | - |
| CO2 | 3 | 3 | 2 | 2 | 1 | 1 | - | 2 | 1 | - | - | 2 | - | - |
| CO3 | 3 | 3 | 3 | 1 | 1 | - | 1 | 2 | 1 | - | - | 2 | - | - |
| CO4 | 3 | 3 | 2 | 2 | 1 | 1 | - | 2 | 1 | - | - | 2 | - | - |
| CO5 | 3 | 3 | 2 | 2 | 1 | - | - | 2 | 1 | - | - | 2 | - | - |
| CO\6 | 3 | 3 | 2 | 2 | 1 | - | 1 | 2 | - | - | - | 2 | - | - |