**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:** | 4060100 |

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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.
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| **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 | - | - |