Undergraduate Admissions for A.Y. 2024-25

@ IIT Delhi Abu Dhabi campus

Combined Admission Entrance Test
Special Drive for UAE Nationals
CAET-SD 2024

Information Brochure

Organized by:

JEE/CAET Office
Indian Institute of Technology Delhi

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1. About Indian Institute of Technology Delhi Abu Dhabi

Indian Institutes of Technology (IITs) are institutions of national importance established through Acts of Indian Parliament for fostering excellence in education. Over the years, IITs have created a world class educational platform that is dynamically sustained through quality teaching and internationally acclaimed research with excellent infrastructure and the best available minds. The faculty and alums of IITs occupy key positions in academia and industry throughout the world and continue to make a considerable impact on all sections of society. At present, there are twenty-three IITs across the country, and IIT Delhi is one of them.

IIT Delhi Abu Dhabi campus is a visionary step towards expanding the horizons of education, research, and innovation. This campus also represents our commitment to providing a world-class learning environment for students, faculty, and researchers. IIT Delhi Abu Dhabi campus will admit first batch of undergraduate (UG) students in August/September 2024.

2. Academic Programs

The following academic programs will be offered at IIT Delhi Abu Dhabi campus in the A.Y. 2024-25.

| Bachelor of Technology (B. Tech.) Duration: 4 years | Computer Science and Engineering |
| | Energy Engineering |

The details of the above mentioned academic programs will be updated (in due course of time) on the IIT Delhi Abu Dhabi campus website at the link: https://abudhabi.iitd.ac.in

3. Admission Process

The admissions in the above-mentioned academic programs for the A.Y. 2024-25 will be through two modes: (1) Combined Admission Entrance Test (CAET) 2024, and (2) JEE (Advanced) 2024. The eligibility criteria and other details/requirements of JEE (Advanced) 2024 can be found at https://jeeadv.ac.in/index.html. However, the admission eligibility criteria for mode (1) are given below where the candidate must fulfill all criteria.

	UAE Nationals and UAE Residents[1] and International Students[2]
Criterion 1:	Must have secured at least 75% aggregate marks (or its equivalent) in Class/Grade XII (or equivalent) Board examination[3]. **OR** Must be in the top 20 percentile in their respective Class/Grade XII (or equivalent) Board examination[3].
Criterion 2:	Candidates should have been born on or after 01 October 1999.

	Two-years age relaxation may be applicable as per UAE national policy.
Criterion 3:	Maximum two attempts in two consecutive years.
Criterion 4:	A candidate should have appeared for the Class/Grade XII (or equivalent) examination for the first time in either the current year or the year immediately preceding[4].
Criterion 5:	A candidate should NOT have been admitted to any IIT earlier, irrespective of whether or not the candidate continued in the program OR accepted and then vacated an IIT seat.

[1]*Indian nationals who are wards of UAE residents living in UAE for at least past five years and have completed their class X to XII standard of schooling in the UAE.*

[2]*Other than UAE and Indian Nationals. Also, candidates who have secured OCI/PIO card on or after 04.03.2021 shall be considered as international students.*

[3]*The marks scored in the following five subjects will be considered for calculating the aggregate marks and the cut-off marks for percentile: Physics, Chemistry, Mathematics, a language, and one more subject other than the above four.*

[4]*One year relaxation will be given to UAE Nationals who served one-year compulsory military service supported by a valid certificate.*

4. About CAET-SD 2024

The CAET-SD will be conducted on **4th August 2024 (Sunday)** at Abu Dhabi centre.

The language of the CAET will be **English**.

The test will consist of three question papers of 90 minutes duration each on Physics, Chemistry and Mathematics in the following time slots: **Physics** (8:30-10:00 AM), **Chemistry** (11:30 AM -1:00 PM), and **Mathematics** (2:30-4:00 PM). Appearing for all the papers is compulsory. The syllabi are given in Annexure I.

5. Shortlisting Criteria for CAET-SD 2024

CAET-SD 2024 is open only to UAE nationals. The UAE nationals **who have NOT appeared/qualified or have been awarded preparatory rank in CAET 2024 (held on 23 June 2024) are eligible.** Also, to be eligible to appear in CAET-SD 2024, the applicants need to secure a valid score either in EmSAT **OR** SAT as per the details below:

EmSAT	A valid minimum score of 1150 (out of 2000) in Mathematics paper of EmSAT
SAT	A valid minimum score of 700 (out of 800) in Mathematics

6. Important Dates of CAET-SD 2024

Start of online registration$	12 July 2024 (Friday)
End of online registration	25 July 2024 (Thursday)
Admit card download$	31 July 2024 (Wednesday)
Entrance test	4 August 2024 (Sunday)
Entrance test slots	Physics (8:30 -10:00 AM), Chemistry (11:30 AM -1:00 PM), Mathematics (2:30 -4:00 PM)

	Appearing in all the papers is compulsory
Reporting time at the centre	30 minutes before the start of each paper
Display of answer keys$^\$$	Within 02 days after CAET-SD 2024
Feedback from candidates on answer keys	Within 05 days after CAET-SD 2024
Final display of answer keys$^\$$	Within 7 days after CAET-SD 2024
CAET-SD 2024 result$^\$$	13 August 2024 (Tuesday)
Seat Allocation Process	August 2024

$^\$$Please visit https://abudhabi.iitd.ac.in/

7. Mode of CAET-SD 2024

The CAET-SD 2024 would be **non-computer (pen-paper)** based and the responses to be marked on an **OMR** (Optical Mark Recognition) sheet provided to the candidate.

8. Registration Fee

There will no registration fee for CAET-SD 2024.

9. Question Papers

I. The question papers will consist of questions designed to test subject knowledge.

II. The candidates must carefully read and adhere to the detailed instructions given in the question papers available at the time of examination.

III. The question papers will be in English only.

IV. Although sufficient care will be taken for the correctness of questions, in the event that a question(s) needs to be dropped, full marks for that question(s) will be awarded to ALL candidates.

10. Services of a Scribe and extra time for PoD candidates

I. The PoD (Person of Determination) candidates are eligible for 30 minutes compensatory time for each paper and for the service of a scribe. In addition, for CAET-SD 2024 the UAE government laws on the matter may be applicable.

II. These candidates would be required to upload the requisite certificate duly signed by the medical authority of the UAE Government.

III. Candidates who desire to avail the services of a scribe need to opt for this during the online registration of CAET-SD 2024.

IV. The scribe will help the candidate only in reading the questions and/or darkening the oval in OMR sheet as per the directions of the candidate. A scribe will NEITHER explain the questions NOR suggest any solutions.

V. JEE Office, IIT Delhi will make necessary arrangements, through the IIT Delhi Abu Dhabi office to provide a panel of scribes (amanuenses). Scribes would preferably be students of class XI from the science stream with Mathematics as one of the subjects.

VI. The candidate will be allowed to meet the panel of scribes one day prior to the examination, i.e., **3 August 2024 (Saturday)** in the presence of the IIT Delhi Abu Dhabi Representatives (IRs) and an Invigilator, and choose any one of the scribes.

VII. The candidate will NOT be allowed to bring their own scribe.

VIII. If it is found at any stage that a candidate has availed the services of a scribe and/or availed the compensatory time, but does not possess a valid certificate, the candidate will be excluded from the process of evaluation, ranking, and admission. In case such a candidate has already been admitted to IIT Delhi Abu Dhabi campus, the admission of the candidate will be cancelled.

11. Important instructions to be followed on the day of the examination

I. Candidates MUST carry a printed copy of the downloaded admit card and their valid original photo identity card (any photo ID acceptable in UAE) for the entrance test. Only candidates having a valid admit card and photo identity card will be allowed to write the entrance test.

II. Candidates are advised to bring their own writing materials such as pen, pencil, rubber, eraser and sharpener. Exchange of these items is NOT allowed.

III. The candidate's identity will be verified at the examination centre by invigilators as well as IIT Delhi representatives. If the identity of the candidate is in doubt, the candidate may not be allowed to appear for the entrance test. However, the IIT Delhi authorities, at their discretion, may provisionally permit the candidate to appear for the test after completing certain formalities. No extra time will be allowed for completing the examination in lieu of the time taken for completing these formalities. In such cases where the candidate is permitted to provisionally appear for the examination, the decision of the Chairperson, JEE office, IIT Delhi on the issue, shall be final.

IV. Impersonation and/or use of unfair means in the examination are considered as serious offences and will lead to disqualification of one's candidature from the test and all admission related processes. It may also lead to legal action against such candidates.

V. Only pens, pencils, drinking water in transparent bottle, downloaded admit card and an original photo identity card are allowed to be taken inside the examination hall.

VI. The following items will **NOT** be allowed inside the examination centre: programmable calculators, mobile phones, bluetooth devices, earphones, microphones, pagers, smart

watches or any other electronic gadgets, any printed/blank/handwritten paper, log tables, writing pads, pen drives, electronic pens/Scanner, camera or similar such items.

VII. Any other item which could be used for unfair means, or for hiding communication devices like a microchip, camera, bluetooth device, etc., is **NOT** permitted.

VIII. Candidates arriving at the examination centres after commencement of the test will **NOT** be allowed to take the examination under any circumstances.

IX. Appearing in all Papers is compulsory. Therefore, the responses of ONLY those candidates who have appeared for all papers will be evaluated/graded.

X. Currently NO COVID-19 related restrictions are in place by the Government of UAE and Government of India. In the event that the same are made applicable around that time, an appropriate message will be displayed on the IIT Delhi Abu Dhabi website (https://abudhabi.iitd.ac.in/) for the information of the candidates.

12. Rank List

I. Only candidates who appear in all papers will be considered for rank list.

II. Only those candidates who score the minimum prescribed marks in each subject AND also in aggregate will be included in the rank list: minimum 10 percentage of marks in each subject and minimum 35 percentage of aggregate marks. Minimum percentage of marks may be lowered subsequently, if required.

III. The aggregate marks obtained by a candidate in the CAET 2024 will be the sum of the marks awarded to the candidate in Physics, Chemistry and Mathematics.

IV. If the aggregate marks scored by two or more candidates are the same, then the following tie-break policy will be used for awarding ranks:

  a. *Step 1:* A higher rank will be assigned to the candidate who has obtained higher marks in Mathematics paper.

  b. *Step 2:* If the step 1 above does not break the tie, higher rank will be assigned to the candidate who has obtained higher marks in Physics paper.

  c. *Step 3:* If there is a tie even after step 2, candidates will be assigned the same rank.

13. Seat Allocation and Distribution

The seat allocation for IIT Delhi Abu Dhabi campus will be through a separate portal (which will be made available at https://abudhabi.iitd.ac.in) following two different modes (as per the admission process stated in section 3).

- For mode (1), the rank in the rank list secured by the candidate in the CAET 2024.
- For mode (2), the rank in the rank list secured by the candidate in the JEE

(Advanced) 2024.

Note: The seat allocation of CAET-SD 2024 qualified candidates will be for remaining vacant seats after completing the counselling process for CAET (conducted on 23 June 2024) qualified candidates of UAE national.

The final admission will be based on the preference of the branches opted by the candidate at the time of seat allocation process. The distribution for total seats is proposed to be as follows: 1/3rd for UAE nationals, 1/3rd for UAE residents/International Students, and 1/3rd through mode (2).

14. Seat Reservation

It will be governed as per the applicable policy.

15. Disclaimer

The decision of admission committee will be final in all matters related to CAET 2024 and admission to IIT Delhi Abu Dhabi campus for the A. Y. 2024-25. Any legal matter in regard of CAET 2024 are to be made to the UAE court of law.

16. Contact Details

Candidates may contact JEE office of IIT Delhi for any information/clarification regarding CAET 2024 at jeechair@admin.iitd.ac.in and jeevchair@admin.iitd.ac.in or call at office +91-11-2659-1734/35.

Annexure

PHYSICS

Mechanics:

Translational Motion: Distance and Displacement, Speed and Velocity, Acceleration, Kinematic Equations, Graphs of Motion, Forces, Newton's Laws of Motion, Newton's Law of Universal Gravitation, Falling Objects, Projectiles, Work, Energy, Power, Center of Mass, Linear Momentum and Impulse, Rotational Motion, Conservation of angular energy and conservation of angular momentum, laws of kinematics and dynamics. *Rotational Motion:* Rotational Kinematics, Moment of Inertia, Torque, Angular Momentum, Newton's Second Law for Rotation, Circular Motion, Static Equilibrium, Rotational Work, Rotational Energy, Simple Machines, Fluids mechanics laws such as Pascal's Principle, Archimedes' Principle and Bernoulli's Equation, Properties of fluids at rest (Hydrostatics). *Fluid mechanics*: Density and Pressure, Pascal's Principle, Archimedes' Principle, Hydrodynamics, Fluids Flow, Bernoulli's Equation.

Electromagnetism:

Electricity: Electric Charge, Electrostatic Force, Electric Feld, Electric Flux, Electrostatic Potential, Electrostatic Energy, Capacitors, Capacitance and Dielectrics, Electric Current, Electromotive Force, Resistance, Resistivity, and Ohm's Law, Electric Power and Joule's Heating, Direct Current (DC) and Alternating Current (AC) Electric Circuits. *Magnetism:* Magnet and Electromagnet Properties, Magnetic Field, Magnetic Flux, Magnetic Force, Magnetic Torque, Electromagnetic Induction Laws, Inductance, Transformers.

Waves and Optics:

Waves: Undamped Simple Harmonic Motion, Damped Oscillations, Driven (Forced) Oscillations and Resonance, Mechanical Waves Characteristics, Mechanical Waves Behavior, Sound in Motion (Doppler Effect). *Optics:* Electromagnetic Waves, Polarization, Interference, Diffraction, Reflection, Refraction, Mirrors, Thin Lenses.

Modern Physics:

Theory of relativity: Einstein's General Theory of Relativity, Equivalence Principle, Frames of Reference. Einstein's Special Theory of Relativity Postulates, Einstein's Special Theory of Relativity Consequences: (Length, Mass, Time, Energy, etc). *Atomic Physics:* Matter Waves: De Broglie Wavelength, Heisenberg Uncertainty Principle, Blackbody Radiations, Photoelectric Effect, The Compton Effect, Atomic Models and

Atomic Spectra, Quantum Physics Application. _Nuclear Physics:_ Nuclear Structure and Properties, Radioactivity, Nuclear Reactions, Elementary Particles, Composite Particles.

Thermal Physics

Temperature and Heat: Internal energy, temperature, heat, Temperature Scales, Thermal Equilibrium, Thermal Expansion, Quantity of Heat and Specific Heat Capacity, Calorimetry and Phase Changes, Mechanisms of Heat Transfer. _Thermodynamics:_ Ideal Gas Laws, Kinetic Molecular Theory, Zeroth Law of Thermodynamics (Absolute Zero), First Law of Thermodynamics, Second Law of Thermodynamics.

CHEMISTRY

Chemical foundation:

Steps of Scientific Process, Conversion of S.I. Units, Temperature Scales and Conversions, Density Calculations, Scientific Notation, Significant Figures, Accuracy and Precision, Dimensional Analysis.

Inorganic Chemistry:

Elements, Compounds, and Mixtures; Properties and Interconversions of Solids, Liquids and Gases, Physical and Chemical Changes and Properties of Matter, Laws of Definite Proportion and Conservation of mass, Development of Modern Atomic Theory, Protons, Neutrons, and Electrons, Atomic Number, Mass Number, Isotopes, Properties of Waves, Electromagnetic Radiation, Planck's Quantum Theory, The Photoelectric Effect, Emission Spectra, Distribution of Electrons, The Pauli Exclusion Principle, Hund's Rule, The Aufbau Principle, Periodic Classification of Elements, Periodicity (Atomic and Ionic Radius, Ionization Energy, Electron Affinity, and Electronegativity, Ionic Bond, Formulae of Ionic Compounds, Properties of Ionic Compounds, Covalent Bond, Electronegativity Values and Type of Bond, Lewis Structures for Atoms, Ions and Molecules, Molecular Geometry, Properties of Covalent Compounds, Intermolecular Forces, Properties of intermolecular Forces such as Surface Tension, Viscosity, Vapor Pressure, and Molar Heat of Vaporization, Interpretation of Heating and Cooling Curves, Stoichiometry, Electrolytic Properties of Aqueous Solutions, Factors Affecting Solubility, Molecular, Ionic and Net Ionic Equations, Properties of Acids and Bases, Arrhenius, Bronsted-Lowry, and Lewis, Definitions of Acids and Bases, Acid-Base Equilibria, Acid-Base Titrations, Oxidation and Reduction, Redox Reactions, Corrosion Formation and Protection, Redox

Titrations and Calculations, Electrolysis of water, molten and Aqueous Solutions, Gravimetric Analysis.

Organic Chemistry:

Chemical and Physical Properties of Organic Compounds, Hydrocarbon Types and Nomenclature, Saturated Hydrocarbons: Alkanes and Cycloalkanes, Unsaturated Hydrocarbons: Alkenes and Alkynes, Isomerism, Combustion, Addition, and Substitution Reactions, Aromatic Compounds Nomenclature, Reactions of Aromatic Compounds, Alcohols Nomenclature, Production of Alcohols by Fermentation and in Industry, Reactions of Alcohols, Aldehydes and Ketones Nomenclature and Formation, Carboxylic Acids and Esters, Nomenclature and Formation, Amine Types and Nomenclature, Addition and Condensation of Polymers.

Physical Chemistry:

Equipment and Units to Measure Gas Quantities, Molar Volume, Kinetic Molecular Theory, Total Pressure and Partial Pressures, The Gas Laws and Problems Involving T, V, P, and n, Pressure of a Gas Collected over Water, Reaction Rate, Factors that affect Reaction Rates, Diffusion Rates of Gases, The Rate Law, Stoichiometry of Gases, Heterogeneous and Homogeneous Catalysis, Collision Theory of Chemical Kinetics, Concept of Equilibrium, Factors that affect Equilibrium, The First Law of Thermodynamics, Enthalpy Changes ΔH, Enthalpy of Chemical Reactions, Calorimetry, Thermochemical Equations, Standard Enthalpy of Formation and Reaction, Second and Third Laws of Thermodynamics, Entropy Changes (ΔS), Gibbs Free Energy Changes ΔG, Factors Affecting Gibbs Free Energy ΔG.

Analytical Chemistry:

Experimental Measurements, Qualitative Analysis of Inorganic Ions, Chemical Hazards, Safety Principles, Determination of Physical Properties, Criteria of Purity, Instrumental Techniques.

Nuclear Chemistry:

Radioactive Decay, Nuclear Transformations, Nuclear Fission, Nuclear Fusion, Half-Life, Uses and Risks of Radioactivity.

MATHEMATICS

Algebra:

Interpret the structure of expressions, Write expressions in equivalent forms to solve problems, Perform arithmetic operations on polynomials, Understand the relationship between zeros and factors of polynomials, Use polynomial identities to solve problems,

Rewrite rational functions, Create equations that describe numbers or relationships, Understand solving equations as a process of reasoning and explain the reasoning, Solve equations and inequalities in one variable, Solve systems of equations, Represent and solve equations and inequalities graphically, Understand the concept of a function and use function notation, Interpret functions that arise in applications in terms of the context, Analyze functions using different representations, Build a function that models a relationship between two quantities, Build new functions from existing functions, Construct and compare linear and exponential models and solve problems, Interpret expressions for functions in terms of the situation they model, Extend the domain of trigonometric functions using the unit circle, Model periodic phenomena with trigonometric functions, Prove and apply trigonometric identities, Extend the properties of exponents to rational exponents, Use properties of rational and irrational numbers, Reason quantitatively and use units to solve problems, Perform operations with complex numbers, Represent and model with vector quantities, Perform operations on vectors, Perform operations on matrices, and use matrices in applications, Solve problems with limits, Solve basic differentiation problems, Solve basic integration problems.

Geometry:

Transformations for 2D and 3D shapes, Understand congruence in terms of transformation, Prove geometric theorems, Understand similarity in terms of similarity transformations, Prove theorems involving similarity, Define trigonometric ratios and solve problems involving right triangles, Apply trigonometry to general triangles, Understand and apply theorems about circles, Translate between the geometric description and the equation for a conic section, Use coordinates to prove simple geometric theorems algebraically, Explain volume formulas and use them to solve problems, Visualize relationships between 2D and 3D objects.

Statistics:

Summarize, represent, and interpret data on a single variable, Summarize, represent, and interpret data on two categorical and quantitative variables, interpret linear models, Understand and evaluate random processes underlying statistical experiments, Make inferences and justify conclusions from sample surveys, experiments and observational studies, Understand independence and conditional probability and use them to interpret data, Use the rules of probability to compute probabilities of compound events in a uniform probability model, Calculate expected values and use them to solve problems, Use probability to evaluate outcomes of decisions.