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# 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



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Unit 3		Transmission lines
Unit 4		Waves an waveguides
		<b>Full Test</b>
Unit 1	<b>Linear Integrated Circuits</b>	OPAMP,PLL
Unit 2		Voltage Regulators,ADC/DAC
		<b>Full Test</b>
Unit 1	<b>Communication Engineering</b>	Modulation & Demodulation
Unit 2		Electromagnetic waves
Unit 3		Digital Communication
Unit 4		Satellites & Optical Fibres
		<b>Full Test</b>
Unit 1	<b>EDC</b>	Diodes
Unit 2		BJT, Small signal amplifiers
Unit 3		FET,MOSFET,UJT
Unit 4		Large signal Amplifiers, Power Supplies
Unit 5		Feedback Amplifiers, Oscillators
Unit 6		Pulse Shaping Circuits
		<b>Full Test</b>
Unit 1	<b>Antenna and Microwave Engineering</b>	Aperture Antenna, Array, Propagation of Waves.
Unit 2		Microwave components, Measurement devices.
		<b>Full Test</b>
Unit 1	<b>Computer Networks</b>	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.
		<b>Full Test</b>



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**PART 1 & PART 2**

<b>Engineering Mathematics</b>	<b>Determinants and Matrices</b>	Solving system of equations - Rank of the Matrix - Eigen values and eigenvectors - Reduction of quadratic form to canonical form
	<b>Calculus</b>	Partial derivatives - Jacobians - Taylor's expansion - Maxima and Minima.
	<b>Differential Equations</b>	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.
	<b>Vector Calculus</b>	Double and triple integrations and their applications - Gradient, Divergence, Curl and Laplacian - Green's, Gauss divergence and Stroke's theorem.
	<b>Complex Variables</b>	Analytic functions - Conformal Mapping - Bilinear transformation - Cauchy's integral theorem and integral formula - Taylor and Laurent Series - Singularities - Residues - Residue theorem and its applications.
	<b>Transforms</b>	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.
	<b>Numerical Methods</b>	Solution of linear system by direct and iterative methods - Interpolation and approximation - Numerical Differentiation and Integration - Solving Ordinary Differential Equations.
	<b>Applied Probability</b>	Probability and Random variables - Standard Discrete and Continuous distribution - Moments - Moment generating function and their properties. Two-Dimensional Random Variables -



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



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## FULL TESTS

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**MCC - FULL SYLLABUS TEST 1**

**MCC - FULL SYLLABUS TEST 2**

**MCC - FULL SYLLABUS TEST 3**

**MCC - FULL SYLLABUS TEST 4**

**MCC - FULL SYLLABUS TEST 5**

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