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GATE 2021 Engineering Sciences (XE) Syllabus, Preparation Tips and Books

⏱ Exam: 13 Feb `21   See all dates

GATE 2021 XE-A Syllabus & Books

GATE 2021 XE-B Syllabus & Books

GATE 2021 XE-C Syllabus & Books

GATE 2021 XE-D Syllabus & Books

GATE 2021 XE-E Syllabus & Books

GATE 2021 XE-F Syllabus & Books

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Nikkil Visha ✔
Exams Prep Master

GATE 2021 Engineering Sciences (XE) syllabus majorly divided into 3 sections. **The first section is General Aptitude and the second section is Engineering Mathematics which is named as section A is compulsory for candidates.** The third part comprises sections B to H and candidates have to choose any two sections to appear for GATE 2021.

- The question paper will consist of **65 questions** which will be further divided into **three sections** worth **100 marks.** The total time duration provided to complete the exam will be three hours. **Check** GATE 2021 Exam Pattern
- **GATE 2021 Engineering Sciences paper** has been scheduled to be conducted on Feb 13, 2021 (Saturday) in the afternoon session from 15:00- 18:00 hrs.
- Candidates must note that from this year they can sit for a maximum of 2 papers. **The second paper/ discipline options for those who have opted XE as first paper are AE/ CH/ ME/ MN/ MT/ PE/ PI/ TF.**

Engineering sciences XE section comprises the following subjects/codes:

- **XE-A** – Engineering Mathematics
- **XE-B** – Fluid mechanics
- **XE-C** – Material Science
- **XE-D** – Solid mechanics
- **XE-E** – Thermodynamics
- **XE-F** – Polymer Science and Engineering
- **XE-G** – Food technology
- **XE-H** – Atmospheric and Oceanic Sciences

NOTE: Each subject (chosen ones) will carry 35 marks.

GATE is a national level exam which is held for admission to M.Tech/ Ph.D. in the field of engineering and technology. It is conducted on a rotational basis by zonal IITs and IISc Bangalore. **Candidates can check the revised Engineering Sciences syllabus for all the sections along with important books and preparation tips below.**

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- How to Prepare Online for GATE 2021?

GATE 2021 XE-A Engineering Mathematics Syllabus (Compulsory)

Engineering Mathematics is a branch of applied mathematics concerning mathematical methods and techniques that are typically used in engineering and industry. It is an interdisciplinary subject motivated by engineers' needs both for practical, theoretical and other considerations out with their specialization, and to deal with constraints to be effective in their work.

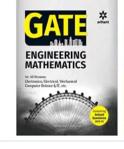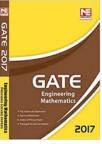**APPLY NOW**   ✓ **CHECK ELIGIBILITY**   **GET UPDATES**

- Linear Algebra
- Calculus
- Vector Calculus
- Complex variables
- Ordinary Differential Equations
- Partial Differential Equations
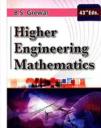- Probability and Statistics
- Numerical Methods

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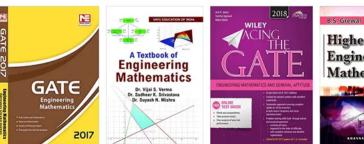
Engineering Mathematics Important Books

Book Name	Author	ISBN Number

GATE Engineering Mathematics	Abhinav Goel, Suraj Singh	935203550X, 978-9352035502
Higher Engineering Mathematics	B.S. Grewal	8174091955, 978-8174091956
GATE 2017: Engineering Mathematics	ME Team	9351471977, 978-9351471974
A Textbook of Engineering Mathematics	Dr. Sudheer K. Srivastava, Dr. Suyash N. Mishra Dr. Vijai S. Verma	9383758465, 978-9383758463
Wiley Acing the Gate: Engineering Mathematics and General Aptitude	Anil K. Maini, Varsha Agrawal, Nakul Maini	8126567430, 978-8126567430

GATE 2021 XE-B Fluid Mechanics Syllabus

Fluid Mechanics is a branch of physics concerned with the mechanics of fluids and the forces on them. Fluid mechanics has a wide range of applications, including mechanical engineering, civil engineering, chemical engineering, biomedical engineering, geophysics, astrophysics, and biology.

Section 1: Flow and Fluid Properties

- **Fluid Properties:** Density, viscosity, surface tension, relationship between stress and strain-rate for Newtonian fluids.
- **Classification of Flows:** Viscous versus inviscid flows, incompressible versus compressible flows, internal versus external flows, steady versus unsteady flows, laminar versus turbulent flows, 1-D, 2-D and 3-D flows, Newtonian versus non-Newtonian fluid flow.
- **Hydrostatics:** Buoyancy, manometry, forces on submerged bodies and its stability.

Section 2: Kinematics

- Eulerian and Lagrangian descriptions of fluid motion.
- Concept of local, convective and material derivatives. Streamline, streakline, pathline and timeline.

Section 3: Integral analysis

- Reynolds Transport Theorem (RTT) for conservation of mass, linear and angular momentum.

Section 4: Differential Analysis

- Differential equations of mass and momentum for incompressible flows.
- Inviscid flows - Euler equations and viscous flows - Navier-Stokes equations.
- Concept of fluid rotation, vorticity, stream function and circulation.
- Exact solutions of Navier-Stokes equations for Couette flow and Poiseuille flow, thin film flow.

Section 5: Dimensional analysis

- Concept of geometric, kinematic and dynamic similarity.
- Buckingham Pi theorem and its applications.
- Non-dimensional parameters and their physical significance - Reynolds number, Froude number and Mach number.

Section 6: Internal flows

- Fully developed pipe flow.
- Empirical relations for laminar and turbulent flows: friction factor, Darcy-Weisbach relation and Moody's chart.
- Major and minor losses.

Section 7: Bernoulli's Equation and its Applications, Potential Flows

- **Bernoulli's equation:** Assumptions and applications.
- **Flow measurements -** Venturi meter, Pitot-static tube and orifice meter.
- **Elementary potential flows:** Velocity potential function.
- Uniform flow, source, sink and vortex, and their superposition for flow past simple geometries.

Section 8: External Flows

- **Prandtl boundary layer equations:** Concept and assumptions.
- **Boundary layer characteristics:** Boundary layer thickness, displacement thickness and momentum thickness.
- Qualitative idea of boundary layer separation, streamlined and bluff bodies, and drag and lift forces.

Direct link to download GATE Fluid Mechanics (XE-B) syllabus PDF

Fluid Mechanics Important Books

Book Name	Author
Fluid Mechanics: Fundamentals and Applications	Yunus A. Cengel, John Cimbala
A Textbook of Fluid Mechanics and Hydraulic Machines	R.K. Bansal
A Textbook of Fluid Mechanics	R.K. Bansal
Fundamentals of fluid mechanics	Bruce Roy Munson
An Introduction to Fluid Dynamics	George Batchelor

GATE 2021 XE-C Materials Science Syllabus

The interdisciplinary field of materials science, also commonly termed materials science and engineering, involves the discovery and design of new materials, with an emphasis on solids.

Section 1: Classification and Structure of Materials

- Classification of materials: metals, ceramics, polymers and composites.
- Nature of bonding in materials:metallic,ionic, covalent and mixed bonding; structure of materials:fundamentals of crystallography, symmetry operations, crystal systems, Bravais lattices, unit cells, primitive cells, crystallographic planes and directions; structures of metals, ceramics, polymers, amorphous materials and glasses.
- Defects in crystalline materials: 0-D, 1-D and 2-D defects; vacancies, interstitials, solid solutions in metals and ceramics, Frenkel and Schottky defects; dislocations; grain boundaries, twins, stacking faults; surfaces and interfaces.

Section 2: Thermodynamics, Kinetics and Phase Transformations

- Extensive and intensive thermodynamic properties, laws of thermodynamics, phase equilibria, phase rule, phase diagrams (unary and binary), basic electrochemistry.
- Reaction kinetics, fundamentals of diffusion, Fick's laws, their solutions and applications.
- Solidification of pure metals and alloys, nucleation andgrowth, diffusional solid-state phase transformations (precipitation and eutectoid), martensitic transformation.

Section 3: Properties and Applications of Materials

- Mechanical properties of metals, ceramics, polymers and composites at room temperature; stress-strain response (elastic, anelastic and plastic deformation).
- Electronic properties: free electron theory, Fermi energy, density of states, elements of band theory, semiconductors, Hall effect, dielectric behaviour, piezo- and ferro-electric behaviour.
- Magnetic properties:Origin of magnetism in materials, para-, dia-, ferro- and ferri-magnetism.
- Thermal properties: Specific heat, heat conduction, thermal diffusivity, thermal expansion, and thermoelectricity.
- Optical properties: Refractive index, absorption and transmission of electromagnetic radiation.
- Examples of materials exhibiting the above properties, and their typical/common applications.

Section 4: Characterization and Measurements of Properties

- X-ray diffraction;spectroscopic techniques such as UV-Vis, IR and Raman; optical microscopy, electron microscopy, composition analysisin electron microscopes.
- Tensile test, hardness measurement.
- Electrical conductivity, carrier mobility and concentrations.
- Thermal analysis techniques: thermogravimetry and calorimetry.

Section 5: Processing of Materials

- Heat treatment of ferrous and aluminium alloys; preparation of ceramic powders, sintering; thin film deposition: evaporation and sputtering techniques, and chemical vapour deposition, thin film growth phenomena.

Section 6: Degradation of Materials

- Corrosion and its prevention; embrittlement of metals; polymer degradation.

Direct link to download GATE Material Science (XE-C) syllabus PDF

Material Science Important Books

Book Name	Author	ISBN Number
Material Science and Engineering	William F. Smith, Javad Hashemi, Ravi Prakash	1259062759, 978-1259062759
Materials Science and Engineering - SIE	William Smith, Javad Hashemi, Ravi Prakash	0070667179, 978-0070667174
Materials Science and Engineering	I P Singh	8183600956, 978-8183600958
Materials Science	Sedha R.S.	8121901464, 978-8121901468
Basics of Material Science and Engineering	Made Easy Editorial Board	9351472078, 978-9351472070

GATE 2021 XE-D Solid Mechanics Syllabus

Solid mechanics is the branch of continuum mechanics that studies the behavior of solid materials, especially their motion and deformation under the action of forces, temperature changes, phase changes, and other external or internal agents. **Solid mechanics is fundamental for civil, aerospace, nuclear, biomedical and mechanical engineering, for geology, and for many branches of physics such as materials science.**

Section 1: Mechanics of rigid bodies

- Equivalent force systems; free-body diagrams; equilibrium equations; analysis of determinate trusses and frames; friction; principle of minimum potential energy; particle kinematics and dynamics; dynamics of rigid bodies under planar motion; law of conservation of energy; law of conservation of momentum.

Section 2: Mechanics of deformable bodies

- Stresses and strains; transformation of stresses and strains, principal stresses and strains; Mohr's circle for plane stress and plane strain; generalized Hooke's Law; elastic constants; thermal stresses; theories of failure.

- Axial force, shear force and bending moment diagrams; axial, shear and bending stresses; combined stresses; deflection (for symmetric bending); torsion in circular shafts; thin walled pressure vessels; energy methods (Castigliano's Theorems); Euler buckling.

Section 3: Vibrations
- Free vibration of undamped single degree of freedom systems.

Direct link to download GATE Solid Mechanics (XE-D) syllabus PDF

Solid Mechanics Important Books

Book Name	Author	ISBN Number
Fundamentals of Solid Mechanics: A Treatise on Strength of Materials	Gambhir M.L	8120338707, 978-8120338708
Solid Mechanics: Theory, Modeling, and Problems	Albrecht Bertram, Rainer Glüge	3319360035, 978-3319360034
Strength of Materials (Mechanics of Solids)	R.K. Rajput	9350144786, 978-9350144787

GATE 2021 XE-E Thermodynamics Syllabus

Thermodynamics is a branch of physics concerned with heat and temperature and their relation to energy and work. It applies to a wide variety of topics in science and engineering, especially physical chemistry, chemical engineering and mechanical engineering.

Section 1: Basic Concepts
- Continuum and macroscopic approach; thermodynamic systems (closed and open); thermodynamic properties and equilibrium; state of a system, state postulate for simple compressible substances, state diagrams, paths and processes on state diagrams; concepts of heat and work, different modes of work; zeroth law of thermodynamics; concept of temperature.

Section 2: First Law of Thermodynamics
- Concept of energy and various forms of energy; internal energy, enthalpy; specific heats; first law applied to elementary processes, closed systems and control volumes, steady and unsteady flow analysis.

Section 3: Second Law of Thermodynamics
- Limitations of the first law of thermodynamics, concepts of heat engines and heat pumps/refrigerators, Kelvin-Planck and Clausius statements and their equivalence; reversible and irreversible processes
- Carnot cycle and Carnot principles/theorems; thermodynamic temperature scale
- Clausius inequality and concept of entropy; microscopic interpretation of entropy, the principle of increase of entropy
- T-s diagrams; second law analysis of control volume; availability and irreversibility; third law of thermodynamics.

Section 4: Properties of Pure Substances
- Thermodynamic properties of pure substances in solid, liquid and vapor phases
- P-vT behaviour of simple compressible substances, phase rule, thermodynamic property tables and charts, ideal and real gases, ideal gas equation of state and van der Waals equation of state; law of corresponding states, compressibility factor and generalized compressibility chart.

Section 5: Thermodynamic Relations
- T-ds relations, Helmholtz and Gibbs functions, Gibbs relations
- Maxwell relations, Joule-Thomson coefficient, coefficient of volume expansion, adiabatic and isothermal compressibilities, Clapeyron and Clapeyron-Clausius equations.

Section 6: Thermodynamic Cycles
- Carnot vapor cycle, ideal Rankine cycle
- Rankine reheat cycle, air-standard Otto cycle, air-standard Diesel cycle, air-standard Brayton cycle, vapor-compression refrigeration cycle.
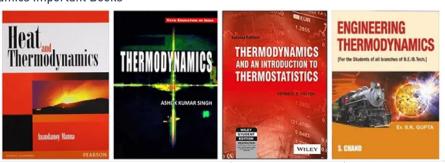
Section 7: Ideal Gas Mixtures
- Dalton's and Amagat's laws, properties of ideal gas mixtures, air-water vapor mixtures and simple thermodynamic processes involving them; specific and relative humidities, dew point and wet bulb temperature, adiabatic saturation temperature, psychrometric chart.

Direct link to download GATE Thermodynamics (XE-E) syllabus PDF

Thermodynamics Important Books

Book Name	Author	ISBN Number
Heat and Thermodynamics	Anandamoy Manna	8131754006, 978-8131754009

Thermodynamics	Singh Kumar Ashok	9383137967, 978-9383137961
Thermodynamics and An Introduction to Thermostatistics	Herbert B Callen	8126508124, 978-8126508129
Engineering Thermodynamics	Gupta S.K.	8121942705, 978-8121942706

GATE 2021 XE-F Polymer Science and Engineering Syllabus

Polymer science or macromolecular science is a subfield of materials science concerned with polymers, primarily synthetic polymers such as plastics and elastomers. The field of polymer science includes researchers in multiple disciplines including chemistry, physics, and engineering.

Section 1: Chemistry of high polymers

- Monomers, functionality, degree of polymerizations, classification of polymers, glass transition, melting transition, criteria for rubberiness, polymerization methods: addition and condensation; their kinetics, metallocene polymers and other newer methods of polymerization, copolymerization, monomer reactivity ratios and its significance, kinetics, different copolymers, random, alternating, azeotropic copolymerization, block and graft copolymers, techniques for polymerization-bulk, solution, suspension, emulsion.
- Concept of intermolecular order (morphology) – amorphous, crystalline, orientation states. Factor affecting crystallinity. Crystalline transition. Effect of morphology on polymer properties.

Section 2: Polymer Characterization

- Solubility and swelling, concept of average molecular weight, determination of number average, weight average, viscosity average and Z-average molecular weights, polymer crystallinity, analysis of polymers using IR, XRD, thermal (DSC, DMTA, TGA), microscopic (optical and electronic) techniques.

Section 3: Synthesis, manufacturing and properties

- Commodity and general purpose thermoplastics: PE, PP, PS, PVC, Polyesters, Acrylic, PU polymers.
- Engineering Plastics: Nylon, PC, PBT, PSU, PPO, ABS, Fluoropolymers Thermosetting polymers: Polyurethane, PF, MF, UF, Epoxy, Unsaturated polyester, Alkyds. Natural and synthetic rubbers: Recovery of NR hydrocarbon from latex; SBR, Nitrile, CR, CSM, EPDM, IIR, BR, Silicone, TPE, Speciality plastics: PEK, PEEK, PPS, PSU, PES etc. Biopolymers such as PLA, PHA/PHB.

Section 4: Polymer blends and composites

- Difference between blends and composites, their significance, choice of polymers for blending, blend miscibility-miscible and immiscible blends, thermodynamics, phase morphology, polymer alloys, polymer eutectics, plastic-plastic, rubber-plastic and rubber-rubber blends, FRP, particulate, long and short fibre reinforced composites.

Section 5: Polymer Technology

- Polymer compounding-need and significance, different compounding ingredients for rubber and plastics (Antioxidants, Light stabilizers, UV stabilizers, Lubricants, Processing aids, Impact modifiers, Flame retardant, antistatic agents.
- PVC stabilizers and Plasticizers) and their function, use of carbon black, polymer mixing equipments, cross-linking and vulcanization, vulcanization kinetics.

Section 6: Polymer rheology

- Flow of Newtonian and non-Newtonian fluids, different flow equations, dependence of shear modulus on temperature, molecular/segmental deformations at different zones and transitions
- Measurements of rheological parameters by capillary rotating, parallel plate, cone-plate rheometer. Viscoelasticity-creep and stress relaxations, mechanical models, control of rheological characteristics through compounding, rubber curing in parallel plate viscometer, ODR and MDR.

Section 7: Polymer processing

- Compression molding, transfer molding, injection molding, blow molding, reaction injection molding, extrusion, pultrusion, calendaring, rotational molding, thermoforming, rubber processing in two-roll mill, internal mixer.
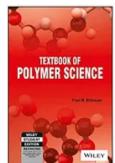
Section 8: Polymer testing

- Mechanical-static and dynamic tensile, flexural, compressive, abrasion, endurance, fatigue, hardness, tear, resilience, impact, toughness
- Conductivity-thermal and electrical, dielectric constant, dissipation factor, power factor, electric resistance, surface resistivity, volume resistivity, swelling, ageing resistance, environmental stress cracking resistance.
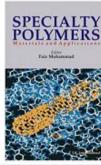
Section 9: Polymer Recycling and Waste management
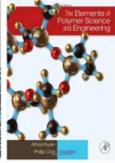
- Polymer waste, and its impact on environment, Sources, Identification and Separation techniques, recycling classification, recycling of thermoplastics, thermosets and rubbers, applications of recycled materials.
- Life cycle assessment of polymer products (case studies like PET bottles, packaging bags)

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Polymer Science and Engineering Important Books

Book Name	Author	ISBN Number
Textbook of Polymer Science	Fred W. Billmeyer	8126511109, 978-8126511105
Specialty Polymers: Materials and Applications	Faiz Mohammad	8188237655, 978-8188237654
The Elements of Polymer Science and Engineering	Alfred Rudin Phillip Choi	9780123821782, 0123821789
Introduction To Polymer Science And Technology	N. B. Singh	8122430074

GATE 2021 XE-G Food Technology Syllabus

Food technology is a branch of food science that deals with the production processes that make foods.

- Food Chemistry and Nutrition
- Food Microbiology
- Food Products Technology
- Food Engineering

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Food Technology Important Books

Book Name	Author	ISBN Number
Training Manual for Food and Beverage Services	Mahendra Singh Negi	9385909185, 978-9385909184
Food Science	B Srilakshmi	8122438091, 978-8122438093
Question Bank on food Science and Technology	U D Chavan	8170358825, 978-8170358824
Foods Facts and Principles	N. Shakuntala Mana	8122422152, 978-8122422153

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GATE 2021 XE-H Atmospheric & Ocean Science Syllabus

Section A: Atmospheric Science

- Vertical Structure and Composition of the Atmosphere; Blackbody Radiation and Radiation Balance; Modes of Heat Transfer in the Atmosphere; Greenhouse Effect; Cloud Types; Laws of Thermodynamics; Gas Laws; Hydrostatic Equation; Clausius Clapeyron Equation; Adiabatic Processes, Humidity in the Atmosphere, Atmospheric Stability; Weather and Climate.
- Navier-Stokes and Continuity Equations; Compressible and Incompressible Fluids; Pressure Gradient, Centripetal, Centrifugal and Coriolis Forces; Geostrophic, Gradient and Cyclostrophic Balances; Circulations and Vorticity, General Circulation of the Atmosphere. Broad Features of Indian Monsoons, Monsoon Depressions; Tropical Convergence Zones; Tropical Cyclones.

Section B: Ocean Sciences

- Vertical Profiles of Temperature and Salinity; Stability and Double Diffusion; Equation of State, Equations for Conservation of Mass, Momentum, Heat and Salt; Inertial Currents; Geostrophic Motion; Air-Sea Surface Fluxes; Wind-driven Circulation, Ekman and Sverdrup Transports; Storm Surges, Tides, Tsunamis and Wind Waves; Eddies and Gyres; Eastern and Western Boundary Currents, Equatorial Currents, Indian Ocean Current Systems; Thermohaline Circulation.
- Chemical Properties of Seawater, Major and Minor Elements, Ocean Acidification, Biochemical Cycling of Nutrients, Trace Metals and Organic Matter. Biological Pump; Primary and Secondary Biological Productivity; Air-sea Exchange of Biogenic Dissolved Gases; Marine Ecology.

Direct link to download GATE Atmospheric & Ocean Science (XE-H) syllabus PDF

GATE 2021 XE Exam Pattern

The exam pattern and the marking scheme for Engineering science paper is given below:

Section	Distribution of Marks
General Aptitude	5 questions of 1-mark each 5 questions of 2-marks each
Section A – Engineering Mathematics (compulsory)	7 questions of 1-mark each 4 questions of 2-marks each
Sections B to H (Any two)	9 questions of 1-mark each 13 questions of 2-marks each

- Mode of Examination is online
- The duration of the same is 3 hours.
- The total number of questions is 65 and the total marks are 100 marks.
- There will be negative marking for only the MCQs in the exam.

Check Detailed GATE 2021 Exam Pattern

How to Prepare for GATE 2021 Engineering Sciences Paper?

1. Choose your Sections or Papers Smartly

- In Engineering Sciences, section will be compulsory for all the candidates.
- Candidates will get an option to select 2 options or papers from section B to H.
- Choose these two subjects smartly. The selection should be based on your current qualification and interest.

2. Being thorough with the syllabus and important topics

- After the selection of subject go through the entire syllabus.
- You have to prepare for General aptitude, engineering mathematics, and 2 selected subjects.
- Do not get confused and prepare only for the selected subject syllabus.

3. Practice, practice and more practice

- All the candidates are advised to practice more and more so that you can easily solve the questions during the time of real examination.
- The practice will also help you in gaining accuracy and speed.
- With practice, you can easily identify the difficult and easy questions or direct questions and solve them accordingly.

4. Choosing the right reference books

- Select the right books for preparation.
- You can also go through the books of your graduation level.
- Select the books which are easy to understand and have all the basic details with examples.

5. Have a proper study plan

- Prepare a good study plan. Your study plan could be monthly or weekly.
- Follow your time table or study plan to complete the whole syllabus on time.
- Revising regularly

6. Solve mock tests and other practice papers

- The mock test will help you to identify your strong and weak areas.
- You can prepare from online sites and mobile apps
- Remember to prepare a list of important formulae.

Check GATE 2021 Mock Test

GATE 2021 Syllabus Of Other Papers

| Paper	Code	Paper	Code
Aerospace Engineering	AE	Mechanical Engineering	ME
Agricultural Engineering	AG	Metallurgical Engineering	MT
Civil Engineering	CE	Mining Engineering	MN
Chemical Engineering	CH	Petroleum Engineering	PE
Computer Science	CS	Production and Industrial Engineering	PI
Electronics and Communication	EC	Textile Engineering and Fibre Science	TF
Electrical Engineering	EE	Biotechnology	BT

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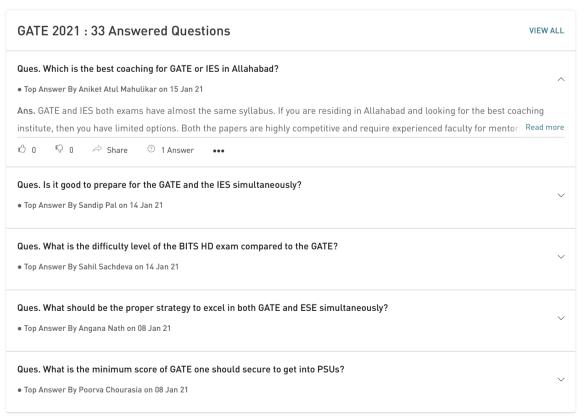
Ques: How many sections or subjects do I need to select in GATE Engineering Sciences paper?

Ques: Do I have to prepare for engineering mathematics in GATE Engineering Sciences paper?

Ques: Since there are multiples sections in this paper then what will be the marking scheme?

Ques: What are the major topics in XE-B and XE-E papers?

Ques: What is the difficulty level of GATE Engineering Sciences paper?

GATE 2021 : 33 Answered Questions

VIEW ALL

Ques. Which is the best coaching for GATE or IES in Allahabad?

● Top Answer By Aniket Atul Mahulikar on 15 Jan 21

Ans. GATE and IES both exams have almost the same syllabus. If you are residing in Allahabad and looking for the best coaching institute, then you have limited options. Both the papers are highly competitive and require experienced faculty for mentor... Read more

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Ques. Is it good to prepare for the GATE and the IES simultaneously?

● Top Answer By Sandip Pal on 14 Jan 21

Ques. What is the difficulty level of the BITS HD exam compared to the GATE?

● Top Answer By Sahil Sachdeva on 14 Jan 21

Ques. What should be the proper strategy to excel in both GATE and ESE simultaneously?

● Top Answer By Angana Nath on 08 Jan 21

Ques. What is the minimum score of GATE one should secure to get into PSUs?

● Top Answer By Poorva Chourasia on 08 Jan 21

*The article might have information for the previous academic years, which will be updated soon subject to the notification issued by the University/College.

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COMMENTS

1 Comments

T **Tanishka Shah**
How is the syllabus different from electronics and communication?

R **Rakhisree Chatterjee**
Hi, The syllabus for GATE ECE is Boolean algebra, minimization of Boolean functions; logic gates; digital IC families (DTL, TTL, ECL, MOS, CMOS). Combinatorial circuits: arithmetic circuits, code converters, multiplexers, decoders, PROMs and PLAs. Sequential circuits: latches and flip-flops, counters and shift-registers.

R **Rakhisree Chatterjee**
Hi, The syllabus for GATE ECE is Boolean algebra, minimization of Boolean functions; logic gates; digital IC families (DTL, TTL, ECL, MOS, CMOS). Combinatorial circuits: arithmetic circuits, code converters, multiplexers, decoders, PROMs and PLAs. Sequential circuits: latches and flip-flops, counters and shift-registers.

- NO MORE COMMENTS -

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