



सत्यमेव जयते
Ministry of Education
Government of India



SATHEE

An initiative by MoE & IIT Kanpur



Student Help Booklet

SATHEE is a **Free Learning Platform** providing guidance and study resources to students for entrance exams like **Engineering (JEE)**, **Medical (NEET)**, **Law (CLAT)**, **Agriculture (ICAR)**, **University Entrance Test (CUET)**, and for competitive exams like **Staff Selection Commission (SSC)**, **Railway (RRB)**, and **Banking (IBPS)**

What SATHEE provides for free ?



10000+ hours of video lectures from **IIT Professors/subject experts**



Mentorship sessions from the students of **IIT, AIIMS** and **other premiere institute**



Test series: All India mock tests, PYQs, topic and subject wise tests



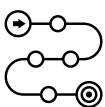
Daily live doubt clearing sessions over zoom



Study material available in **English, Hindi and 11 Indian regional languages**



AI Based analytics to track your learning and progress



Complete mapping of CBSE/State board syllabus for board exams



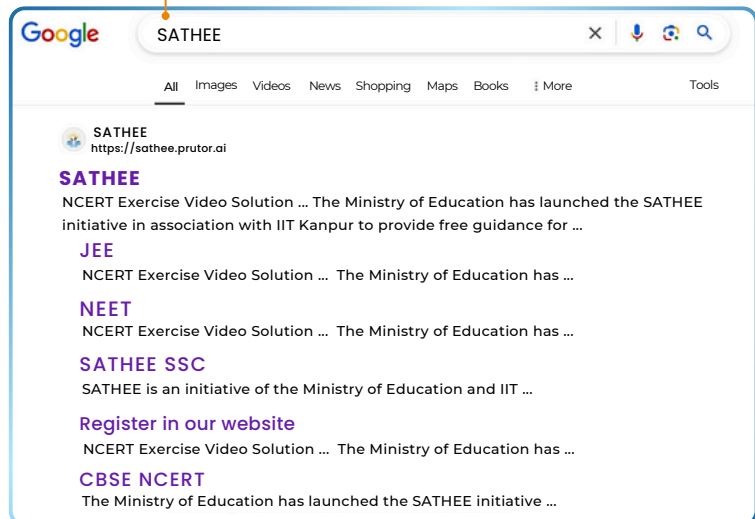
80,000+ questions to practice

STEP 01

How to access the SATHEE website ?

Search '**SATHEE**' and visit <https://sathee.iitk.ac.in/>

or scan this QR Code



STEP 02

Getting started with SATHEE

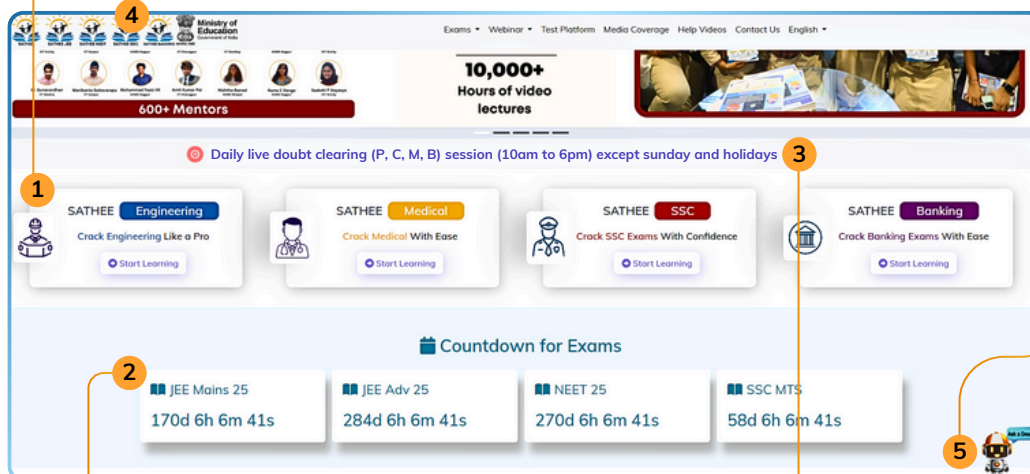
Upon visiting SATHEE website you will see the home page on your screen

1 Select the exam you are preparing for

Once you select the exam you will be redirected to the exam specific website

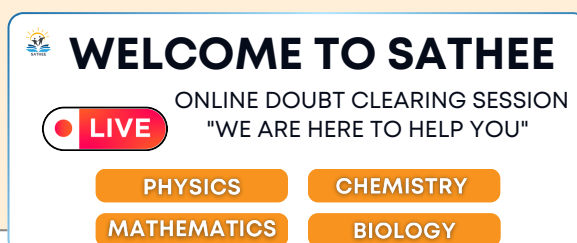
4 Shortcut to switch among exam website

5 Click on this icon to access the AI-Enabled chatbot which will help you with your queries



2 Countdown timer to help you plan for your next exam

3 Click on **daily live doubt session** which will re-directed to a zoom session where you can ask doubts you have related to the subject



STEP 03

How to enroll in a course ?

1. SATHEE has a tailored program for students who are in class 9-12th and for 12th pass out students

2. Click on "Enroll for Free" in the course that you want

3. You will be re-directed to registration page.

Start Your Journey With SATHEE Courses

Engineering exam preparation courses by IIT Professors/Subject Experts

JEE MAINS
PREPARATION FOR CLASS 11th

PHYSICS CHEMISTRY MATHEMATICS

BY IIT PROFESSORS / SUBJECT EXPERTS

Class 11th

Structured Lectures for In-depth Learning
Mock Tests with AI based analysis
[Live Doubt Resolution](#)

[Enroll For Free >](#)

JEE MAINS
PREPARATION FOR CLASS 12th

PHYSICS CHEMISTRY MATHEMATICS

BY IIT PROFESSORS / SUBJECT EXPERTS

Class 12th

Systematic Lectures for Extensive Insight
Mock Tests with AI based analysis
[Live Doubt Resolution](#)

[Enroll For Free >](#)

JEE MAINS
PREPARATION FOR CLASS 12th PASSOUT

PHYSICS CHEMISTRY MATHEMATICS

BY IIT PROFESSORS / SUBJECT EXPERTS

Class 12th Passout

Optimized Learning with structured classes
Mock Tests with AI based analysis
[Live Doubt Resolution](#)

[Enroll For Free >](#)

Foundation courses by IIT Alumni/Subject Experts

FOUNDATION COURSE
For Class 9th
WITH SATHEE

Lectures by IIT Alumni/Subject Experts

Build a strong fundamental
Topic-wise Science and Maths lecture
[Live Doubt Resolution](#)

[Enroll For Free >](#)

FOUNDATION COURSE
For Class 10th
WITH SATHEE

Lectures by IIT Alumni/Subject Experts

Create a Robust Base
Topic-wise Science and Maths lecture
[Live Doubt Resolution](#)

[Enroll For Free >](#)

STEP 04

How to register on the SATHEE platform ?



Ministry of Education
Government of India



SATHEE Engineering

(Self Assessment, Test and Help for Entrance Exams)

This is a testing platform designed to help you prepare for engineering exams. The platform contains mock tests and topic wise tests to assess your exam preparation. Register to start using the platform. In case you face any difficulties, please email or WhatsApp us.

Powered by Prutor, Technology developed at IIT Kanpur

Sign Up/In and start your exam preparation

[Sign In](#) [Sign Up](#)

Candidate's Name*

Email Id*

Mobile Number

Gender*

☐ Male ☐ Female ☐ Other

State*

District*

City*

Social Group

School Type*

☐ KV ☐ JNV ☐ Punjab Gov ☐ Other

Enter Class

School Name*

[Submit](#)

Fill in all the details and click on submit

A password reset link will be sent to your mail

Click on the link and reset the password

Sign in with your email and password

You are ready to start

STEP 05 Navigating the student dashboard

After signing in you will have dashboard on your screen. The dashboard is divided into different parts like **Learning, Test and Reports**. The Student's dashboard has all the features you require for a better Exam preparation. Go to the **Learn** Tab to access the learning material

LEARN

1 Start Your Journey With SATHEE Courses
Engineering exam preparation courses by IIT Professors/Subject Experts

JEE MAINS PREPARATION FOR CLASS 11
Physics | Chemistry | Mathematics
BY IIT PROFESSORS / SUBJECT EXPERTS
Class 11th
Structured Lectures for In-depth Learning
Mock Tests with AI based analysis
Live Doubt Resolution
Watch Now >

JEE MAINS PREPARATION FOR CLASS 12
Physics | Chemistry | Mathematics
BY IIT PROFESSORS / SUBJECT EXPERTS
Class 12th
Systematic Lectures for Extensive Insight
Mock Tests with AI based analysis
Live Doubt Resolution
Watch Now >

JEE MAINS PREPARATION FOR CLASS 12 PASSOUT
Physics | Chemistry | Mathematics
BY IIT PROFESSORS / SUBJECT EXPERTS
Class 12th Passout
Optimized Learning with structured classes
Mock Tests with AI based analysis
Live Doubt Resolution
Watch Now >

01 UNITS AND MEASUREMENTS XI
Units of measurement, system of units, SI units, fundamental..
Accuracy And Precision Of Measuring Instruments..
Dimensions Of Physical Quantities, Dimensional Analysis ...
02 MOTION IN A STRAIGHT LINE XI
Simple Experiments Based On Basic Principles Of Mechanics..

Experiments Based On Basic Principles Of Mechanics - Prof. Hc Verma
Lecture
+11 & +12 01 Simple Experiments Based On Basic Principles of Mechanics
m = mass of the object
a = accn of the frame
Conceptwise Videos
Demonstration of friction
Card - Cart experiment
Experiment based on spheres and discs from the IIT Bombay library
Experiment demonstrating that

Click on **"Recorded Lectures"** to access video lectures by IIT Professors

All Courses

LEARN

1 Recorded Lectures

2 Crash Courses

3 Foundation Courses

4 Ncert Tutorial

5 Webinar

TEST

REPORTS

Topic Wise
Live Lectures

Contact Us

45 days Crash Course for JEE Mains

Crash Course
For all Aspirants
IN ENGLISH
JEE Mains 2024 English
In-depth and consized learning
Comprehensive Mock Test
Live Doubt Resolution
[Enroll For Free >](#)

कैथ कोर्स
For all Aspirants in Hindi
हिंदी में
JEE Mains 2024 Hindi
In-depth and consized learning
Comprehensive Mock Test
Live Doubt Resolution
[Enroll For Free >](#)


ಕ್ರಾಶ್ ಕೋರ್ಸ್
For all Aspirants in Kannada
ಕನ್ನಡದಲ್ಲಿ
JEE Mains 2024 Kannada
In-depth and consized learning
Comprehensive Mock Test
Live Doubt Resolution
[Enroll For Free >](#)

কুশাশ কোর্স
For all Aspirants in Bengali
বাংলায়
JEE Mains 2024 Bengali
In-depth and consized learning
Comprehensive Mock Test
Live Doubt Resolution
[Enroll For Free >](#)


ഇടക്കാല പഠനം
For all Aspirants in Malayalam
മലയാളത്തിൽ
JEE Mains 2024 Malayalam
In-depth and consized learning
Comprehensive Mock Test
Live Doubt Resolution
[Enroll For Free >](#)

ಕೈಥ ಕೋರ್ಸ್
For all Aspirants in Marathi
मराठी मध्ये
JEE Mains 2024 Marathi
In-depth and consized learning
Comprehensive Mock Test
Live Doubt Resolution
[Enroll For Free >](#)

3 Foundation courses by IIT Alumni/Subject Experts

FOUNDATION COURSE
For Class 9th
WITH SATHEE


Build a strong fundamental
Topic-wise Science and Maths lecture
[Live Doubt Resolution](#)
[Watch Now >](#)

FOUNDATION COURSE
For Class 10th
WITH SATHEE



Create a Robust Base
Topic-wise Science and Maths lecture
[Live Doubt Resolution](#)
[Watch Now >](#)

Click on “**Crash Course**” for a quick coverage of essential topics in **English, Hindi** and **11 other Indian regional languages**

Click on "**Foundation Courses**" to access video lectures for students in class 9th and 10th by **IIT and AIIMS Students**


4

Physics




Physics
NCERT Tutorials
Ananya P. Mukherjee
IT Kanger

Physics
NCERT - Focused Foundational Lectures
NCERT Exercises with Solutions
[Live Doubt Resolution](#)
[Watch Now >](#)



Physics
NCERT Tutorials
Shreyank Goel
IT Kanger

Physics
NCERT - Focused Foundational Lectures
NCERT Exercises with Solutions
[Live Doubt Resolution](#)
[Watch Now >](#)



Physics
NCERT Tutorials
Shuvadip Ghosh
IT Kanger


Physics
NCERT - Focused Foundational Lectures
NCERT Exercises with Solutions
[Live Doubt Resolution](#)
[Watch Now >](#)

Click on “**NCERT Tutorials**” to access video lectures based on NCERT textbooks by **IIT and AIIMS Students**

5


Webinars

JEE का तोड़




JEE का तोड़

Anjali Negi
IIT Kanpur




JEE का तोड़

Apoorv Tandon
IIT Kanpur



JEE का तोड़

Raghav Madan
IIT Kanpur



JEE का तोड़

Yogesh Nain
IIT Kanpur

JEE का तोड़

Anjali Negi
Dept. of Physics
IIT Kanpur

Watch Now >

JEE का तोड़

Apoorv Tandon
Dept. of Computer
Science IIT Kanpur

Watch Now >

JEE का तोड़

Raghav Madan
Dept. of Electrical Engg.
IIT Kanpur

Watch Now >

JEE का तोड़

Yogesh Nain
Dept. of Electrical Engg.
IIT Kanpur

Watch Now >

Click on “**Webinar**” for mentorship sessions and “**Solve with Me**” sessions by **IIT and AIIMS Students**



Comprehensive material along with video lectures

When you open the recorded lectures you will find more resources and tools to help you with deep understanding of that topic

1 [Go Back](#)

Physics 11

Units And Measurement

Motion In A Straight Line

Motion In Plane

Laws Of Motion

Work Energy And Power

Systems of Particles And Rotational Motion

Units And Measurement

1.1 INTRODUCTION

Measurement of any physical quantity involves comparison with a unit. The result of a measurement of a physical quantity is expressed in terms of a unit. The units for the fundamental or base quantities can be expressed as combinations of the base units. Such these units, both the base units and derived units, is known as

1.2 THE INTERNATIONAL SYSTEM OF

Click on "NCERT and Reference Books Material" for foundational knowledge of topic

2 Chapter 01 Units and Measurements

Multiple Choice Questions (MCQs)

1. The number of significant figures in 0.06900 is

- (a) 5 (c) 2
(b) 4 (d) 3

• Show Answer

Click on "Exemplar Problems" to help you practice

Previous Year Questions (PYQ)

Previous Year Questions

- 2017
- 2018
- 2019
- 2023
- Physics
- Chemistry

Click on "Previous Year Exams Problems" to know the questions that came from the topic in previous exams

Units of measurements, systems of units, SI units, fundamental... - Prof. Sanjeev Sanghi

Complete Lecture

Conceptwise Videos

NCERT and Reference Books Material

Exemplar Problems

Previous Year Exams Problems

Related Problem with Solution

Shortcut Methods

Notes from the JEE Toppers

Concepts to Remember

Formulas to Remember

Exercises From NCERT

Mind Maps

4 Related Problems with solution

Problem 1 : The speed of sound in air at a certain temperature

Solution:
To convert meters per second to kilometers
[1 m/s = 3.6 km/h]

Click on "Related Problems with Solutions" to increase your problem solving skills

5 Shortcut Methods

1. Know Common Conversions by Heart
 - Memorize common unit conversions such as 1 meter =
2. Use Scientific Notation
 - When working with very large or very small numbers, use
3. Leverage Dimensional Analysis
 - When you need to derive a formula or check the validity of an equation, use dimensional analysis to identify incorrect answers quickly.
4. Shortcut for Square and Cube Units

Click on "Shortcut Methods" to enhance your recall

6 Units of Measurement - Systems of Units

Reference: NCERT Physics, Class 11, Chapter 2 ("Units and Measurements")

Subtopics:

1. Measurement and Units
 - Concept of measurement and its significance.
 - Different types of physical quantities and their units.
 - Need for standardization of units.
2. Systems of Units

Click on "Notes from JEE toppers" for concise recap

7 Units-Of-Measurement-Systems-Of-Units-Si-Units

Units of Measurement

1. Length
 - 1 meter (m) = 100 centimeters (cm)
2. Mass: 1 meter (m) = 1000 millimeters (mm)

Click on "Concept to Remember" to know the important topics

8

S.No.	Physical Quantity	SI Unit	Symbol
1	Length	Metre	m
2	Mass	Kilogram	Kg
3	Time	Second	s
4	Electric Current	Ampere	A

Click on "Formulas to Remember" to recall important formulas

Chapter 13 Probability EXERCISE 13.1

EXERCISE 13.1

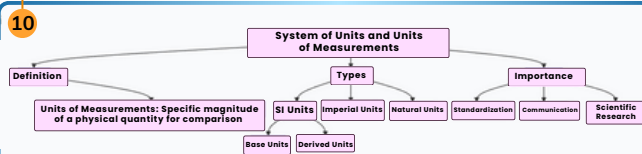
1. Given that E and F are events such that $P(E) = 0.6$, $P(F) = 0.3$ and $P(E \cap F) =$

• Show Answer

2. Compute $P(A \cap B)$, if $P(A) = 0.5$ and $P(A \cup B) = 0.32$

• Show Answer

Click on "Exercises From NCERT" to practice for upcoming board exams



Click on "Mind Maps" to visualize, organize, connect, and remember information effectively

STEP 06

Navigating the student dashboard for Test

To access the test Series on SATHEE, go to the **"Test"** tab on student dashboard, you will see **Mock Test** and **Subject Wise Tests** options(as shown in image below)

TEST

1 Mock Test	
Currently Open Test	
Test	Attempt here
Mock Test 1	Click Here
Mock Test 2	Click Here
Mock Test 3	Click Here
Mock Test 4	Click Here
Mock Test 5	Click Here
Mock Test 6	Click Here
Mock Test 7	Click Here

JEE MAIN Remaining Time: 2h, 59m, 53s

Physics Chemistry Mathematics English 2024

Question No: 35

If gravitational field due to uniform thin hemispherical shell at point P is I , then the magnitude of gravitational field at Q is (Mass of hemispherical shell is M , radius is R)

☐ $\frac{GM}{2R^2} - I$
☐ $\frac{GM}{2R^2} + I$
☐ $\frac{GM}{4R} - I$
☐ $2I - \frac{GM}{2R^2}$

SAVE & NEXT CLEAR SAVE & MARK FOR REVIEW MARK FOR REVIEW & NEXT

BACK NEXT SUBMIT

Click on **"Mock Test"** to access real time exam like pattern and questions to make you exam ready

All Courses

LEARN

TEST

1 Mock Test

2 Subject wise test

2 Subject-Wise Tests

PHYSICS

Physics Test

CHEMISTRY

Chemistry Test

MATHEMATICS

Mathematics Test

BIOLOGY

Biology Test

Click on **"Subject wise Test"** and choose the subject you want to take the test for

JEE MAIN Remaining Time: 58m: 30s

Question No: 1

In a special arrangement of Young's double-slit experiment, the distance between the slits d is twice the distance between the screen and the slits D , i.e. $d = 2D$. For this setup, the value of D such that the first minima on the screen fall at a distance D from the centre O is found to be $\frac{\lambda}{N}$

SAVE & NEXT CLEAR SAVE & MARK FOR REVIEW MARK FOR REVIEW & NEXT

BACK NEXT SUBMIT

Attempt the test

Physics Topicwise Test Ongoing	
Test	
Specific Heat Capacity and Thermodynamical Processes	Click Here
Photon, Photoelectric Effect X-rays and Davisson-Germer	Click Here
Time Period, Frequency, Simple Pendulum and Spring	Click Here
Young's Double Slit Experiment	Click Here
Radioactivity	Click Here
Calorimetry and Heat Transfer	Click Here
Capacitors, Grouping of Capacitor	Click Here

- After selecting the subject you will have the list of topics of the subjects
- Select the topic to begin the test

STEP 07

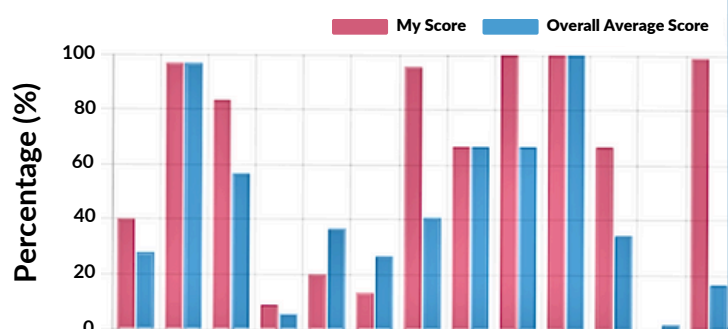
Navigating the student dashboard for Analytics

To access the analytics on SATHEE, go to the **"Report"** tab on student dashboard, you will see **Performance Analysis**, **Topic-Wise Analysis**, and **Attempted Quiz** options (as shown in image below)

ANALYTICS

1

JEE Main



Click on **"Performance Analysis"** to review test results with detailed performance insight and comparison

REPORTS

1 Performance Analysis

2 Topic-Wise Analysis

3 Attempted Quiz

2

Knowledge Tree

Physics

Physical world, Units and Measurements

Unit of Physical Quantities

Dimensions of Physical Quantities

Errors in Measurements & Experimental physics

Miscellaneous (Mixed concepts) problems

Motion in a Straight Line

Distance, Displacement & Uniform Motion

Non-uniform Motion

49% 89%

53% 100%

50% 100%

66% 100%

58% 83%

87% 100%

Click on **"Attempted Quiz"** to track and review quizzes you have attempted

3

Example

Attempted

D-Block Elements

Attempted

F-Block Elements

Attempted

Factorials and Permutations

Not Attempted

Area Under Curve

Not Attempted

Family of lines

Not Attempted

Click on **"Topic-Wise Analysis"** to see percentage score, accuracy and number of questions that were attempted in the test

STEP 08

Navigating the student dashboard for Live Classes

Topic Wise Live Lectures

- Physics
- Chemistry
- Mathematics
- Live Classes



Physics Lecture JEE 2024-25

Chapter: Kinematics

Physics For JEE-Main 2024 | Kinematics by MD Faaiz VK, AIIMS Nagpur | EN | Day 1

KINEMATICS

Let's Begin Now!!!

Starts on: 21st Nov 2023, Tuesday

MD Faaiz VK
AIIMS Nagpur

Chapter: Laws of Motion Part- 2

Laws of Motion Part- 2

Physics For JEE-Main 2024 | Laws of Motion Part- 2

PHYSICS FOR JEE-MAIN 2024 45 DAYS CRASH COURSE

LAWS OF MOTION PART- 2

Watch on YouTube

Param Soni
JIT Kanpur

Chapter: Electro Magnetic Induction

Electro Magnetic Induction

Physics For JEE-Main 2024 | Electro Magnetism

PHYSICS FOR JEE-MAIN 2024 45 DAYS CRASH COURSE

ELECTRO MAGNETIC INDUCTION

Watch on YouTube

To access Live Lectures go to “**Topic Wise Live Lectures**” and click on the subject that you want to attend the class for

STEP 09

Accessing the additional resources

Engineering Preparation

Physics 11th
Physics 12th
Chemistry 11th
Chemistry 12th
Mathematics 11th
Mathematics 12th
JEE Previous Year Questions
JEE Tutorial Sessions

NCERT Books & Solutions

NCERT Books for JEE
NCERT Solutions for JEE
NCERT Exemplar for JEE

Important Resources

Physics Formulas
Chemistry Formulas
Mathematics Formulas
Useful Articles

Other Resources

Media Coverage
Help Videos

Syllabus

JEE Syllabus

Mentorship

Mentorship for JEE

NCERT Exercise Video Solution

NCERT Exemplar Video Solutions
NCERT Exercise Video Solutions

Scroll down to the bottom of the page, you will find additional resources like **PYQ of JEE/NEET, JEE/NEET Tutorial Sessions, NCERT Books with Solution, JEE/NEET Syllabus, Important formulas and Notes** to help you with your preparation



+91-8882336432



<https://sathee.iitk.ac.in>



prutor@iitk.ac.in

Scan for



Website

Scan for



Mobile

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Google Play

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App Store