

**Unit - I****Chapter 1 : Fundamentals of Operational Amplifier (Op-Amp) 1-1 to 1-26**

Syllabus : Operational amplifier, Equivalent circuit, Circuit symbols and terminals, Op-Amp IC-741 pin diagram and pin function, Op-Amp parameters : Input offset voltage, Input offset current, Input bias current, Differential input resistance, Input capacitance, Input voltage range, Offset voltage adjustment range, Common Mode Rejection Ratio (CMRR), Supply Voltage Rejection Ratio (SVRR), Slew rate, Large signal voltage gain, Supply voltage, Supply current, Output voltage swing, Gain bandwidth product, Output short circuit current. Transfer characteristics - Ideal and practical voltage transfer curves. Op-Amp configurations : Open loop and closed loop, Virtual ground concept, Features, Pin diagram and pin function of dual Op-Amp IC 747.

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Syllabus : Closed loop configuration, Modes of operations : Inverting and non inverting, Differential amplifier, Unity gain amplifier (Voltage follower), Arithmetic operations : Addition, Scaling, Averaging, Subtraction, Integrator, Differentiator, Concept of frequency compensation of OP-AMP and offset nulling.

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Unit - IV

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