

हमारा विश्वास...  
हर एक विद्यार्थी है खास



# PRE-ENGINEERING

## MAIN+ADVANCED



WE HAVE PLANNED YOUR SUCCESS JOURNEY

Session 2021-22

**MOTION**<sup>TM</sup>

# Pre-Engineering

(For classes 11<sup>th</sup> to 12<sup>th</sup> Pass)

## JEE Main

Till 2018 the Joint Entrance Examination Main was being conducted every year by the Central Board of Secondary Education (CBSE) but from 2019 onwards Joint Entrance Examination JEE (Main) is being conducted by the NTA twice in a year. JEE (Main) is the single gateway for admission to NITs, IITs, Centrally Funded Technical Institutions (CFTIs) as well as other engineering colleges and technology institutes run by the state governments and private institutions who have adopted JEE.

The most decisive point about the JEE (Main) exam is that approx top 2.4 lakh candidates of JEE (Main) are eligible for JEE Advanced examination. Hence, it is very important for the JEE (Main) aspirants to be thoroughly prepared for the upcoming test.

## JEE Advanced

Students who crack JEE (Advanced) are able to join the undergraduate programs in engineering, architecture and sciences at all IITs and ISM Dhanbad according to their All India Rank (AIR) in the exam.

## BITSAT

The Birla Institute of Technology and Science (BITS) Pilani is one of the best institutions in India offering technology and engineering programmes as well as other professional courses. It has the status of a Deemed University under Section 3 of the UGC Act. BITSAT (BITS Admission Test) is a computer-based admission test conducted by BITS, Pilani for its integrated first-degree programmes offered by all its three campuses - Pilani campus, Goa campus and Hyderabad campus.

## Selection / Qualified in JEE Main & JEE Advanced-2020

Total Selection JEE (Main)

$$\frac{2538}{3554} = 71.44\%$$

Total Selection JEE (Advanced)

$$\frac{994}{2538} = 39.16\%$$



*Genuinely, I would like to thank Motion for helping me crack JEE Advanced 2019. The guidance by all the teachers, the support of office staff and the study material, everything is just perfect to take you through JEE and other exams. Thank you Motion for making my career.*

**AIR-41**  
JEE Advanced

Utkarsh Pratap Singh

*Motion Faculty helped me in developing a strong foundation and I made it a point to solve questions on time. This helped me in developing my concepts steadily and clearly.*

MD Arif

**AIR-92**  
JEE Main



# JEE (Main + Advanced) Class X to XI Moving Students Course : Speed

Physics		Chemistry		Maths	
Topics	No. of Lec.	Topics	No. of Lec.	Topics	No. of Lec.
Basic Mathematics	2	Atomic Structure	13	BASIC MATH & LOG	9
Unit and dimension	4	Stoichiometry (I) / Mole Concept	13	TRIGONOMETRIC PHASE - 1	15
Vector and Calculus	10	Stoichiometry(II) / Redox Reactions	10	QUADRATIC EQUATIONS	12
Kinematics	12	Gaseous	11	SEQUENCE & PROGRESSIONS	12
Constrained Motion NLM Friction	15	Chemical Equilibrium	10	TRIGONOMETRIC PHASE - 2	6
Circular	8	Nomenclature of Organic compound(IUPAC)	9	SOLUTION OF TRIANGLE	15
WPE	8	GOC (General Organic Chemistry)	12	DETERMINANT	4
Centre of mass	10	Isomerism	5	Straight LINE	15
Rotational Motion	12	Periodic Property	9	CIRCLE	12
SHM	10	Chemical bonding	18	PERMUTATION COMBOINATION	12
Waves	8	S-block	4	BINOMIAL THEOREM	12
Sound waves	6	P-block	6	CONIC SECTION	12
Heat-1	8				
Heat-2	8				
Elasticity Thermal Expansion	4				
Fluids	5				
Surface Tension & Viscosity	5				
Errors	2				

Note- Number of lectures are tentative which varies from Phase to Phase.



# JEE (Main + Advanced) Class XI to XII Moving Students Course : Velocity

Physics		Chemistry		Maths	
Topics	No. of Lec.	Topics	No. of Lec.	Topics	No. of Lec.
Geometrical optics	20	Chemical Kinetics	11	Relation & Function	13
Electrostatics-1	10	Radio activity	4	Inverse Trigonometric Function	7
Electrostatics-2	8	Solution & Colligative Properties (Liq. Sol.)	7	Limit	7
Current Electricity	10	Solid State	6	Continuity	4
Capacitance	8	Ionic Equilibrium	8	Differentiability	3
Magnetism	12	Electro Chemistry	7	Method of Differentiability	6
Electromagnetic Induction	8	Thermodynamics	13	Indefinite Integration	12
Alternating Current	5	Thermochemistry	6	Definite Integration	11
Electro Magnetic Waves	2	Surface chemistry	6	Tangents & Normals	5
Wave Optics	8	Hydrocarbon	12	Monotonicity	5
Modern-I	10	Alkyl Halide	10	Maxima & Minima	5
Modern-II	3	Grignard reagent	3	Differential Equation	5
Electronics (Semiconductor)	6	Alcohol, Phenol and Ether	6	Area Under The Curve	3
Communication System	3	Carbonyl compound	11	Matrix	6
Kinematics	10	Carboxylic acid & their derivatives	5	Vector	10
Constrained Motion NLM Friction	10	Aromatic compounds	6	3-D	4
Circular	6	Amine(Nitrogen Compound)	5	Complex Number	10
WPE	8	Biomolecules & polymers	6	Probability	9
Centre of mass	8	Coordination chemistry	11	Parabola	5
Rotational Motion	10	Metallurgy	7	Ellipse	5
SHM	7	D-block	3	Hyperbola	5
Waves	5	F- Block	3	JEE Mains Topics	3
Sound waves	4	Salt Analysis	15	Trigonometric Phase - 1	9
Heat-1	10	Atomic Structure	5	Quadratic Equations	6
Heat-2	5	Stoichiometry (I) / Mole Concept	5	Sequence & Progressions	8
Elasticity Thermal Expansion	3	Stoichiometry(III) / Redox Reactions	5	Trigonometric Phase - 2	4
Fluids	5	Gaseous	6	Solution of Triangle	5
Surface Tension & Viscosity	4	Chemical Equilibrium	6	Determinant	4
Errors	2	Nomenclature of Organic compound (IUPAC)	5	Straight IINE	8
Gravitation	5	GOC (General Organic Chemistry)	9	Circle	8
		Isomerism	15	Permutation Combination	8
		Periodic Property	5	Binomial Theorem	6
		Chemical bonding	18		
		S-block	3		
		P-block	5		
		Chemistry in Everyday Life	3		

Note- Number of lectures are tentative which varies from Phase to Phase.

# JEE (Main + Advanced) Class XII to XIII Moving Students Course : Acceleration

Physics		Chemistry		Maths	
Topics	No. of Lec.	Topics	No. of Lec.	Topics	No. of Lec.
Geometrical optics	18	Chemical Kinetics	9	RELATION & FUNCTION	13
Electrostatics-1	9	Radio activity	4	INVERSE TRIGONOMETRIC FUNCTION	7
Electrostatics-2	7	Solution & Colligative Properties (Liq. Sol.)	6	LIMIT	7
Current Electricity	9	Solid State	5	CONTINUITY	4
Capacitance	7	Ionic Equilibrium	7	DIFFERENTIABILITY	3
Magnetism	11	Electro Chemistry	6	METHOD OF DIFFERENTIABILITY	5
Electromagnetic Induction	7	Thermodynamics	11	INDEFINITE INTEGRATION	10
Alternating Current	4	Thermochemistry	5	DEFINITE INTEGRATION	10
Electro Magnetic Waves	2	Surface chemistry	6	TANGENTS & NORMALS	4
Wave Optics	7	Hydrocarbon	10	MONOTONOCITY	4
Modern-I	9	Alkyl Halide	9	MAXIMA & MINIMA	4
Modern-II	3	Grignard reagent	3	DIFFERENTIAL EQUATION	5
Electronics (Semiconductor)	5	Alcohol, Phenol and Ether	5	AREA UNDER THE CURVE	3
Communication System	3	Carbonyl compound	10	MATRIX	6
Kinematics	9	Carboxylic acid & their derivatives	5	VECTOR	9
Constrained Motion NLM Friction	10	Aromatic compounds	5	3-D	4
Circular	5	Amine (Nitrogen Compound)	4	COMPLEX NUMBER	9
WPE	7	Biomolecules & polymers	6	PROBABILITY	7
Centre of mass	7	Coordination chemistry	10	PARABOLA	4
Rotational Motion	10	Metallurgy	6	ELLIPSE	4
SHM	7	D-block	3	HYPERBOLA	4
Waves	5	F- Block	3	JEE MAINS TOPICS	3
Sound waves	4	Salt Analysis	13	TRIGONOMETRIC PHASE - 1	9
Heat-1	9	Atomic Structure	5	QUADRATIC EQUATIONS	6
Heat-2	5	Stoichiometry (I) / Mole Concept	5	SEQUENCE & PROGRESSIONS	7
Elasticity Thermal Expansion	3	Stoichiometry(II) / Redox Reactions	5	TRIGONOMETRIC PHASE - 2	4
Fluids	5	Gaseous	6	SOLUTION OF TRIANGLE	5
Surface Tension & Viscosity	3	Chemical Equilibrium	6	DETERMINANT	4
Errors	2	Nomenclature of Organic compound (IUPAC)	5	Straight IINE	8
Gravitation	4	GOC (General Organic Chemistry)	9	CIRCLE	8
		Isomerism	15	PERMUTATION COMBOINATION	7
		Periodic Property	5	BINOMIAL THEOREM	5
		Chemical bonding	15		
		S-block	3		
		P-block	5		
		Chemistry in Everyday Life	3		

Note- Number of lectures are tentative which varies from Phase to Phase.



# Test Planning for JEE (Main+Advanced)

For X to XI Moving Students						For XI to XII Moving Students					
Phase-1	Phase-2	Phase-3	Phase-4	Phase-5	Phase-6	Phase-1	Phase-2	Phase-3	Phase-4	Phase-5	Phase-6
09/06/2021	16/06/2021	23/06/2021	14/07/2021	21/07/2021	28/07/2021	20/01/2021	24/03/2021	07/04/2021	28/04/2021	05/05/2021	
04/07 (M)						28/02 (M)	25/04 (M)				
18/07 (M)	18/07 (M)					25/04 (M)	09/05 (M)				
01/08 (A)	01/08 (A)	18/07 (M)				09/05 (M)	23/05 (A)	09/05 (M)			
22/08 (M)	22/08 (M)	01/08 (A)	22/08 (M)	22/08 (M)	22/08 (M)	23/05 (A)	06/06 (B)	23/05 (A)	23/05 (M)		06/06 (M)
05/09 (M)	05/09 (M)	22/08 (M)	05/09 (M)	05/09 (M)	05/09 (M)	06/06 (B)	20/06 (M)	06/06 (B)	20/06 (M)		20/06 (M)
19/09 (B)	19/09 (B)	05/09 (M)	19/09 (B)	19/09 (B)	19/09 (B)	20/06 (M)	04/07 (M)	04/07 (M)	04/07 (M)		04/07 (M)
03/10 (A)	03/10 (A)	19/09 (B)	03/10 (A)	03/10 (A)	03/10 (A)	18/07 (A)	18/07 (A)	18/07 (A)	18/07 (A)		18/07 (A)
17/10 (M)	17/10 (M)	03/10 (A)	17/10 (M)	17/10 (M)	17/10 (M)	01/08 (B)	01/08 (B)	01/08 (B)	01/08 (B)		01/08 (B)
31/10 (M)	31/10 (M)	17/10 (M)	31/10 (M)	31/10 (M)	31/10 (M)	22/08 (M)	22/08 (M)	22/08 (M)	22/08 (M)		22/08 (M)
21/11 (B)	21/11 (B)	31/10 (M)	21/11 (B)	21/11 (B)	21/11 (B)	05/09 (M)	05/09 (M)	05/09 (M)	05/09 (M)		05/09 (M)
05/12 (A)	05/12 (A)	21/11 (B)	05/12 (A)	05/12 (A)	05/12 (A)	19/09 (A)	19/09 (A)	19/09 (A)	19/09 (A)		19/09 (A)
19/12 (M)	19/12 (M)	05/12 (A)	19/12 (M)	19/12 (M)	19/12 (M)	03/10 (B)	03/10 (B)	03/10 (B)	03/10 (B)		03/10 (B)
		19/12 (M)				17/10 (M)	17/10 (M)	17/10 (M)	17/10 (M)		17/10 (M)
						31/10 (M)	31/10 (M)	31/10 (M)	31/10 (M)		31/10 (M)
						21/11 (A)	21/11 (A)	21/11 (A)	21/11 (A)		21/11 (A)
						05/12 (B)	05/12 (B)	05/12 (B)	05/12 (B)		05/12 (B)
						19/12 (M)	19/12 (M)	19/12 (M)	19/12 (M)		19/12 (M)

For XII to XIII Moving Students					
Phase-1	Phase-2	Phase-3	Phase-4	Phase-5	Phase-6
16/06/2021	07/07/2021	14/07/2021	21/07/2021	28/07/2021	11/08/2021
11/07 (M)					
25/07 (M)					
08/08 (M)	08/08 (M)	08/08 (M)			
29/08 (A)	29/08 (A)	29/08 (A)	29/08 (M)	29/08 (M)	
12/09 (M)	12/09 (M)	12/09 (M)	12/09 (M)	12/09 (M)	12/09 (M)
26/09 (M)	26/09 (M)	26/09 (M)	26/09 (M)	26/09 (M)	26/09 (M)
10/10 (A)	10/10 (A)	10/10 (A)	10/10 (A)	10/10 (A)	10/10 (A)
24/10 (M)	24/10 (M)	24/10 (M)	24/10 (M)	24/10 (M)	24/10 (M)
14/11 (M)	14/11 (M)	14/11 (M)	14/11 (M)	14/11 (M)	14/11 (M)
28/11 (A)	28/11 (A)	28/11 (A)	28/11 (A)	28/11 (A)	28/11 (A)
12/12 (M)	12/12 (M)	12/12 (M)	12/12 (M)	12/12 (M)	12/12 (M)
26/12 (A)	26/12 (A)	26/12 (A)	26/12 (A)	26/12 (A)	26/12 (A)

\* (M) Stands for Main Pattern | (A) Stands for Advanced Pattern | (B) Stands for Board Pattern  
 The syllabus for the tests will consist of the topics covered from the starting date of the phase to three days prior to the Test