

PhysicsByAaryan

CSIR NET Physics Syllabus — with Weightage

For CSIR NET Physical Sciences aspirants · Dec 2025 / July 2026
Built from 1425 actual CSIR NET Physics questions (2015Dec–2025June)

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Subject-wise weightage (descending)

#	Subject	Questions	Weightage
1	General Aptitude	380	26.7%
2	Quantum Mechanics	154	10.8%
3	Mathematical Physics	154	10.8%
4	Classical Mechanics	145	10.2%
5	Electronics	128	9.0%
6	Electromagnetism	126	8.8%
7	Statistical Mechanics	108	7.6%
8	Atomic and Molecular Physics	63	4.4%
9	Nuclear and Particle Physics	59	4.1%
10	Solid State Physics	55	3.9%
11	Thermodynamics	32	2.2%
12	Optics	21	1.5%

Inside this PDF: every subject with its weightage and topics ordered by frequency of appearance in real CSIR NET Physics papers.

Subject-by-subject syllabus

Each subject below is presented as a complete unit — heading, intro and full topic table — and never split across pages.

General Aptitude

380 questions across CSIR NET Physics 2015Dec–2025June · **26.7%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Mathematical Analysis	128	33.7%
2	Basic Physics	87	22.9%
3	Reasoning	81	21.3%
4	Geometry	56	14.7%
5	Data Analysis	25	6.6%
6	General Knowledge	3	0.8%

Quantum Mechanics

154 questions across CSIR NET Physics 2015Dec–2025June · **10.8%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Basic Quantum Mechanics	36	23.4%
2	Orbital angular Momentum and Hydrogen atom	24	15.6%
3	Perturbation theory	23	14.9%
4	Scattering theory	14	9.1%
5	Spin Angular momentum	13	8.4%
6	Potential Well	13	8.4%
7	Quantum Harmonic Oscillator	10	6.5%
8	Dirac delta potential	6	3.9%
9	WKB Approximation	6	3.9%
10	Variational Principle	5	3.2%
11	Two particle System	3	1.9%
12	KG and Dirac equation	1	0.6%

Mathematical Physics

154 questions across CSIR NET Physics 2015Dec–2025June · **10.8%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Complex analysis	26	16.9%
2	Matrices and Linear Algebra	21	13.6%
3	Probability	18	11.7%
4	Numerical Methods	16	10.4%
5	Ordinary Differential Equations	13	8.4%
6	Basic Mathematics	9	5.8%
7	Vector Algebra and Vector Calculus	8	5.2%
8	Special Functions	7	4.5%
9	Fourier Transform	6	3.9%
10	Group Theory	6	3.9%
11	Laplace transform	4	2.6%
12	Green Function	4	2.6%
13	Fourier Series	3	1.9%
14	Integral Equations	3	1.9%
15	Dirac Delta Function	3	1.9%
16	Gamma and beta functions	3	1.9%
17	Tensors	2	1.3%
18	Partial Differential Equations	2	1.3%

Classical Mechanics

145 questions across CSIR NET Physics 2015Dec–2025June · **10.2%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Special theory of relativity	27	18.6%
2	Lagrangian and Hamiltonian	25	17.2%
3	Oscillations	23	15.9%
4	Central forces	19	13.1%
5	Basic Mechanics	19	13.1%
6	Canonical transformations	10	6.9%
7	Rotation Motion	8	5.5%
8	Phase space diagrams	7	4.8%
9	Poisson brackets	5	3.4%
10	Pseudo Forces	2	1.4%

Electronics

128 questions across CSIR NET Physics 2015Dec–2025June · **9.0%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	OPAMP	20	15.6%
2	"Errors , curve fitting and data analysis"	20	15.6%
3	Instruments	19	14.8%
4	Digital Electronics	16	12.5%
5	Diodes	15	11.7%
6	Flip flops/Counters/Registers/microcontroller etc.	11	8.6%
7	Transistors	9	7.0%
8	RLC Circuits	6	4.7%
9	FET	4	3.1%
10	Basic Electronics	4	3.1%
11	AD/DA Conversion	4	3.1%

Electromagnetism

126 questions across CSIR NET Physics 2015Dec–2025June · **8.8%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Electrostatics	24	19.0%
2	Magnetostatics	21	16.7%
3	EM Waves	21	16.7%
4	Electrodynamics	14	11.1%
5	Relativistic electromagnetism	9	7.1%
6	Waveguides	7	5.6%
7	Radiations	6	4.8%
8	Potential Formulation	5	4.0%
9	Plasma	5	4.0%
10	Capacitors	5	4.0%
11	Multipoles	4	3.2%
12	Electric field in matter	3	2.4%
13	Magnetism in matter	2	1.6%

Statistical Mechanics

108 questions across CSIR NET Physics 2015Dec–2025June · **7.6%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Canonical Ensemble	36	33.3%
2	Quantum Statistical Mechanics	19	17.6%
3	Random Walk/Brownian motion/Diffusion	15	13.9%
4	Ising model	11	10.2%
5	Microcanonical Ensemble	11	10.2%
6	Microstates and Macrostates	9	8.3%
7	Black Body Radiations	6	5.6%
8	Grand Canonical ensemble	1	0.9%

Atomic and Molecular Physics

63 questions across CSIR NET Physics 2015Dec–2025June · **4.4%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Lasers	14	22.2%
2	Molecular physics	13	20.6%
3	"LS, JJ and other interactions"	11	17.5%
4	Bohar Model and h-atom model	9	14.3%
5	Zeeman effect	7	11.1%
6	Xray and alkali spectra	3	4.8%
7	Angular momentum in Atomic Physics	3	4.8%
8	Doppler broadening	3	4.8%

Nuclear and Particle Physics

59 questions across CSIR NET Physics 2015Dec–2025June · **4.1%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Particle physics	19	32.2%
2	Radioactivity	14	23.7%
3	Nuclear forces and Scattering	8	13.6%
4	Shell model	6	10.2%
5	Liquid drop Model	5	8.5%
6	Nuclear properties	3	5.1%
7	Collective model	3	5.1%
8	Particle Detectors and accelerators	1	1.7%

Solid State Physics

55 questions across CSIR NET Physics 2015Dec–2025June · **3.9%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Tight binding model	12	21.8%
2	Crystallography	10	18.2%
3	Semiconductor Physics	7	12.7%
4	Superconductivity	6	10.9%
5	Lattice vibrations	6	10.9%
6	Xray diffraction	5	9.1%
7	Free electron theory	5	9.1%
8	Hall effect	4	7.3%

Thermodynamics

32 questions across CSIR NET Physics 2015Dec–2025June · **2.2%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Laws of thermodynamics	10	31.2%
2	Kinetic theory of Gases	9	28.1%
3	Phase transitions	6	18.8%
4	Thermodynamic relations and maxwell equations	4	12.5%
5	Carnot Cycle	3	9.4%

Optics

21 questions across CSIR NET Physics 2015Dec–2025June · **1.5%** of every paper on average. Topics below are taken directly from the PYQ dataset and ordered by **actual weightage**.

#	Topic	PYQs	Weight in subject
1	Interference and diffraction	15	71.4%
2	Polarization	5	23.8%
3	Ray Optics	1	4.8%

Practice the matching PYQs on csirnetphysics.com · Join Aaryan Sir's full CSIR NET batch at physicsbyaaryan.com