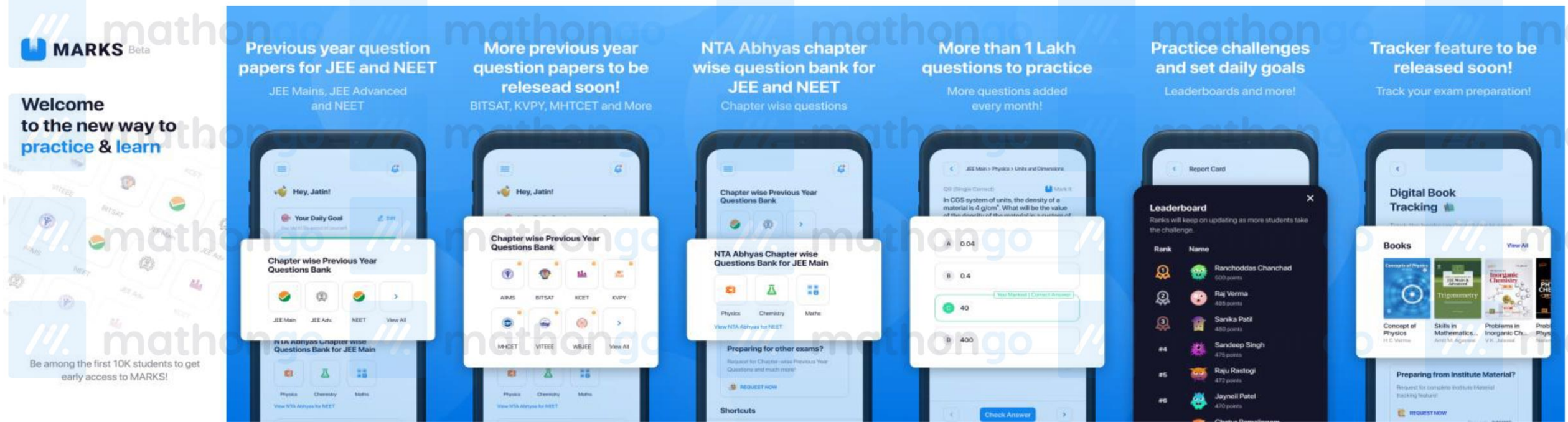
PHYSICS MOST IMPORTANT CHAPTERS FOR JEE MAIN 2022



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	Chapter	2019	2020	2021	2019 + 2021
1	Current Electricity	42	27	49	91
2	Rotational Motion	31	24	39	70
3	Electrostatics	27	18	32	59
4	Semiconductors	16	15	42	58
5	Ray Optics	26	20	31	57
6	Oscillations	14	5	36	50
7	Alternating Current	10	11	40	50
8	Gravitation	17	16	32	49
9	Magnetic Effects of Current	24	26	23	47
10	Dual Nature of Matter	17	15	30	47
11	Thermodynamics	14	19	32	46
12	Kinetic Theory of Gases	19	16	26	45
13	Mathematics in Physics	14	5	25	39
14	Waves and Sound	19	13	19	38
15	Laws of Motion	10	8	28	38
16	Electromagnetic Waves	15	13	22	37
17	Communication System	13	1	24	37
18	Capacitance	15	13	20	35
19	Motion In Two Dimensions	12	6	20	32
20	Motion In One Dimension	7	17	25	32
21	Nuclear Physics	9	8	22	31
22	Center of Mass Momentum and Collision	15	19	15	30
23	Wave Optics	12	14	16	28
24	Thermal Properties of Matter	13	10	15	28
25	Work Power Energy	7	8	20	27
26	Atomic Physics	10	6	17	27
27	Units and Dimensions	9	9	17	26
28	Mechanical Properties of Fluids	12	14	14	26
29	Electromagnetic Induction	10	10	14	24
30	Mechanical Properties of Solids	6	5	16	22
31	Magnetic Properties of Matter	6	4	12	18
32	Experimental Physics	9	5	7	16

Now Practice Selective Most Important Previous Year Questions in the **MARKS** app without any distraction



MOST DETAILED ANALYSIS OF JEE MAIN PHYSICS



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WEIGHTAGE OF CHAPTERS IN MECHANICS 1

Chapter	Opportunity	Overall	2021	2020	2019
Mathematics in Physics	Scoring 🚀	44	25	5	14
Units and Dimensions	Scoring 🚀	35	17	9	9
Motion In One Dimension	Scoring 🚀	49	25	17	7
Motion In Two Dimensions		38	20	6	12
Laws of Motion		46	28	8	10
Work Power Energy		35	20	8	7
Center of Mass Momentum and Collision		49	15	19	15
Rotational Motion		94	39	24	31
Gravitation	Scoring 🚀	65	32	16	17

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☐ You can tick once you have finished practicing this topic and have gained confidence

Important Topics in MATHEMATICS IN PHYSICS

	2019	2020	2021	Total	Covered
Fundamentals of Vectors	1	0	1	2	☐
Addition and Subtraction of Vectors 🔥	7	1	12	20	☐
Multiplication of Vectors	1	0	1	2	☐
Lami's Theorem	0	0	0	0	☐
Errors of Measurement	5	4	11	20	☐

Important Topics in UNITS AND DIMENSIONS

	2019	2020	2021	Total	Covered
Units	3	0	2	5	☐
Dimensions 🔥	6	9	15	30	☐

Important Topics in MOTION IN ONE DIMENSION

	2019	2020	2021	Total	Covered
Rest and Motion	1	3	7	11	☐
Uniform Motion	2	4	6	12	☐
Graphs of motion in one dimension	2	3	7	12	☐
Non-uniform Motion	2	3	0	5	☐
Relative Motion	0	2	0	2	☐
Motion Under Gravity	0	2	5	7	☐

Important Topics in MOTION IN TWO DIMENSIONS

	2019	2020	2021	Total	Covered
Relative motion	4	0	5	9	☐
Projectile motion	6	1	10 🔥	17	☐
Uniform Circular Motion	2	5	5	12	☐

Important Topics in LAWS OF MOTION

	2019	2020	2021	Total	Covered
Newton's laws of motion	4	2	7	13	☐
Equilibrium of Forces	3	0	4	7	☐
Spring force	1	1	3	5	☐
Frictional force	2	5	12 🔥	19	☐
Non-uniform Circular Motion	0	0	2	2	☐

Important Topics in WORK POWER ENERGY

	2019	2020	2021	Total	Covered
Work done	1	2	3	6	☐
Energy	6	4	15 🔥	25	☐
Power	0	2	2	4	☐
Circular motion	0	0	0	0	☐

Important Topics in CENTER OF MASS MOMENTUM AND COLLISION

	2019	2020	2021	Total	Covered
momentum	5	3	2	10	☐
Centre of mass of discrete particles	1	1	0	2	☐
COM of continuous mass distribution	2	5	3	10	☐
Motion of centre of mass	1	0	0	1	☐
Impulse	1	0	0	1	☐
Collisions 🔥🔥	5	10	10	25	☐
Variable mass system	0	0	0	0	☐

Important Topics in ROTATIONAL MOTION 🔥🔥

	2019	2020	2021	Total	Covered
Moment of inertia of rigid bodies	9	10	16	35	☐
Torque	6	3	3	12	☐
Rotational kinematics	7	6	6	19	☐
Angular momentum and Angular impulse	5	4	7	16	☐
Rolling without Slipping	4	1	6	11	☐
Combination of translation and rotation	0	0	1	1	☐
Collisions in rotation	0	0	0	0	☐

Important Topics in GRAVITATION

	2019	2020	2021	Total	Covered
Newton's Law of Gravitation	3	2	8 🔥	13	☐
Gravitational field	2	1	2	5	☐
Acceleration Due to Gravity	3	5	4	12	☐
Gravitational potential and Potential Energy	3	4	8 🔥	15	☐
Motion of satellite	5	3	5	13	☐
Kepler laws	1	1	5	7	☐

MOST DETAILED ANALYSIS OF JEE MAIN PHYSICS



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WEIGHTAGE OF CHAPTERS IN MECHANICS 2

Chapter	Opportunity	Overall	2021	2020	2019
Mechanical Properties of Solids		27	16	5	6
Mechanical Properties of Fluids		40	14	14	12
Oscillations	Scoring 🚀	55	36	5	14
Waves and Sound		51	19	13	19

🔥 Denotes the ones that are important as per their weightage.
☐ You can tick once you have finished practicing this topic and have gained confidence

Important Topics in MECHANICAL PROPERTIES OF SOLIDS

	2019	2020	2021	Total	Covered
Elasticity	0	0	0	0	☐
Young's Modulus and Breaking Stress 🔥	6	3	11	20	☐
Bulk Modulus	0	1	3	4	☐
Shearing stress	0	0	0	0	☐
Work Done in Stretching a Wire	0	1	2	3	☐

Important Topics in MECHANICAL PROPERTIES OF FLUIDS

	2019	2020	2021	Total	Covered
Pressure and thrust	1	3	3	7	☐
Pascal's Law	0	0	1	1	☐
Archmidies Principle	2	0	0	2	☐
Hydrodynamics	3	4	2	9	☐
Efflux of liquid	1	0	0	1	☐
Surface tension 🔥	3	6	5	14	☐
Viscosity	2	1	3	6	☐

Important Topics in OSCILLATIONS

	2019	2020	2021	Total	Covered
Simple Harmonic Motion 🔥	1	0	14	15	☐
Energy of Simple Harmonic Motion	3	2	5	10	☐
Time Period and Frequency	7	2	5	14	☐
Applications of SHM	1	1	11 🔥	13	☐
Superposition of S.H.M's and Resonance	0	0	1	1	☐
Angular oscillations	2	0	0	2	☐

Important Topics in WAVES AND SOUND

	2019	2020	2021	Total	Covered
Basics of Mechanical Waves	2	3	4	9	☐
Travelling Waves	2	1	3	6	☐
Interference and Superposition of Waves	0	1	0	1	☐
Stationary waves	1	0	0	1	☐
Vibration of String	2	2	1	5	☐
Organ Pipe (Vibration of Air Column)	2	2	3	7	☐
Beats	1	0	1	2	☐
Doppler's Effect 🔥	7	4	6	17	☐
Speed of Sound Waves	1	0	1	2	☐
Properties of Sound Waves	1	0	0	1	☐

MOST DETAILED ANALYSIS OF JEE MAIN PHYSICS



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WEIGHTAGE OF CHAPTERS IN THERMODYNAMICS

Chapter	Opportunity	Overall	2021	2020	2019
Thermal Properties of Matter		38	15	10	13
Thermodynamics		65	32	19	14
Kinetic Theory of Gases	Scoring 🚀	61	26	16	19

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☐ You can tick once you have finished practicing this topic and have gained confidence

Important Topics in THERMAL PROPERTIES OF MATTER

	2019	2020	2021	Total	Covered
Thermometry	1	0	1	2	☐
Thermal Expansion 🔥	3	6	6	15	☐
Calorimetry	5	3	3	11	☐
Conduction	4	0	3	7	☐
Convection	0	0	0	0	☐
Radiation	0	1	2	3	☐

Important Topics in THERMODYNAMICS

	2019	2020	2021	Total	Covered
Thermodynamic Systems	0	1	0	1	☐
First Law of Thermodynamics	3	2	9	14	☐
Thermodynamic Processes 🔥	8	10	13	31	☐
Heat Engine, Refrigerator and Second Law of Thermodynamics	3	6	10	19	☐

Important Topics in KINETIC THEORY OF GASES

	2019	2020	2021	Total	Covered
Gas Laws	0	0	1	1	☐
Speed of Gas	5	6	6	17	☐
Degree of Freedom and Specific Heat	11	7	6	24	☐
Pressure and Energy of gas 🔥	3	3	13	19	☐

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WEIGHTAGE OF CHAPTERS IN ELECTROMAGNETISM

Chapter	Opportunity	Overall	2021	2020	2019
Electrostatics		77	32	18	27
Capacitance		48	20	13	15
Current Electricity	Scoring 🚀	118	49	27	42
Magnetic Properties of Matter		22	12	4	6
Magnetic Effects of Current		73	23	26	24
Electromagnetic Induction		34	14	10	10
Alternating Current	Scoring 🚀	61	40	11	10

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☐ You can tick once you have finished practicing this topic and have gained confidence

Important Topics in ELECTROSTATICS

	2019	2020	2021	Total	Covered
Electric Charge and Coulomb's law	2	4	6	12	☐
Electric Field and Electric Field Lines	7	6	11	24	☐
Electric Potential and Potential Energy	11	4	4	19	☐
Electric Dipole	5	2	2	9	☐
Electric Flux and Gauss Law	2	2	9	13	☐

Important Topics in CAPACITANCE

	2019	2020	2021	Total	Covered
Capacitance	1	0	1	2	☐
Grouping of capacitors	5	5	6	16	☐
Capacitors with Dielectric	5	3	8	16	☐
Force and Energy stored in capacitor	1	3	2	6	☐
Charging and discharging of capacitors	3	2	3	8	☐

Important Topics in CURRENT ELECTRICITY

	2019	2020	2021	Total	Covered
Electric Current and Drift of Electrons	5	0	9	14	☐
Resistance and Resistivity	4	1	9	14	☐
Colour coding of resistors	4	0	1	5	☐
Combination of Resistances	6	7	8	21	☐
Electric Cell or Battery	3	1	5	9	☐
Kirchhoff's Laws	4	2	2	8	☐
Electric Power and Heating Effect of Current	4	4	6	14	☐
Wheatstone Bridge	2	3	3	8	☐
Electric Instruments	10	9	6	25	☐

Important Topics in MAGNETIC PROPERTIES OF MATTER

	2019	2020	2021	Total	Covered
Magnetism and Properties of Magnet	4	1	4	9	☐
Earth's magnetic field	1	0	4	5	☐
Magnetic Equipments	0	0	0	0	☐
Magnetic Materials and their Properties	1	3	4	8	☐

Important Topics in MAGNETIC EFFECTS OF CURRENT

	2019	2020	2021	Total	Covered
Biot-Savart's Law and Ampere's Circuital Law	1	1	2	4	☐
Magnetic Field	7	4	9	20	☐
Motion of Charged Particle in Magnetic Field	7	10	6	23	☐
Force and Torque on Current Carrying Conductor	6	6	3	15	☐
Magnetic Moment	2	5	2	9	☐
Magnetic Dipole	1	0	1	2	☐

Important Topics in ELECTROMAGNETIC INDUCTION

	2019	2020	2021	Total	Covered
Magnetic Flux, Faraday's and Lenz law	1	8	9	18	☐
Induced Electric Field	0	0	0	0	☐
Motional and Rotational EMF	4	0	2	6	☐
Inductance	2	0	1	3	☐
Self and Mutual Inductance	3	2	1	6	☐
LR Circuit	0	0	1	1	☐

Important Topics in ALTERNATING CURRENT

	2019	2020	2021	Total	Covered
Alternating Current, Voltage and Power	3	1	14	18	☐
AC Circuits	5	8	21	34	☐
Quality and Power Factor	0	1	2	3	☐
Transformers	2	1	2	5	☐
Parallel AC Circuits	0	0	1	1	☐

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WEIGHTAGE OF CHAPTERS IN OPTICS

Chapter	Opportunity	Overall	2021	2020	2019
Ray Optics		77	31	20	26
Wave Optics		42	16	14	12

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Important Topics in RAY OPTICS

	2019	2020	2021	Total	Covered
Reflection of Light from Plane Mirror	2	0	3	5	☐
Mirror Formula, Reflection in Spherical Mirror	2	3	7	12	☐
Critical angle and total internal reflection	2	2	3	7	☐
Refraction of light from plane surface	2	4	1	7	☐
Lens Formula, Refraction of light from curved surface 🔥	10	6	4	20	☐
Combination of Lens and Mirrors	3	0	2	5	☐
Prism and Dispersion of Light	2	1	7	10	☐
Optical Instruments	3	4	3	10	☐
Human eye	0	0	1	1	☐

Important Topics in WAVE OPTICS

	2019	2020	2021	Total	Covered
Wave Theory and Wavefronts	0	0	0	0	☐
Interference of Light	2	3	1	6	☐
Youngs Double Slit Experiment	7	6	11 🔥	24	☐
Special Cases in YDSE	0	0	0	0	☐
Diffraction of Light	1	3	2	6	☐
Polarization of Light	2	2	2	6	☐

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WEIGHTAGE OF CHAPTERS IN MODERN PHYSICS

Chapter	Opportunity	Overall	2021	2020	2019
Dual Nature of Matter	Scoring 🚀	62	30	15	17
Atomic Physics	Scoring 🚀	33	17	6	10
Nuclear Physics	Scoring 🚀	39	22	8	9

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Important Topics in DUAL NATURE OF MATTER

	2019	2020	2021	Total	Covered
Cathode Rays and Positive Rays	0	0	1	1	☐
Matter Waves 🔥	7	8	16	31	☐
Photoelectric Effect 🔥	10	6	12	28	☐
Davison and Germier Experiment	0	1	1	2	☐

Important Topics in ATOMIC PHYSICS

	2019	2020	2021	Total	Covered
Bohr's Atomic Model 🔥	9	1	5	15	☐
Atomic Structure	0	0	4	4	☐
Atomic Spectrum 🔥	1	4	8	13	☐
Thomson Atomic Model	0	0	0	0	☐
Atomic Models	0	1	0	1	☐

Important Topics in NUCLEAR PHYSICS

	2019	2020	2021	Total	Covered
Nuclear structure	1	1	1	3	☐
Nuclear energy	0	2	2	4	☐
Radioactivity	7	4	18 🔥	29	☐
Nuclear reactions	1	1	1	3	☐

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WEIGHTAGE OF CHAPTERS IN MISCELLANEOUS

Chapter	Opportunity	Overall	2021	2020	2019
Electromagnetic Waves		50	22	13	15
Semiconductors	Scoring 🚀	73	42	15	16
Communication System	Scoring 🚀	38	24	1	13
Experimental Physics		21	7	5	9

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Important Topics in ELECTROMAGNETIC WAVES

	2019	2020	2021	Total	Covered
EM Waves and Maxwell's equations	14	10	20 🔥	44	☐
Electromagnetic Spectrum	1	1	0	2	☐
X-Rays	0	2	2	4	☐

Important Topics in SEMICONDUCTORS

	2019	2020	2021	Total	Covered
Energy Bands in Solids	0	0	1	1	☐
Semiconductors	0	0	3	3	☐
Diodes	7	6	17 🔥	30	☐
Rectifier	0	0	1	1	☐
Special purpose diodes	0	2	1	3	☐
Junction Transistors	5	1	7	13	☐
Logic gates	4	6	12 🔥	22	☐

Important Topics in COMMUNICATION SYSTEM

	2019	2020	2021	Total	Covered
Communication System	4	0	9	13	☐
Propagation of EM Waves	2	0	4	6	☐
Modulation	7	1	11 🔥	19	☐

Important Topics in EXPERIMENTAL PHYSICS

	2019	2020	2021	Total	Covered
Experimental Physics	9	5	7	21	☐