

NSEP 2023-24 Exam Paper - Detailed Analysis

26th November 2023 (8:30 - 10:30 am)

National Standard Examinations - Physics (NSEP) is a nationwide examination organized by IAPT (Indian Association of Physics Teachers). IAPT has been conducting NSEP for the last 35 years by now, at CBSE class XII level. The NSEs are the First stage and THE ONLY SCREENING TESTS in India leading towards International Olympiads in the respective science subjects.

NSEP will contain a maximum of 60 Questions having Maximum Marks of 216, which is bifurcated in two parts in following manner:

In part A1 (Q. No.1 to 48) each question has four alternatives, out of which only one is correct. Each correct answer carries 3 marks whereas 1 mark will be deducted for each wrong answer.

In part A2 (Q. No. 49 to 60) each question has four alternatives out of which any number of alternative(s) (1, 2, 3, or 4) may be correct. You have to choose all the correct alternative(s) and fill the appropriate bubble(s). Students get 6 marks if all the correct alternatives are marked. No negative marks in this part.

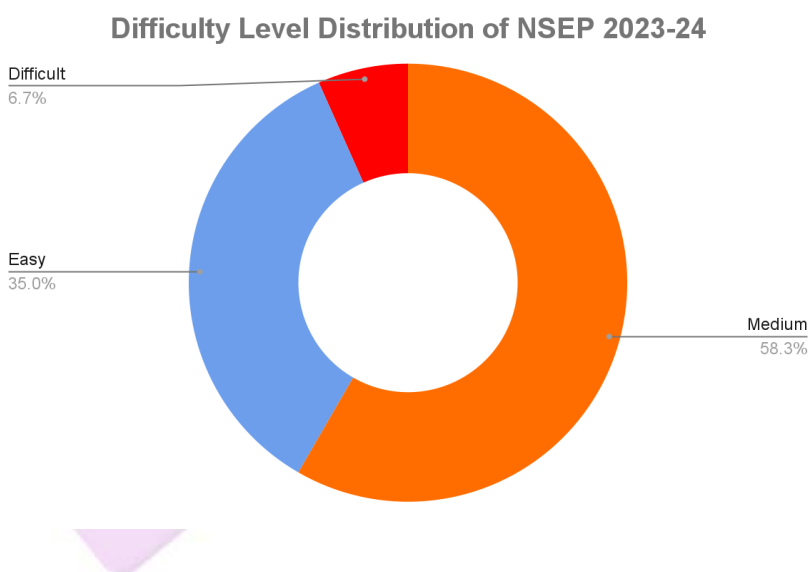
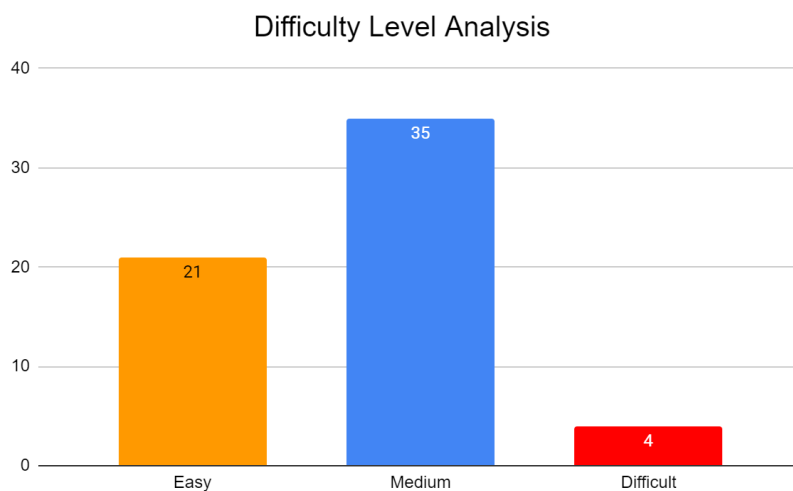
NSEP 2023-24 was conducted on Sunday, November 26, 2023 from 8:30 AM to 10:30 AM for eligible students

As per our expert faculty analysis, below are the **Key Takeaways from NSEP 2023-24:**

Analysis of Difficulty Level

It was rated as Moderate on the difficulty level. It consisted mostly of easy & moderate questions.

Subject	Easy		Medium		Difficult		Grand Total	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Physics	21	63	35	135	4	18	60	216



Chapter/Topic Level Distribution

Following is the question distribution table as per Class, Chapter, Topic & Difficulty:

Question No.	Chapter	Topic Name	Difficulty Level	Marks	Class	Section
1	Laws of Motion	Dynamics Of Circular Motion	Medium	3	XI	A1
2	Gravitation	Equilibrium Of Gravitational Forces	Medium	3	XI	A1
3	Mechanical Properties of Solids	Variation in Density with depth	Medium	3	XI	A1
4	Mechanical Properties of Fluids	Equation Of Continuity	Easy	3	XI	A1
5	Waves	Doppler's Effect	Easy	3	XI	A1

6	Waves	Speed Of Transverse Wave	Easy	3	XI	A1
7	Waves	Sound Level Intensity	Medium	3	XI	A1
8	Oscillations	Time Period Of Oscillations	Easy	3	XI	A1
9	Oscillations	Spring Block System	Easy	3	XI	A1
10	Waves	Equation Of Travelling Wave	Easy	3	XI	A1
11	Thermodynamics	Carnot's Engine	Medium	3	XI	A1
12	Thermodynamics	Equation Of Ideal Gas	Easy	3	XI	A1
13	Mechanical Properties of Fluids	Surface Tension, Excess Pressure & Coalesce of Bubbles	Medium	3	XI	A1
14	Waves	Standing Waves in Organ Pipes	Medium	3	XI	A1
15	Thermal Properties of Matter	Transfer Of Heat & variation of Temperature	Difficult	3	XI	A1
16	Thermodynamics	Work Done in Thermodynamic Processes	Easy	3	XI	A1
17	Thermal Properties of Matter	Radiation Of Heat	Easy	3	XI	A1
18	Electric Charges and Fields	Equilibrium Of Electrostatic Forces	Medium	3	XII	A1
19	Electrostatic Potential and Capacitance	Grouping Of Capacitors	Medium	3	XII	A1
20	Laws of Motion	Pulley Block System	Medium	3	XI	A1
21	Electric Charges and Fields	Force on Electric Dipole in External Electric Field	Easy	3	XII	A1
22	Electrostatic Potential and Capacitance	Electrostatics Of Conductors	Easy	3	XII	A1
23	Electrostatic Potential and Capacitance	Electrostatics Of Conductors	Medium	3	XII	A1
24	Moving Charges and Magnetism	Force On Current Carrying Conductor In Magnetic Field	Medium	3	XII	A1
25	Semiconductor Electronics: Materials, Devices and Simple Circuits	Semiconductor Basics	Easy	3	XII	A1
26	Nuclei	Radioactivity	Medium	3	XII	A1
27	Electromagnetic induction	Mutual Induction	Medium	3	XII	A1
28	Alternating Current	LC Oscillations	Medium	3	XII	A1
29	System of Particles and Rotational Motion	Pure Rolling Motion	Medium	3	XI	A1
30	Atoms	Atomic Excitation	Medium	3	XI	A1

31	Nuclei	Isotopes & Isobars	Easy	3	XII	A1
32	Ray Optics and Optical Instruments	Total Internal Reflection & Optical Fiber	Easy	3	XII	A1
33	Nuclei	Stabiity Of Nucleus	Easy	3	XII	A1
34	Ray Optics and Optical Instruments	Silvering Of Lens	Medium	3	XII	A1
35	Wave Optics	Huygen's Wave Theory	Easy	3	XII	A1
36	Ray Optics and Optical Instruments	Combination Of Lenses	Medium	3	XII	A1
37	Nuclei	Pair Production & Annihilation	Easy	3	XII	A1
38	Ray Optics and Optical Instruments	Silvering Of Lens	Medium	3	XII	A1
39	Motion in a Plane	Oblique Projction	Difficult	3	XI	A1
40	Laws of Motion	Application Of II Law	Medium	3	XI	A1
41	Laws of Motion	Dynamics of Circular Motion	Medium	3	XI	A1
42	Work Energy and Power	Application Of Power	Medium	3	XI	A1
43	Gravitation	Application Of Gravitational Potential Energy	Easy	3	XI	A1
44	System of Particles and Rotational Motion	Application Of Moment Of Inertia	Medium	3	XI	A1
45	Ray Optics and Optical Instruments	Combination Of Prisms	Easy	3	XII	A1
46	Atoms	Characteristic X Rays	Easy	3	XII	A1
47	Experimental Physics	Focal Length Of Concave Mirror	Medium	3	XII	A1
48	Dual Nature of Radiation and Matter	Radiation Pressure	Easy	3	XII	A1
49	Current Electricity	Kirchoff's Laws	Medium	6	XII	A2
50	Wave Optics	Interference Of Light	Difficult	6	XII	A2
51	Ray Optics and Optical Instruments	Reflection & Refraction Of Light	Difficult	6	XII	A2
52	Semiconductor Electronics: Materials, Devices and Simple Circuits	Biasing Of PN Junctions	Medium	6	XII	A2
53	Work Energy and Power	Potential Energy due to variable Force	Medium	6	XII	A2
54	Work Energy and Power	Collisions	Medium	6	XI	A2
55	Waves	Standing Waves	Medium	6	XI	A2
56	Thermodynamics	Adiabatic Process	Medium	6	XI	A2
57	Electrostatic Potential and Capacitance	Electric Dipole	Medium	6	XII	A2

58	Electric Charges and Fields	Electric Field Due to a Point Charge	Medium	6	XII	A2
59	Electromagnetic induction	Application Of Motional EMF	Medium	6	XII	A2
60	Electromagnetic Waves	Application Of Electromagnetic Waves	Medium	6	XII	A2

Class Wise Distribution Level

- Questions were asked equally from both Class XI & XII syllabus, both hold approximately equal weightage
- Overall Class XII portion dominated the Paper from Scoring perspective having higher weightage as compared to Class XI

Section	XI		XII		Grand Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	No. of Questions	Total Marks
A1	26	78	22	66	48	144
A2	3	18	9	54	12	72
Grand Total	29	96	31	120	60	216

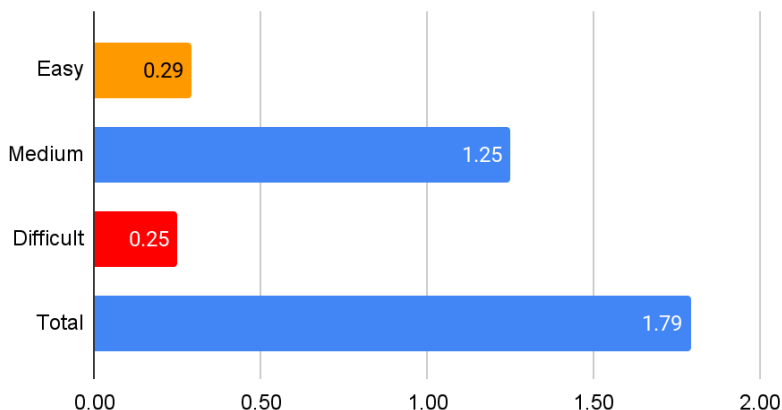
Overall Difficulty Level

In this analysis, we have rated every question on a scale of 1 to 3. The individual ratings are then averaged to calculate the overall difficulty level.

- 1: Easy
- 2: Moderate
- 3: Difficult

Difficulty Level	Overall Difficulty Level
Easy	0.29
Medium	1.25
Difficult	0.25
Total	1.79

Overall Difficulty Level of NSEP 2023-24



As evident from the question distribution, the overall difficulty is Moderate. In contrast to the previous year, the Paper seemed to be at a somewhat similar level or easier.

Hence, in the evaluation conducted by our team of experts from Aakash BYJU'S, it was observed that this year's **NSEP 2023-24** was of Moderate level in difficulty for students