

Full Marks: 80

Time : 3 Hours

Answer any FIVE Questions including Q No. 1& 2

Figures in the right hand margin indicates marks

Q.1.	Answer ALL the following questions. i) Write the full form of LASER. ii) Define the term IC. iii) Name the four basic building blocks of an OP-AMP. iv) Define Slew Rate. v) Why does an OP-AMP have high CMRR? vi) What is a Voltage Transfer Curve of an OP-AMP? vii) What is a Differential Amplifier? viii) What does XX in 79XX indicate? ix) Define the term 'Etching' used in IC fabrication process. x) Draw the equivalent circuit of an OP-AMP.	2x10
Q.2.	Answer any SIX questions i) Explain the construction and working principle of LED. ii) Differentiate between Digital and Linear IC's. iii) Define OP-AMP. Draw the basic building blocks of an OP-AMP and explain the function of each block. iv) Draw the circuit of an ideal OP-AMP and write any five Ideal Characteristics of an OP-AMP. v) Explain the principle of operation of an Integrator circuit using OP-AMP with input and output Waveform. vi) Draw the block diagram representation of Four feedback configuration. vii) Write down the various advantages of negative feedback over positive feedback .	5x6
Q.3.	With a neat diagram explain the construction and working of a Photodiode. Write any four use of Photodiode.	10
Q.4	Explain the various steps involved in the fabrication of an IC with necessary diagrams.	10
Q.5	Derive the Closed Loop Voltage Gain of an Inverting Amplifier with feedback.	10
Q.6.	Explain the principle of operation of Wein Bridge Oscillator with a neat diagram. Derive the expression for the frequency of Oscillation.	10
Q.7	Describe the working of a Voltage to Current convertor Circuit using OP-AMP with grounded and floating load.	10