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FOR GOA CLASS 11 PREPARATION

Goa Board Class 11 Syllabus 2027 Physics

EXAM	YEAR	TYPE	SUBJECT
Goa Class 11	2027	Syllabus	Physics

GOA BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION
ALTO BETIM, BARDEZ – GOA

Syllabus and Weightages to the content for the Academic Year 2026 - 27

Subject : Physics **Class : XI**

Text books : NCERT Physics XI (Part I and II)

Print Edition – 2020 (Reprint - 2023),

Published by Goa Board of Secondary and Higher Secondary Education.

Syllabus (Theory) for the Academic Year 2026 - 27

Following table gives the Section – Wise content which have been deleted for the Academic Year 2026 - 27

Sections are according to the Print Edition – 2020 (Reprint -2023) of NCERT books

Chapter	Page No.	Dropped Topics
Chapter 1: Physical World	1 – 15	1.1 What Is Physics? 1.2 Scope and Excitement of Physics 1.3 Physics, Technology and Society 1.4 Fundamental Forces in Nature 1.5 Nature of Physical Laws
Chapter 2 : Units and Measurements	18 – 27 30 - 31 36 - 38	2.3 Measurement of Length 2.4 Measurement of Mass 2.5 Measurement of Time 2.6 Accuracy, Precision of Instruments and Errors in Measurement 2.7.3 Rules for Determining the uncertainty in the Results of Arithmatic Calculations Exercises 2.13, 2.14, 2.19 - 2.22, 2.24 - 2.33
Chapter 3: Motion in a Straight Line	39 – 43 51 – 53 56 59 - 60	3.2 Position, Path Length and Displacement 3.3 Average Velocity and Average Speed 3.7 Relative Velocity Exercises 3.5, 3.7 – 3.9 and 3.23 – 3.28

Chapter 4: Motion in a Plane	**76 – 77** **86 - 89**	**4.9 Relative Velocity in Two Dimensions** **Exercises 4.12 – 4.14 ; 4.26 – 4.32**
Chapter 5: Laws of Motion	**111 - 113**	**Exercises 5.24 – 5.40**
Chapter 6: Work, Energy and Power	**126 – 128** **137 - 139**	**6.10 Various Forms of Energy : the Law of Conservation of Energy** **Exercises 6.24 – 6.29**
Chapter 7: System of Particles and Rotational Motion	**164 – 167** **173 – 175** **178 - 182**	**7.10 Theorems of Perpendicular and Parallel Axes** **7.14 Rolling Motion** **Exercises 7.10, 7.18 – 7.19, 7.21 – 7.33**
Chapter 8: Gravitation	**196 - 198** **201 - 202**	**8.11 Geostationary and Polar Satellites** **8.12 Weightlessness** **Exercises 8.3 – 8.5, 8.22 – 8.25**
Chapter 9: Mechanical Properties of Solids	**234** **239** **247**	**9.2 Elastic Behaviour of Solids** **9.6.2 Determination of Young's Modulus of the material of a Wire.** **Exercises 9.17 – 9.21**
Chapter 10: Mechanical Properties of Fluids	**258** **259** **267** **272 – 273**	**10.4.2 Venturi-meter** **10.4.3 Blood Flow and Heart Attack** **10.6.6 Detergents and Surface Tension** **Exercises 10.21 – 10.31**
Chapter 11: Thermal Properties of Matter	**293 – 294** **300**	**11.9.5 Greenhouse Effect** **Exercises 11.21 – 11.22**
Chapter 12: Thermodynamics	**311 – 312** **320**	**12.9 Heat Engines** **12.10 Refrigerators and Heat Pumps** **Exercises 12.7 and 12.10**
Chapter 13: Kinetic Theory	**333** **338**	**13.6.5 Specific Heat Capacity of Water** **Exercises 13.11 – 13.14**

Chapter 14: Oscillations	353 – 357 363 – 364	14.9 Damped Simple Harmonic Motion 14.10 Forced Oscillations and Resonance Exercises 14.16, 14.20 – 14.25
Chapter 15: Waves	382 – 385 391 - 392	15.8 Doppler Effect Exercises 15.20 – 15.27

Topic – Wise Weightage

Theory Component

Sr. No.	Chapter	Marks Allotted for			
		Mid Term (20)	First Term (60)	Second Term (60)	Supplementary Examination (70)
1	Physical World	----	----	----	-----
2	Units and Measurements	05	04	----	-----
3	Motion in a Straight line	07	05	----	-----
4	Motion in a Plane	08	06	----	-----
5	Laws of Motion	----	10	----	-----
6	Work, Energy and Power	----	11	----	-----
7	System of particles and Rotational Motion	----	12	----	-----
8	Gravitation	----	12	----	------
9	Mechanical Properties of Solids	----	---	04	05
10	Mechanical Properties of Fluids		---	10	12
11	Thermal properties of matter	----	---	08	10
12	Thermodynamics	----	----	08	08
13	Kinetic Theory	----	----	07	09
14	Oscillations	----	----	12	13
15	Waves	----	----	11	13
	Total	20	60	60	70

DESIGN OF QUESTION PAPER

Mid - Term

Time : 1 Hour Max. Marks: 20

1. Weightage to learning outcomes :

Sr. No.	Learning Outcomes	Marks	Percentage of Marks
1	Knowledge	05	25 %
2	Understanding	10	50 %
3	Application	05	25 %
Total		20	100%

2. Weightage to forms of question :

Sr. No.	Forms of Questions	Marks for each question	Number of questions	Total Marks
1	MCQ's	01	02	02
2	Very Short Answer Type (VSA)	01	02	02
3	Short Answer Type (SAI)	02	05	10
4	Short Answer Type (SAII)	03	02	06
Total			11	20

3. Weightage to difficulty level of questions :

Sr. No.	Estimated difficulty level of questions	Marks	Percentage of Marks
1	Easy	06	30 %
2	Average	10	50 %
3	Difficult	04	20 %
Total		20	100%

4. Scheme of Option :

There will be no overall choice. However an internal choice of 3 marks will be provided to question number 11.

DESIGN OF QUESTION PAPER

For First and Second Terminal Examination

Time : 2 and ½ Hour Max. Marks: 60

1. Weightage to learning outcomes :

Sr. No.	Learning Outcomes	Marks	Percentage of Marks
1	Knowledge	15	25 %
2	Understanding	30	50 %
3	Application	15	25 %
Total		60	100%

2. Weightage to forms of question :

Sr. No.	Forms of Questions	Marks for each question	Number of questions	Total Marks
1	MCQ's	01	07	07
2	Very Short Answer Type (VSA)	01	06	06
3	Short Answer Type (SAI)	02	10	20
4	Short Answer Type (SAII)	03	05	15
5	Long Answer Type (LA)	04	03	12
Total			31	60

3. Weightage to difficulty level of questions :

Sr. No.	Estimated difficulty level of questions	Marks	Percentage of Marks
1	Easy	18	30 %
2	Average	30	50 %
3	Difficult	12	20 %
Total		60	100%

4. Scheme of Option :

There will be no overall choice. However internal choice for two 4 marks questions and one 3 mark question will be provided .

DESIGN OF QUESTION PAPER

For Supplementary Examination

Time : 3 Hours Max. Marks: 70

1. Weightage to learning outcomes :

Sr. No.	Learning Outcomes	Marks	Percentage of Marks
1	Knowledge	15	25 %
2	Understanding	30	50 %
3	Application	15	25 %
Total		60	100%

2. Weightage to forms of question :

Sr. No.	Forms of Questions	Marks for each question	Number of questions	Total Marks
1	MCQ's	01	08	08
2	Very Short Answer Type (VSA)	01	08	08
3	Short Answer Type (SAI)	02	10	20
4	Short Answer Type (SAII)	03	06	18
5	Long Answer Type (LA)	04	04	16
Total			35	70

3. Weightage to difficulty level of questions :

Sr. No.	Estimated difficulty level of questions	Marks	Percentage of Marks
1	Easy	18	30 %
2	Average	30	50 %
3	Difficult	12	20 %
Total		60	100%

4. Scheme of Option :

There will be no overall choice. However internal choice for two 4 marks questions and one 3 mark question will be provided .

Total Theory Component : 140 marks

Mid – Term : 20 marks + First Term : 60 marks + Second Term : 60 marks

PRACTICALS

For the academic year 2026 -2027:

1. Students to perform at least 12 experiments (6 each from Section A and Section B)
2. 8 Activities
3. Project

Distribution of Marks:

1st Term Practical Examination : 20 marks
2nd Term Practical Examination : 20 marks
Project : 20 marks

Total Practical Component : 60 marks

EVALUATION SCHEME

For First and Second Term Practical Examination

Time 2 hours Max. Marks: 20

One experiment	**= 10 marks**
Record of 4 activities	**= 04 marks**
Practical record (Journal)	**= 03 marks**
Viva on experiments and activities	**= 03 marks**
Total	**= 20 marks**

Break – Up of 10 marks

i) Experimental arrangement	**= 03 marks**
ii) Tabulation of the measurements and correctness of measurements	**= 04 marks**
iii) Calculations and Graph	**= 02 marks**
iv) Results with units	**= 01 marks**

SECTION–A
Experiments

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To determine the mass of two different objects using a beam balance.
6. To find the weight of a given body using parallelogram law of vectors.
7. Using a simple pendulum, plot its L-T^2 graph and use it to find the effective length of second's pendulum.
8. To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different masses and interpret the result.
9. To study the relationship between force of limiting friction and normal reaction and to find the co-efficient of friction between a block and a horizontal surface.
10. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting graph between force and Sinθ.

SECTION–B
Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting a graph between load and extension.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and 1/V.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. To determine specific heat capacity of a given solid by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.
9. To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

Activities

List of Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.
8. To observe change of state and plot a cooling curve for molten wax.
9. To observe and explain the effect of heating on a bi-metallic strip.
10. To note the change in level of liquid in a container on heating and interpret the observations.
11. To study the effect of detergent on surface tension of water by observing capillary rise.
12. To study the factors affecting the rate of loss of heat of a liquid.
13. To study the effect of load on depression of a suitably clamped metre scale loaded at (i) its end (ii) in the middle.
14. To observe the decrease in pressure with increase in velocity of a fluid.

Project

* The project will be allotted in groups of 2-5 students.

* Allotment of the project to be done before the commencement of mid – term examination. (Students will get sufficient time to do the research work and plan the project)

* The project will be evaluated in the second term.

* Each group will submit one report and the marks will be allotted to each student according to the following criteria :

1. Report	: 05 marks
2. Presentation (oral / PPT)	: 05 marks
3. Team work	: 05 marks
4. Viva	: 05 marks
Total	: 20 marks