ISRO Syllabus 2025 - Branch Wise

Subject	Topics
Mechanical Engineering Syllabus	
Engineering Mechanics	Statics, Dynamics, Friction, Moment of Inertia, Work and Energy, Rigid Body Dynamics
Strength of Materials	Stress and Strain, Bending Stress, Shear Force, Bending Moment, Torsion, Thin and Thick Cylinders
Thermodynamics	Laws of Thermodynamics, Thermodynamic Cycles, Air Standard Cycles, Heat Engines, Refrigeration, and Air-Conditioning
Fluid Mechanics	Fluid Statics, Fluid Dynamics, Bernoulli's Equation, Flow in Pipes, Flow Measurement, Laminar and Turbulent Flow
Machine Design	Design of Mechanical Elements, Bearings, Gears, Power Transmission, Shaft, Spring, and Fasteners
Manufacturing Processes	Casting, Welding, Forging, Machining, CNC, Additive Manufacturing, Material Handling
Electronics and Communication Syllabus	
Subject	**Topics**
Circuit Theory	Ohm's Law, Kirchhoff's Laws, Network Theorems, AC/DC Circuits, Thevenin's and Norton's Theorem, Transients, Resonance
Signals and Systems	Fourier Series, Laplace Transform, Z-Transform, Convolution, Filters, Digital Signal Processing
Electronic Devices	Diodes, Transistors, FETs, Operational Amplifiers, Oscillators, Regulators
Digital Electronics	Number Systems, Logic Gates, Boolean Algebra, Flip-Flops, Counters, Registers, ADC/DAC
Control Systems	Open and Closed Loop Systems, Stability Analysis, Root Locus, Bode Plots, Nyquist Plots, PID Controllers

Communication Systems	Amplitude Modulation (AM), Frequency Modulation (FM), Phase Modulation (PM), Pulse Code Modulation (PCM), Error Control Coding
Computer Science Engineering Syllabus	
Syllabus	**Topics**
Data Structures and Algorithms	Arrays, Linked Lists, Stacks, Queues, Trees, Graphs, Sorting, Searching Algorithms, Hashing
Operating Systems	Process Management, Memory Management, File Systems, Deadlocks, Virtual Memory, Scheduling Algorithms, I/O Systems
Database Management Systems (DBMS)	Relational Model, SQL, Normalization, ER Model, Transactions, Indexing, Concurrency Control
Computer Networks	OSI Model, TCP/IP, Routing Algorithms, IPv4/IPv6, Network Topologies, Protocols, Error Detection and Correction
Software Engineering	Software Development Life Cycle (SDLC), Software Design Patterns, Testing, Maintenance, Agile Methodology
Discrete Mathematics	Set Theory, Logic, Relations, Functions, Graph Theory, Combinatorics, Automata Theory
Civil Engineering Syllabus	
Syllabus	**Topics**
Structural Engineering	Analysis of Structures, Beams and Frames, Trusses, Columns, Indeterminate Structures, Concrete and Steel Design
Surveying	Chain Surveying, Compass Surveying, Theodolite Surveying, Levelling, Total Station, GPS
Geotechnical Engineering	Soil Mechanics, Foundation Engineering, Bearing Capacity, Settlement Analysis
Fluid Mechanics	Fluid Properties, Fluid Statics, Fluid Dynamics, Bernoulli’s Equation, Open Channel Flow, Pipe Flow

Building Materials	Cement, Concrete, Aggregates, Bricks, Timber, Steel, Testing of Materials
Environmental Engineering	Water and Wastewater Treatment, Air and Noise Pollution, Solid Waste Management
Transportation Engineering	Highway Planning, Pavement Design, Traffic Engineering, Transportation Systems
Electrical Engineering Syllabus	
Subject	**Topics**
Circuit Theory	AC/DC Circuits, Kirchhoff's Laws, Network Theorems, Transients, Thevenin's and Norton's Theorem, Power Factor
Control Systems	Transfer Functions, Stability, Root Locus, Bode Plots, State-Space Analysis, Feedback Systems
Electrical Machines	Transformers, DC Machines, Induction Motors, Synchronous Motors, Motor Control, Power Factor Correction
Power Systems	Power Generation, Transmission, Distribution, Protection, Fault Analysis, Load Flow, Power Factor Correction
Power Electronics	Rectifiers, Inverters, Converters, Power Semiconductor Devices, DC-DC Converters, AC-DC Converters
Signal Processing	Sampling Theorem, Fourier Transform, Filters, Time and Frequency Domain Analysis
Electromagnetic Fields	Maxwell's Equations, Wave Propagation, Transmission Lines, Electromagnetic Waves, Dipole and Radiation
Aerospace Engineering Syllabus	
Syllabus	**Topics**
Aerodynamics	Airfoil Theory, Lift and Drag, Boundary Layer, Flow over Wings, Compressible Flow, Shock Waves
Flight Mechanics	Stability and Control, Aircraft Performance, Flight Path, Control Surfaces, Manoeuvres

Aircraft Structures	Stress Analysis, Materials, Fatigue, and Fracture, Aircraft Design, Composite Materials
Propulsion	Jet Engines, Rocket Propulsion, Thrust, Specific Impulse, Turbomachinery, Combustion
Control Systems	Flight Control, Stability, Actuators, Sensors, Flight Control Systems Design
Avionics	Communication Systems, Radar, Navigation, Instrumentation, Satellite Communications
Spacecraft Systems	Orbital Mechanics, Satellites, Space Launch Vehicles, Satellite Design, Space Exploration

ISRO Exam Pattern 2025

Stage	Details
Written Test	- Objective MCQs: Part A (80 questions, discipline-specific), Part B (15 questions approx., aptitude/ reasoning)
	- Duration: 120 minutes
	- Marking: +1 for correct, -⅓ for wrong (Part A); no negative marking (Part B)
	- Test Centres: Multiple cities including Bengaluru, Mumbai, Chennai, Thiruvananthapuram
	- Qualifying Marks: General - 50% in each part; PwBD - 40% in each part
Interview	- Shortlisting Ratio: 1:5 based on written test performance
	- Minimum 10 candidates shortlisted
	- Marks Distribution (Total 100): Technical Knowledge (40), General Awareness (20), Communication (20), Comprehension (10), Academic Achievements (10)
Final Selection	- Combined Score: 50% Written Test + 50% Interview
	- Minimum Aggregate: General - 60%, PwBD - 50%
Tie-Breaker	- Higher Written Test marks
	- Higher marks in essential qualification
	- Older age (Date of Birth)
Important Notes	- Interview shortlisting requires valid GATE 2024/2025 scores matching the discipline

	- Accurate GATE score entry is mandatory
	- False information on GATE score may lead to disqualification or legal action