

TNEB- AE ONLINE TEST SCHEDULE-2020

ELECTRONICS AND COMMUNICATION

ENGINEERING

Test No	Subject	Topics
Unit 1	Circuit Theory	DC circuit Analysis
Unit 2		Network theorems
Unit 3		Sinusoidal steady state analysis
Unit 4		Resonance and Transients
		Full Test
Unit 1	Control Systems	Feedback, signal flow graph, Transfer Function
Unit 2		Time domain analysis
Unit 3		Frequency response
Unit 4		Stability and state variable analysis
		Full Test
Unit 1	Digital Electronics	Number systems, Logic gates
Unit 2		Combinational circuits
Unit 3		Sequential Circuits
		Full Test
Unit 1	MPMC	8085,8086
Unit 2		Interfaces and 8051 applications
Unit 1	Measurement and Instrumentation	Digital Instruments and Displays
		Full Test
Unit 1	Signals and Systems	CT-Basic Operations on Signals
Unit 2		Z-Transform
Unit 3		Laplace Transform
Unit 4		Fourier Transform, DTFT,DFT
		Full Test
Unit 1	EMT	Electrostatics, Magnetostatics
Unit 2		Maxwell Equations

Unit 3	Linear Integrated Circuits	Transmission lines
Unit 4		Waves an waveguides
		Full Test
Unit 1	Communication Engineering	OPAMP,PLL
Unit 2		Voltage Regulators,ADC/DAC
		Full Test
Unit 1		Modulation & Demodulation
Unit 2		Electromagnetic waves
Unit 3	EDC	Digital Communication
Unit 4		Satellites & Optical Fibres
		Full Test
Unit 1		Diodes
Unit 2		BJT, Small signal amplifiers
Unit 3		FET,MOSFET,UJT
Unit 4	Antenna and Microwave Engineering	Large signal Amplifiers, Power Supplies
Unit 5		Feedback Amplifiers, Oscillators
Unit 6		Pulse Shaping Circuits
		Full Test
Unit 1		Aperture Antenna, Array, Propagation of Waves.
Unit 2	Computer Networks	Microwave components, Measurement devices.
		Full Test
Unit 1		Data networks-switching OSI, Data link control, Media access protocol-BISYNC, SDLC, HDLC, CSMA/CD,
Unit 2		TCP/IP Bridges, routers, gateways, Ethernet and Arcnet configuration.
		Full Test

PART 1 & PART 2

Engineering Mathematics	Determinants and Matrices	Solving system of equations – Rank of the Matrix – Eigen values and eigenvectors – Reduction of quadratic form to canonical form
	Calculus	Partial derivatives – Jacobians – Taylor's expansion – Maxima and Minima.
	Differential Equations	Linear ordinary differential equations with constant coefficients – Simultaneous first order linear equations with constant coefficients. Formation of partial differential equation (PDE) – Solution of first order PDE – Solution of linear higher order PDE with constant coefficients.
	Vector Calculus	Double and triple integrations and their applications – Gradient, Divergence, Curl and Laplacian – Green's, Gauss divergence and Stoke's theorem.
	Complex Variables	Analytic functions – Conformal Mapping – Bilinear transformation – Cauchy's integral theorem and integral formula – Taylor and Laurent Series – Singularities – Residues – Residue theorem and its applications.
	Transforms	Laplace Transform – Inverse transforms – Application to solution of linear ordinary differential equations with constant coefficients. Fourier integral theorem – Fourier transform pair – Sine and Cosine transforms. -transform – Inverse Z-transform – Solution of difference equations using Z-transform.
	Numerical Methods	Solution of linear system by direct and iterative methods – Interpolation and approximation – Numerical Differentiation and Integration – Solving Ordinary Differential Equations.
	Applied Probability	Probability and Random variables – Standard Discrete and Continuous distribution – Moments – Moment generating function and their properties. Two-Dimensional Random Variables –

		Covariance – Correlation and Regression
Basic Engineering & Science	Applied Mechanics	Law of Mechanics – Lame's theorem – Forces, Moments and Couples – Displacement, velocity and Acceleration – Friction – Moment of Inertia.
	Mechanical Engineering	Laws of thermodynamics – Open and closed systems –Equation of state – Heat and Work.
	Physics	Sound – Latices – Ultrasonic flaw detector – X-ray radiography – Interference Fringes – Planck's quantum theory – Laser and Fibre Optics.
	Material Science	Fracture – Magnetic and Dielectric materials – Conductor and Semi conductor materials – Ceramic and Super conductor materials.
	Civil Engineering	Fluid Statics and Dynamics – Boundary Layer – Pumps and Turbines – Environmental Pollution
	Electrical Engineering	Ohm's law – Kirchoff's law – A.C. circuits – D.C. machines – Transformers – Synchronous machines – Instrumentation.
	Computers	Computer organisation – Architecture – Arrays – Pointers – User defined function – C program.
	Chemistry	Adsorption – Chromatography – Chemical kinetics – Electrochemistry – Spectroscopy – Fuels and Combustion.



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