

**Prof. P. C. Thomas Classes & Chaithanya Classes**  
**JEE Advanced Unit-wise Practice Question Papers**

Dear Students,

Your attention is invited to a special programme for JEE Advanced training. The entire subject is divided into 16 units as shown in the schedule given below. The questions will be made available through the notes section (<https://profpthomasclasses.megaexams.com/references>) till the class room coaching starts. After the starting of class room coaching the question paper will be made available on Saturdays. You have 3 options. (1) Work out the question paper in three hours on any day according to your convenience before the next Sunday. (2) Work out one subject in an hour on any three days of the week. (3) Devote half an hour every day of the week.

Key and detailed solutions will be available along with the next paper. When you get the key, you will evaluate your answers and inform us your score. Only those who feel that they can take up the challenge need be a part of this special programme. A student who is serious about JEE Advanced must spend 10 hours on a working day including the online or offline tuition class. 5 to 6 hours sleep, 6 hrs for the school and 2 hrs for your personal matters. "A calm see has never created an expert navigator".

Preparation for JEE Advanced will make JEE Main an easy task. All students must give due importance to the preparation for KEAM.

Note:-The regular programme already given to you will continue. This is a special programme for selected students. The choice is given to the students.

**Thomas Johnson**  
Course Coordinator

**Prof. P.C.Thomas & Prof.(Dr.)K.T.Johnson**  
29-09-3-20

Date	Unit	Date	Unit
04-10-2020	Unit – 1	17-01-21	Unit – 9
11-10-2020		24-01-21	
18-10-2020	Unit – 2	31-01-21	Unit – 10
25-10-2020		07-02-21	
01-11-2020	Unit – 3	14-02-21	Unit – 11
08-11-2020		21-02-21	
15-11-2020	Unit – 4	28-02-21	Unit – 12
22-11-2020		07-03-21	
29-11-2020	Unit – 5	14-03-21	Unit – 13
06-12-2020		21-03-21	
13-12-2020	Unit – 6	28-03-21	Unit – 14
20-12-2020		04-04-21	
27-12-2020	Unit – 7	11-04-21	Unit – 15
31-12-2020		18-04-21	
03-01-2021	Unit - 8	25-04-21	Unit – 16
10-01-2021			

<b>Physics</b>	
<b>Units</b>	<b>Topic</b>
<b>1</b>	Motion in One Dimension.
	Vectors, Motion in Two&Three dimensions and Projectiles.
	Relative motion in 1, 2 &3 Dimensions and Circular Motion.
<b>2</b>	Laws of Motion.
	Constrained Motion (String, Wedge constraints etc.)
	Friction.
<b>3</b>	Work, Power and Energy.
	Centre of Mass and System of Particles.
<b>4</b>	Rotational Motion – 1(Kinematics and Dynamics of rotation)
	Rotational Motion – 2 (Angular momentum conservation, rolling and rigid body collisions)
<b>5</b>	Gravitation
<b>6</b>	Properties of solids
	Properties of Fluids (Fluid Statics and Fluid Dynamics)
<b>7</b>	Thermometry, Calorimetry and Heat Transfer
	Kinetic Theory and Thermodynamics
<b>8</b>	Oscillations
	Waves and Sound
<b>9</b>	Electrostatics (Field, Potential and Dipoles)
	Capacitors & Electrostatics – 2
<b>10</b>	Current Electricity
<b>11</b>	Magnetism and Magnetic Effects of Electric current
<b>12</b>	Electromagnetic Induction
<b>13</b>	Electric Circuits and networks (only R, R-C, R-L and R-L-C)
	Alternating Current Circuits
<b>14</b>	Geometrical Optics
<b>15</b>	Wave Optics (Wave fronts and YDSE only)
	Modern Physics – 1 (Photo electricity, X-rays and Matter waves)
<b>16</b>	Modern Physics – 2 ( Atomic Physics and Spectra)
	Modern Physics – 3 ( Nuclear Physics and Radioactivity)
<b>17</b>	Experimental Physics
	Units, Dimensions, Measurements and Errors

**Physics – Question No. 1 to 18**

<b>Chemistry</b>	
<b>Units</b>	<b>Topic</b>
<b>1</b>	General topics (Mole concepts, Redox reactions)
<b>2</b>	Atomic structure and chemical bonding (and periodic classification)
<b>3</b>	Gaseous and liquid states
<b>4</b>	Energetics
<b>5</b>	Chemical equilibrium
<b>6</b>	Electrochemistry
<b>7</b>	Chemical kinetics, Nuclear Chemistry
<b>8</b>	Solid state, Solutions, Surface Chemistry
<b>9</b>	Inorganic Chemistry, Isolation / preparation and properties of the following non-metals and their compounds. (Hydrogen, Boron, Silicon, etc)
<b>10</b>	Transition elements (3 <sup>rd</sup> series) Preparation and properties of the following compounds (like KMnO <sub>4</sub> , K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> , CuSO <sub>4</sub> , etc)
<b>11</b>	Ores and minerals, Extractive metallurgy, Principles of qualitative analysis

12	Organic Chemistry – Concepts (including reaction mechanism)
13	Preparation, properties and reactions of alkanes Preparation, properties and reactions of alkenes and alkynes Reactions of benzene
14	Haloalkanes, Haloarenes, Alcohols, Phenols, Ethers Characteristic reactions of the following (including those mentioned above)
15	Aldehydes, Ketones, Acids, Carbohydrates, Amino acids and peptides, Nucleic acids
16	Properties and uses of some important polymers, Practical organic Chemistry

**Chemistry – Question No. 19 to 36**

<b>Maths</b>	
<b>Units</b>	<b>Topic</b>
1	Complex Numbers, Quadratic Equation (Theory of Equation), Linear Inequation (Theory of equation)
2	Sequences and series, Logarithms and their properties, Infinite
3	Permutations & Combinations, Binomial Theorem
4	Trigonometric functions (Trigonometry), Trigonometric Equations (Trigonometry), Solutions of Triangles (Trigonometry)
5	Cartesian Coordinates (Two dimensions), Straight lines (Two dimensions), Sets
6	Conic sections, Statistics
7	Relations and Functions
8	Inverse Trigonometric Functions
9	Matrices & Determinants
10	Limits & Continuity of functions, Differentiability, Derivative of functions
11	Application of derivatives
12	Integral Calculus – Indefinite Integrals, Integral Calculus – Definite integrals
13	Application of integrals, Differential equations
14	Vectors
15	Three Dimensional Geometry
16	Probability

**Maths – Question No. 37 to 54**