

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

~~July Aug~~ ~~May June~~ 2025
 (B. Tech) Program: EXTC Scheme :IIB
~~Regular~~ Examination: SY Semester: IV
 Course Code: EXC403 and Course Name: Linear Integrated Circuit
 Date of Exam: 01-08-25 Duration: 02.5 Hours Max. Marks: 60

Instructions:
 (1) All questions are compulsory.
 (2) Draw neat diagrams wherever applicable.
 (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any two questions out of three: (05 marks each)	10		
a)	Find ideal characteristics of op-amps and give their practical values.		CO1	U
b)	Discuss classification of active filters and explain the frequency response of each type.		CO2	U
c)	Compare comparator and Schmitt trigger.		CO3	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Write a short note on the pulse width modulator.		CO4	U
b)	Explain Three pin fixed voltage regulator.		CO5	U
c)	Draw block diagram and explain the operation of PLL.		CO6	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Design a differentiator to differentiate input signals that varies in frequency from 10 Hz to about 1 kHz.		CO2	A
b)	Draw neat circuit diagram and explain the operation of monostable multivibrator using IC 555.		CO4	A
c)	Explain the terms ... i) Free running frequency ii) Capture range iii) Lock Range		CO6	A
Q.4	Solve any two questions out of three. (10 marks each)	20		

Seat No.:

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a)	Draw the functional block diagram of the op-amp and explain each block.		CO1	U
b)	What is a window detector? Explain its operation.		CO3	A
c)	Explain the functional block diagram of IC 723 and state its important features.		CO5	U
