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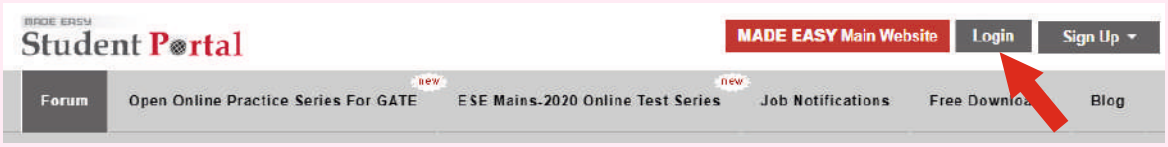

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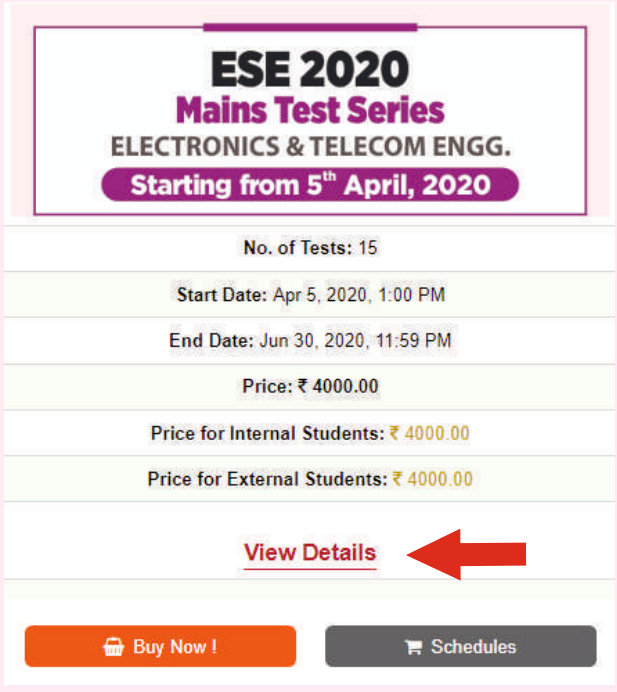
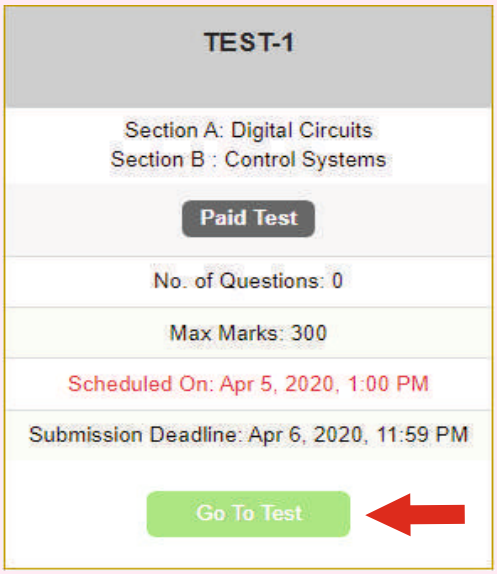
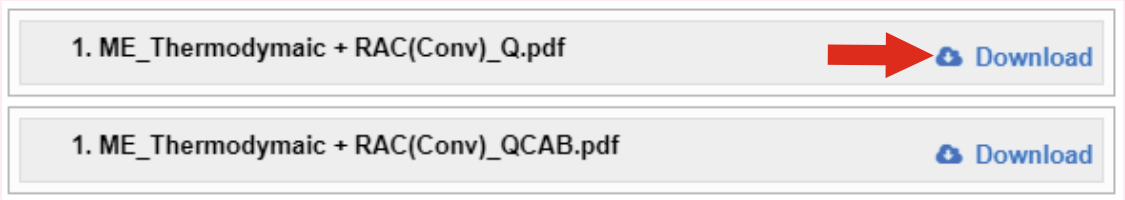
- Click on the **VIEW DETAILS Tab** of your respective stream



SCHEDULE

- Click on Go to **Test button to download** the question paper & QCAB to write the test.





- Write your Answers in QCAB or A4 size papers
- Scan the QCAB/ A4 size papers and combine it to a single PDF format. Make the PDF file of less than 100 MB.
- Click on Upload Answer sheet button and upload the QCAB/ A4 size papers against every question paper.

NOTE : Please ensure to upload the scanned answer sheet within the submission deadline, else you will not be able to upload it on the Portal.

Please ensure to mention the question number and its sub-parts clearly on the left hand side of the page in the answer sheets. Also, mention your details like NAME, ROLL NUMBER, TEST NUMBER and SUBJECT NAME on the front page of the answer sheets.

After the evaluation, your evaluated answer sheets will be uploaded into your profile.

For any query, please feel free to email us at infodelhi@madeeasy.in

SCHEDULE

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ESE 2020
Mains Test Series

Civil Engineering

9	6	15
Subjectwise Tests	Full Syllabus Tests	Total Tests

Test No.	Date/Day	Max. Marks	Subject	
1.	3rd May, 2020 Sunday	300	Section A: New Topic	Geo-technical & Foundation Engineering (All Topics)
			Section B : New Topic	Environmental Engineering (All Topics)
2.	13th May, 2020 Wednesday	300	Section A: New Topic	Transportation Engineering + Surveying and Geology (All Topics)
			Section B : Repeat Topic of Test 1	Geo-technical & Foundation Engineering - 1 + Environmental Engineering -1 (Part Syllabus) Topics: Properties of soil, classification, various tests and inter-relationships; permeability and seepage, compressibility, consolidation and shearing resistance, earth pressure theories and stress distribution in soil + Water supply Engineering, Air, Noise pollution and ecology
3.	23rd May, 2020 Saturday	300	Section A: New Topic	Strength of Materials (All Topics)
			Section B : Repeat Topic of Test 2 + Repeat Topic of Test 1	Transportation Engineering - 1 + Surveying and Geology-1 (Part Syllabus) Geo-technical & Foundation Engineering - 2 + Environmental Engineering - 2 (Part Syllabus) Topics: Planning & construction methodology, Alignment and geometric design + Classification of surveys, various methodologies, instruments and analysis of measurement of distances, elevation and directions + Soil exploration - planning and methods, properties and uses of geo-synthetics, types of foundations and selection criteria, bearing capacity, settlement analysis, design and testing of shallow and deep foundations; slope stability analysis, earthen embankments, dams and earth retaining structure : types, analysis and design, Principles of ground modifications. + Waste water engg, soild waste management
4.	3rd June, 2020 Wednesday	300	Section A: New Topic	Design of concrete and Masonry Structures (All Topics)
			Section B : Repeat Topic of Test 3 + Repeat Topic of Test 2	Strength of Materials - 1 (Part Syllabus) Transportation Engineering - 2 + Surveying and Geology-2 (Part Syllabus) Properties of Materials, Simple Stress-strain and elastic constants, Plain Stress-strain, Mohr circle of stress & strain, Bending stress, SFD & BMD + Traffic Surveys and Controls; Principles of Flexible and Rigid pavements design + Field astronomy, Global Positioning systems; Map Layout for culverts, canals, bridges, road/railway alignmet and buildings, setting out of curves; Basic knowledge of Engineering geology and its application in projectss
5.	10th June, 2020 Wednesday	300	Section A: New Topic	Flow of fluids, hydraulic machines and hydro power (All Topics)
			Section B : Repeat Topic of Test 4 + Repeat Topic of Test 3	Design of concrete and Masonry Structures - 1 (Part Syllabus) Strength of Materials - 2 (Part Syllabus) Topics: Limit state design for bending, shear, axial compression & combined forces; design of beams, Lintels, Tanks & staircases. + Torsion, Principle stress, theories of failure & shear stress
6.	17th June, 2020 Wednesday	300	Section A: New Topic	Structural Analysis + Hydrology (All Topics)
			Section B : Repeat Topic of Test 5 + Repeat Topic of Test 4	Flow of fluids, hydraulic machines and hydro power - 1 (Part Syllabus) Design of concrete and Masonry Structures - 2 (Part Syllabus) Topics: Fluid properties; Dimensional Analysis and Modeling; Fluid dynamics including flow kinematics and measurements; Flow net; Viscosity, Boundary layer and control, Drag, Lift, Pipe networks + Design of slabs, foundations and retaining walls; Principles of pre-stressed concrete design including materials and methods; Earthquake resistant design of structures, design of Masonry structure
7.	24th June, 2020 Wednesday	300	Section A: New Topic	Design of Steel Structure + CPM PERT (All Topics)
			Section B : Repeat Topic of Test 6 + Repeat Topic of Test 5	Structural Analysis - 1 + Hydrology -1 (Part Syllabus) Flow of fluids, hydraulic machines and hydro power - 2 (Part Syllabus) Topics: Analysis of determinate and indeterminate structures + Hydrological cycle, Ground water hydrology, Well hydrology and related data analysis; Streams and their gauging + Principles in open channel flow, Flow controls, Hydraulic jump, Surges, Various pumps, Air vessels, Hydraulic turbines- types, classifications & performance parameters; Power house-classification & layout, storage, pondage, control of supply.
8.	1st July, 2020 Wednesday	300	Section A: New Topic	Water Resource Engineering + Building Materials + Railway & Airport (All Topics)
			Section B : Repeat Topic of Test 7 + Repeat Topic of Test 6	Design of Steel Structure-1+ CPM PERT -1 (Part Syllabus) Structural Analysis - 2 + Hydrology - 2 (Part Syllabus) Topics: Principles of Working Stress methods, Design of tension and compression members + Construction - Planning, Equipment, Site investigation and Management including Estimation with latest project management tools & network analysis for different Types of works + Trusses, beams, plane frames; Rolling loads, Influence Lines, Unit load method & other methods; Free & Forced vibrations of single degree and multi degree freedom system; Suspended Cables; Concepts and use of Computer Aided Design + River morphology; Flood, drought and their management; Capacity of Reservoirs.
9.	8th July, 2020 Wednesday	300	Section A: Repeat Topic of Test 8	Water Resource Engineering + Building Materials + Railway & Airport (All Topics)
			Section B : Repeat Topic of Test 7	Design of Steel Structure-2 + CPM PERT -2 (Part Syllabus) Topics: Design of beams & beam column connections, built-up sections, Girders, Industrial roofs, Principles of ultimate load design + Analysis of Rates of various types of works; Tendering Process and Contract Management, Quality Control, Productivity, Operation Cost ; Land acquisition; Labour safety and welfare.
10.	15th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
11.		300	Full Syllabus Test	Paper- II
12.	22nd July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
13.		300	Full Syllabus Test	Paper- II
14.	29th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
15.		300	Full Syllabus Test	Paper- II

Important Message

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ESE 2020
Mains Test Series

Mechanical Engineering

9	6	15
Subjectwise Tests	Full Syllabus Tests	Total Tests

Test No.	Date/Day	Max. Marks	Subject	
1.	3rd May, 2020 Sunday	300	Section A: New Topic	Thermodynamics (All Topics)
			Section B : New Topic	Refrigeration and Air-conditioning (All Topics)
2.	13th May, 2020 Wednesday	300	Section A: New Topic	Heat Transfer + Theory of Machines (All Topics)
			Section B : Repeat Topic of Test 1	Thermodynamics - 1+ Refrigeration and Air-conditioning - 1 (Part Syllabus) Topics: Thermodynamic systems and processes; properties of pure substance; Zeroth, First and Second Laws of Thermodynamics; Entropy, + Vapour compression refrigeration, Refrigerants and Working cycles, Compressors, Condensers, Evaporators and Expansion devices, Other types of refrigeration systems like Vapour Absorption
3.	23rd May, 2020 Saturday	300	Section A: New Topic	Fluid Mechanics and Turbo Machinery (All Topics)
			Section B : Repeat Topic of Test 2 + Repeat Topic of Test 1	Heat Transfer - 1 + Theory of Machines - 1 (Part Syllabus) Thermodynamics - 2 + Refrigeration and Air-conditioning - 2 (Part Syllabus) Topics : Modes of heat transfer, Steady and unsteady heat conduction, Thermal resistance, Fins, Free and forced convection, Correlations for convective heat transfer + Types of Kinematics Pair & analysis Mobility, Inversions, Velocity & Acceleration Analysis of Planar Mechanisms, Dynamic Analysis – Slider – crank mechanisms, turning moment computations, flywheel, Governors, Free and forced vibration of undamped and damped SDOF systems, Transmissibility Ratio, Vibration Isolation, Critical Speed of Shafts + Irreversibility and availability, Otto, Diesel and Dual cycles, analysis of thermodynamic cycles related to energy conversion: ideal and real gases; compressibility factor; Gas mixtures + Vapour jet, thermo electric and Vortex tube refrigeration. Psychometric properties and processes, Comfort chart, Comfort and industrial air conditioning, Load calculations and Heat pumps.
4.	3rd June, 2020 Wednesday	300	Section A: New Topic	Strength of Materials & Mechanics (All Topics)
			Section B : Repeat Topic of Test 3 + Repeat Topic of Test 2	Fluid Mechanics and Turbo Machinery - 1 (Part Syllabus) Heat Transfer - 2 + Theory of Machines - 2 (Part Syllabus) Topics: Basic Concepts and Properties of Fluids, Manometry, Fluid Statics, Buoyancy, Equations of Motion, Bernoulli's equation and applications + Reciprocating and Rotary pumps, Pelton wheel, Kaplan and Francis Turbines, velocity diagrams, Impulse and Reaction principles,+ Radiative heat transfer, Radiation heat transfer coefficient; boiling & condensation, Heat exchanger performance analysis + CAMs with uniform acceleration and retardation, cycloidal motion, oscillating followers; Gears – Geometry of tooth profiles, Law of gearing, Involute profile, Interference, Helical, Spiral & Worm Gears, Gear Trains- Simple, compound and Epicyclic; balancing of Revolving & Reciprocating masses, Gyroscopes & its Effect on automobiles, ships and aircrafts
5.	10th June, 2020 Wednesday	300	Section A: New Topic	Production Engineering & Material Science (All Topics)
			Section B : Repeat Topic of Test 4 + Repeat Topic of Test 3	Strength of Materials & Mechanics - 1 (Part Syllabus) Fluid Mechanics and Turbo Machinery - 2 (Part Syllabus) Topics : Stresses and Strains-Compound Stresses and Strains, Bending Moment and Shear Force Diagrams, Thin and thick Cylinders, Spheres. + Analysis of System of Forces, + Viscous flow of incompressible fluids, Laminar and Turbulent flows, Flow through pipes and head losses in pipes. + Steam and Gas Turbines, Theory of Jet Propulsion – Pulse jet and Ram Jet Engines, Reciprocating and Rotary Compressors – Theory and Applications
6.	17th June, 2020 Wednesday	300	Section A: New Topic	Renewable Sources of Energy + Industrial and Maintenance Engineering (All Topics)
			Section B : Repeat Topic of Test 5 + Repeat Topic of Test 4	Production Engineering & Material Science - 1 (Part Syllabus) Strength of Materials & Mechanics - 2 (Part Syllabus) Topics: Metal casting-Metal forming, computer Integrated manufacturing, Basic Crystallography, Heat Treatment, Ferrous and Non Ferrous Metals, Non metallic materials, + Theory of Bending Stresses, Slope and deflection, Torsion, Friction, Centroid and Centre of Gravity,
7.	24th June, 2020 Wednesday	300	Section A: New Topic	IC Engine + Power Plant (All Topics)
			Section B : Repeat Topic of Test 6 + Repeat Topic of Test 5	Renewable Sources of Energy-1 + Industrial and Maintenance Engineering-1 (Part Syllabus) Production Engineering & Material Science - 2 (Part Syllabus) Topics: Solar Radiation, Solar Thermal Energy collection-Flat Plate and focusing collectors their materials & performance. Solar Thermal Energy Storage, Applications- heating, cooling and Power Generation; Solar Photovoltaic Conversion + FMS, Production planning and Control Inventory control and operations research -CPM-PERT+ Metal Joining, Machining and machine tool operations, Limits, fits and tolerances, Metrology and inspection + Alloys and Phase diagrams, Basics of Nano-materials, Mechanical Properties & Testing, Corrosion prevention & control
8.	1st July, 2020 Wednesday	300	Section A: New Topic	Machine Design + Mechatronics & Robotics (All Topics)
			Section B : Repeat Topic of Test 7 + Repeat Topic of Test 6	IC Engine (All Topics) Renewable Sources of Energy-2 + Industrial and Maintenance Engineering-2 (Part Syllabus) Topics: Harnessing of Wind Energy, Bio-mass and Tidal Energy – Methods and Applications, Working principles of Fuel Cells. + Failure concepts and characteristics-Reliability, Failure analysis
9.	8th July, 2020 Wednesday	300	Section A: Repeat Topic of Test 8	Machine Design + Mechatronics & Robotics (All Topics)
			Section B : Repeat Topic of Test 7	Power Plant (All Topics)
10.	15th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
11.		300	Full Syllabus Test	Paper- II
12.	22nd July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
13.		300	Full Syllabus Test	Paper- II
14.	29th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
15.		300	Full Syllabus Test	Paper- II

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ESE 2020
Mains Test Series

Electrical Engineering

9	6	15
Subjectwise Tests	Full Syllabus Tests	Total Tests

Test No.	Date/Day	Max. Marks	Subject	
1.	3rd May, 2020 Sunday	300	Section A: New Topic	Digital Electronics (All Topics)
			Section B : New Topic	Control Systems (All Topics)
2.	13th May, 2020 Wednesday	300	Section A: New Topic	Electrical Circuits + Microprocessors (All Topics)
			Section B : Repeat Topic of Test 1	Digital Electronics - 1+ Control Systems - 1 (Part Syllabus) Topics: Boolean Algebra & uses, Logic gates, Combinatorial circuits design& applications, Basics of multiplexers + Principles of feedback, transfer function, block diagrams and signal flow graphs, steady-state errors, transforms & their applications; Routh-hurwitz criterion, root loci. Transient & frequency response analysis Nyquist techniques, Bode plots
3.	23rd May, 2020 Saturday	300	Section A: New Topic	Power Systems (All Topics)
			Section B : Repeat Topic of Test 2 + Repeat Topic of Test 1	Electrical Circuits - 1 + Microprocessors - 1 (Part Syllabus) Digital Electronics - 2 + Control Systems - 2 (Part Syllabus) Topics: Circuit elements, KCL, KVL, Node & Mesh analysis, ideal current &voltage sources, Thevenin's, Norton's, Superposition & Maximum Power Transfer theorems, Sinusoidal steady state analysis. + Microprocessors (8085 &8086) basics and applications + Sequential circuits design & applications, counters, registers, memories, A/D-D/A converters + Lag, lead and lead-lag compensation, stability analysis, state space model, state transition matrix, controllability & observability, PID & industrial controllers.
4.	3rd June, 2020 Wednesday	300	Section A: New Topic	Electrical Machines (All Topics)
			Section B : Repeat Topic of Test 3 + Repeat Topic of Test 2	Power Systems - 1 (Part Syllabus) Electrical Circuits - 2 + Microprocessors - 2 (Part Syllabus) Topics: Basic power generation concepts, steam, gas and water turbines, transmission line models and performance, cable performance, insulation, corona and radio interference, power factor correction, symmetrical components, fault analysis, principles of protection systems, basics of solid state relays and digital protection; Circuit breakers + Transient response of DC and AC networks, Basic filter concepts, two-port networks, three phase circuits, Magnetically coupled circuits, network graphs + Peripheral Interfacing devices and applications.
5.	10th June, 2020 Wednesday	300	Section A: New Topic	Basic Electronics Engineering + Analog Electronics + Electrical Materials (All Topics)
			Section B : Repeat Topic of Test 4 + Repeat Topic of Test 3	Electrical Machines - 1 + Power Systems - 2 (Part Syllabus) Topics: 1-phase & 3-phase transformers - connections, parallel operation, auto-transformer, energy conversion principles, Induction motors - principles, types, performance characteristics, starting and speed control, servo and stepper motors. + Radial and ring-main distribution systems, Matrix representation of power systems, load flow analysis, voltage control and economic operation, System stability concepts, Swing curves and equal area criterion. HVDC transmission and FACTS concepts, Concepts of power system dynamics, distributed generation, solar and wind power, smart grid concepts, environmental implications, fundamentals of power economics.
6.	17th June, 2020 Wednesday	300	Section A: New Topic	Systems & Signal Processing + Electrical & Electronic Measurements (All Topics)
			Section B : Repeat Topic of Test 5 + Repeat Topic of Test 4	Basic Electronics Engineering -1 + Analog Electronics - 1 + Electrical Materials - 1 (Part Syllabus) Electrical Machines - 2 (Part Syllabus) Topics: Basics and characteristics of diodes, BJT, FET and MOSFETS, equivalent circuits, different types of amplifiers, frequency response of transistor amplifiers + Electrical Engg. Materials, crystal structures & defects, ceramic materials, insulating materials + DC machines - types, windings, generator characteristics, armature reaction and commutation, starting and speed control of motors, Synchronous machines - performance, regulation, parallel operation of generators, motor starting, characteristics and applications
7.	24th June, 2020 Wednesday	300	Section A: New Topic	Electromagnetic Theory + Computer Fundamentals + Communication Systems (All Topics)
			Section B : Repeat Topic of Test 6 + Repeat Topic of Test 5	Systems and Signal Processing - 1 + Electrical and Electronic Measurements - 1 (Part Syllabus) Basic Electronics Engineering -2 + Analog Electronics - 2 + Electrical Materials - 2 (Part Syllabus) Topics: Representation of continuous and discrete-time signals, shifting and scaling operations, linear, time-invariant and causal systems, Fourier series representation of continuous periodic signals, Fourier transform + Principles of measurement, accuracy, precision and standards; error analysis, potentiometers; moving coil, moving iron, dynamometer and induction type instruments, measurement of voltage, current, power, energy and power factor+ operational amplifiers – characteristics and applications, oscillators and other circuits, feedback amplifiers +Magnetic materials – basics, properties and applications, ferrities, ferro-magnetic materials and components; basics of solid state physics, conductors; Photo-conductivity Basics of Nano materials and Superconductors
8.	1st July, 2020 Wednesday	300	Section A: New Topic	Power Electronics & Drives + Engineering Mathematics (All Topics)
			Section B : Repeat Topic of Test 7 + Repeat Topic of Test 6	Electromagnetic Theory -1 + Computer Fundamentals - 1 + Communication Systems - 1 (Part Syllabus) Systems and Signal Processing -2 + Electrical and Electronic Measurements - 2 (Part Syllabus) Topics : Gauss Theorem, electric field and potential due to point, line, plane and spherical charge distributions + Number systems, Boolean algebra, arithmetic functions, Basic Architecture, Central Processing Unit, I/O and Memory Organisation; peripheral devices, data represenation and programming + Analog communication basics, Modulation and de-modulation, noise and bandwidth, transmitters and receivers, signal to noise ratio + Laplace transforms, sampling theorem, Z transforms, Discrete Fourier transform, FFT, linear convolution, discrete cosine transform, FIR filter, IIR filter, bilinear transformation + Instrument transformers, bridges, digital voltmeters and multi-meters, phase, time and frequency measurement, Q-meters, oscilloscopes, potentiometric recorders, basics of sensors, Transducers, basics of data acquisition systems.
9.	8th July, 2020 Wednesday	300	Section A : Repeat Topic of Test 8	Power Electronics & Drives + Engineering Mathematics (All Topics)
			Section B: Repeat Topic of Test 7	Electromagnetic Theory -2 + Computer Fundamentals - 2 + Communication Systems - 2 (Part Syllabus) Topics : Ampere's and Biot-Savart's laws; inductance, dielectrics, capacitance; Maxwell's equations + basics of Operating system and networking, virtual memory, file systems; Elements of programming languages, typical examples + digital communication basics, sampling, quantizing, coding, frequency and time domain multiplexing, power line carrier communication systems.
10.	15th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
11.		300	Full Syllabus Test	Paper- II
12.	22nd July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
13.		300	Full Syllabus Test	Paper- II
14.	29th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
15.		300	Full Syllabus Test	Paper- II

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ESE 2020
Mains Test Series

Electronics & Telecom Engg.

9	6	15
Subjectwise Tests	Full Syllabus Tests	Total Tests

Test No.	Date/Day	Max. Marks	Subject	
1.	3rd May, 2020 Sunday	300	Section A: New Topic	Digital Circuits (All Topics)
			Section B : New Topic	Control Systems (All Topics)
2.	13th May, 2020 Wednesday	300	Section A: New Topic	Network Theory + Microprocessors and Microcontroller (All Topics)
			Section B : Repeat Topic of Test 1	Digital Circuits - 1 + Control Systems - 1 (Part Syllabus) Topics: Boolean Algebra & uses. Logic gates, Digital IC families. Combinatorial circuits design & applications, Basics of multiplexers, MUX based design + Feedback systems-open & close loop types, Signal flow graphs. Transient and Steady state analysis. Stability analysis, Routh-Hurwitz criteria, Root loci. Frequency response analysis, Nyquist/Bode plots.
3.	23rd May, 2020 Saturday	300	Section A: New Topic	Analog and Digital Communication Systems (All Topics)
			Section B : Repeat Topic of Test 2 + Repeat Topic of Test 1	Network Theory - 1+ Microprocessors and Microcontroller - 1 (Part Syllabus) Digital Circuits - 2 + Control Systems - 2 (Part Syllabus) Topics: Ohm's & Kirchoff's laws, Wye-Delta transformation, mesh & nodal analysis, DC circuits. Single-phase AC circuits, Steady state sinusoidal analysis, frequency domain analysis of RLC circuits, Circuit theorems + Microprocessors (8085 & 8086) basics, interrupts, instruction sets + Sequential circuits design & applications, counters, registers, memories. A/D-D/A converters + Design of control systems, compensators, elements of lead/lag compensation, PID and industrial controllers. State equations for networks.
4.	3rd June, 2020 Wednesday	300	Section A: New Topic	Electronic Devices & Circuits + Advanced Electronics Topics (All Topics)
			Section B : Repeat Topic of Test 3 + Repeat Topic of Test 2	Analog & Digital Communication Systems - 1 (Part Syllabus) Network Theory - 2 + Microprocessors and Microcontroller - 2 (Part Syllabus) Topics: Random signals, noise, probability theory. Analog communication Systems - AM, FM, transmitters, receivers, theory, practice, standards, SNR comparison + Linear constant coefficient differential equations - Time domain analysis of RLC circuits, Solution of network equations using Laplace transforms. 2-port network parameters-driving point & transfer functions. Network graphs & matrices + DMA, interfacing controllers and uses. Microcontrollers and Embedded systems.
5.	10th June, 2020 Wednesday	300	Section A: New Topic	Analog Circuits + Materials Science (All Topics)
			Section B : Repeat Topic of Test 4 + Repeat Topic of Test 3	Electronic Devices & Circuits - 1 + Advanced Electronics Topics - 1 (Part Syllabus) Analog & Digital Communication Systems - 2 (Part Syllabus) Topics: Basics of semiconductors. Diode basics and characteristics, Diodes for different uses + Basics of Integrated Circuits. Bipolar, MOS and CMOS ICs. VLSI technology: Processing, lithography, interconnects, packaging, testing + Information theory. Digital communication systems - Analog versus digital communication & applications, basics, sampling, quantizing, coding, PCM, DPCM, multiplexing-audio/video, Digital modulation: ASK, FSK, PSK.
6.	17th June, 2020 Wednesday	300	Section A: New Topic	Signals and Systems + Electronic Measurements and Instrumentation (All Topics)
			Section B : Repeat Topic of Test 5 + Repeat Topic of Test 4	Analog Circuits -1 + Materials Science-1 (Part Syllabus) Electronic Devices & Circuits - 2 + Advanced Electronics Topics - 2 (Part Syllabus) Topics: Small signal equivalent circuits of diodes. Biasing & stability of BJT & JFET amplifier circuits. Small signal equivalent circuits of BJTS and FETs, single stage/Multi-stage amplifiers + Electrical Engineering materials. Crystal structure & defects. Ceramic materials-structures, composites, processing & uses. Insulating laminates for electronics, structures, properties & uses + BJT, JFETs, MOSFETs basics & characteristics. Basics of optoelectronics & its applications, optical sources/detectors + VLSI design: Principles, Design for testability, examples. ROM/PLA based design, Moore & Mealy circuit design.
7.	24th June, 2020 Wednesday	300	Section A: New Topic	Electromagnetics + Basic Electrical Engineering (All Topics)
			Section B : Repeat Topic of Test 6 + Repeat Topic of Test 5	Signals and Systems - 1 + Electronic Measurements and Instrumentation -1 (Part Syllabus) Analog Circuits -2 + Materials Science-2 (Part Syllabus) Topics: Classification of signals and systems; Application of signal and system theory; System realization; Transforms & their applications + Principles of measurement, accuracy, precision and standards; Analog systems for measurement, measuring instruments for different applications; Static/dynamic characteristics of measurement systems, errors, statistical analysis and curve fitting + Feedback amplifiers, oscillators and other circuits. Basics of linear ICs, operational amplifiers and their applications-linear & non-linear, Active filters, timers, multipliers, wave shaping + Magnetic materials, basics, classification, ferrites, ferro/para-magnetic materials and components. Nano materials-basics, preparation, purification, sintering, nano particles and uses. Nano-optical/magnetic/electronic materials and uses. Superconductivity, uses.
8.	1st July, 2020 Wednesday	300	Section A: New Topic	Advanced Communication Topics + Computer Organization and Architecture (All Topics)
			Section B : Repeat Topic of Test 7 + Repeat Topic of Test 6	Electromagnetics -1 + Basic Electrical Engineering - 1 (Part Syllabus) Signals and Systems - 2 + Electronic Measurements and Instrumentation - 2 Topics : Elements of vector calculus, Maxwell's equations-basic concepts, Gauss', Stokes' theorems. Wave propagation through different media + Electro-magnetism, Faraday's & Lenz's laws, induced EMF and its uses.Transformers, efficiency. Basics of induction machines + System realization; Transforms & their applications; DSP: Discrete time signals/systems, uses; Digital filters: FIR/IIR types, design, speech/audio/radar signal processing uses + Measurement systems for non-electrical quantities; Digital systems for measurement, Basics of telemetry; Different types of transducers and displays; Data acquisition system basics. CRO and bridge measurement.
9.	8th July, 2020 Wednesday	300	Section A : Repeat Topic of Test 8	Advanced Communication Topics + Computer Organization and Architecture (All Topics)
			Section B: Repeat Topic of Test 7	Electromagnetics -2 + Basic Electrical Engineering - 2 (Part Syllabus) Topics : Transmission Lines-different types, basics, Smith's chart, impedance matching/transformation, S-parameters, pulse excitation, uses. Waveguides-basics, rectangular types, modes, cut-off frequency, dispersion, dielectric types. Antennas-radiation pattern, monopoles/dipoles, gain, arrays-active/passive, theory, uses + Basics of DC machines and synchronous machines. Electrical power sources basics: hydroelectric, thermal, nuclear, wind, solar, batteries & their uses.
10.	15th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
11.		300	Full Syllabus Test	Paper- II
12.	22nd July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
13.		300	Full Syllabus Test	Paper- II
14.	29th July, 2020 Wednesday	300	Full Syllabus Test	Paper- I
15.		300	Full Syllabus Test	Paper- II

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End of the Document