

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

Jan - Feb 2026

~~Nov - Dec 2025~~

(B. Tech) Program: EXTC Scheme : III
~~Regular~~/Supplementary Examination: SY Semester: III
 Course Code: EXE303 and Course Name: Electronic Devices and Linear Circuits
 Date of Exam: ~~24/2/2025~~ *05/02/26* 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)	Compare with difference, similarities and features the BJT and E-MOSFET.		1	U
b)	Draw functional block diagram of IC PLL 565 and explain it's working.		6	U
c)	Draw the block diagram of Op-Amp 741.		2	Ap
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Explain the working principle of an inverting op-amp integrator.		3	U
b)	Draw a neat circuit diagram for Square Wave Generator		4	U
c)	Draw and explain Monostable multivibrator using IC 555 with appropriate wave forms.		5	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Design a summing amplifier using $R_f = 10 \text{ k}\Omega$ to achieve gains of 0.1, 1, and 10 for three inputs.		2	Ap
b)	What is a precision rectifier? Write advantages of precision rectifier over normal diode rectifier. Explain full wave precision rectifier with the help of neat diagram and relevant wave forms		4	U
c)	Design a 555 astable circuit to generate a 1 kHz signal with 60% duty cycle. Propose modifications to achieve symmetric (50%) duty cycle using IC 555.		5	U

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Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	Explain the significance of biasing in a transistor amplifier. .Explain any One biasing circuits.		1	Ap
b)	With the help of a diagram explain the working of Wein Bridge oscillator using OP AMP.		3	U,Ap
c)	Draw functional Block diagram and working of IC 566		6	U
