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

May-June 2025
B. Tech Program Scheme IIB
Supplementary ~~Regular~~ Examination: SY Semester: IV
Course Code: EXC 404 and Course Name: Principle of Communication Engineering
Date of Exam: ~~26/05/2025~~ 04-08-2025 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)	State Simplex and Duplex system with example?		CO1	U
b)	What is modulation? Explain the need of modulation?		CO2	U
c)	Describe frequency modulation and phase modulation		CO3	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Define Sensitivity, selectivity and double Spotting		CO4	U
b)	Explain PWM modulation and demodulation techniques		CO5	U
c)	Explain ADM modulation and demodulation techniques		CO6	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Deduce FRIISS formula for calculation of total noise figure, if two amplifiers are connected in cascade.		CO1	U
b)	Explain in detail generation of SSBSC using Phase Shift method with the help of block diagram, waveform and disadvantages.		CO2	U
c)	Explain the operation of Foster Seeley discriminator with the help of circuit diagram and phasor diagram.		CO3	U
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	Explain simple AGC with characteristics, advantages, disadvantages and application.		CO4	U
b)	Explain PAM modulation and demodulation techniques		CO5	U
c)	Explain TDM and FDM in detail.		CO6	U

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Seat No.: