TG EAPCET Target Guide

Physics Chapter-Wise Weightage Analysis

A Comprehensive 5-Year High-Weightage Blueprint for Smart Preparation

Language Mode: Simple & Student-Friendly

1. Introduction

TG EAPCET (Telangana State Engineering, Agriculture, and Medical Common Entrance Test) is a highly competitive exam. The Physics section contains exactly **40 questions**, each carrying 1 mark. To get a top rank, you do not need to study blindly. Instead, focusing on the chapters that carry the most marks can give you the best results in less time.

This eBook gives you a clear breakdown of the last 5 years of exam trends. We have grouped the chapters into simple categories so you know exactly where to start and where to spend most of your revision time.

2. Complete 5-Year Weightage Table

Below is the table showing every chapter in the TG EAPCET Physics syllabus, along with its average weightage percentage and the expected number of questions based on actual trends from the last 5 years.

Core Unit	Chapter Name	Weightage (%)	Expected Questions (Out of 40)
Thermodynamics	**Thermodynamics**	**9.0%**	**3 - 4 Questions**

Core Unit	Chapter Name	Weightage (%)	Expected Questions (Out of 40)
Mechanics	**System of Particles and Rotational Motion**	**6.0%**	**2 - 3 Questions**
Mechanics	**Work, Energy, and Power**	**6.0%**	**2 - 3 Questions**
Mechanics	**Laws of Motion**	**5.0%**	**2 Questions**
Mechanics	**Motion in a Plane**	**5.0%**	**2 Questions**
Electrodynamics	**Moving Charges and Magnetism**	**5.0%**	**2 Questions**
Electrodynamics	Current Electricity	4.0%	1 - 2 Questions
Electrodynamics	Electrostatic Potential and Capacitance	4.0%	1 - 2 Questions
Waves & Oscillations	Waves	4.0%	1 - 2 Questions
Mechanics	Gravitation	4.0%	1 - 2 Questions
Waves & Oscillations	Oscillations	4.0%	1 - 2 Questions
Optics	Ray Optics and Optical Instruments	3.0%	1 Question
Optics	Wave Optics	3.0%	1 Question
Modern Physics	Semiconductor Electronics	3.0%	1 Question
Modern Physics	Nuclei	3.0%	1 Question
Modern Physics	Dual Nature of Radiation and Matter	3.0%	1 Question
Electrodynamics	Alternating Current	3.0%	1 Question
Electrodynamics	Electromagnetic Induction	3.0%	1 Question

Core Unit	Chapter Name	Weightage (%)	Expected Questions (Out of 40)
Electrodynamics	Electric Charges and Fields	3.0%	1 Question
Thermodynamics	Thermal Properties of Matter	3.0%	1 Question
Properties of Matter	Mechanical Properties of Fluids	3.0%	1 Question
Mechanics	Motion in a Straight Line	3.0%	1 Question
Modern Physics	Atoms	2.0%	1 Question
Electrodynamics	Electromagnetic Waves	2.0%	1 Question
Electrodynamics	Magnetism and Matter	2.0%	1 Question
Thermodynamics	Kinetic Theory	2.0%	1 Question
Properties of Matter	Mechanical Properties of Solids	2.0%	1 Question
General Physics	Units and Measurements	2.0%	1 Question
Modern Physics	Communication Systems	2.0%	1 Question
General Physics	Physical World	1.0%	0 - 1 Question

3. Detailed Analysis of High-Weightage Areas

A. Mechanics (Total Weightage: ~35%)

Mechanics is the foundation of Physics and the most heavily asked unit in the exam.

- **System of Particles and Rotational Motion (6%):** Focus on finding the center of mass, calculating the moment of inertia for standard shapes, and solving angular momentum conservation problems.
- **Work, Energy, and Power (6%):** Master the Work-Energy Theorem. You will frequently find questions dealing with collisions (elastic and inelastic) and spring potential energy.
- **Laws of Motion & Motion in a Plane (10% combined):** Projectile motion formulas, relative velocity in river-boat problems, friction on inclined planes, and banking of roads are must-read topics.

B. Electrodynamics (Total Weightage: ~25%)

This unit deals with electric currents, fields, and magnetic forces. It requires good conceptual understanding and formula practice.

- **Moving Charges and Magnetism (5%):** Standard questions include finding magnetic fields using Biot-Savart Law or Ampere's Law, and forces on charges moving in magnetic fields.
- **Current Electricity (4%):** Learn to apply Kirchhoff's Laws to complex circuits, solve series-parallel combinations, and read values using color codes or bridge circuits.
- **Electrostatic Potential & Capacitance (4%):** Standard formulas like energy stored in a capacitor ($E = \frac{1}{2}CV^2$) and dielectric placement are highly repeated.

C. Heat & Thermodynamics (Total Weightage: ~14%)

This is the most scoring unit because the number of formulas is limited, and the questions are direct.

- **Thermodynamics (9%):** This single chapter carries the highest standalone weightage! Spend time learning the First Law of Thermodynamics ($\Delta Q = \Delta U + \Delta W$), isothermal/adiabatic processes, and Carnot engine efficiency.

> 💡 **Fast Score Tip**
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> Combining Thermodynamics and Modern Physics alone can get you nearly 25% of the marks with a fraction of the effort needed for Mechanics.

4. Action Plan for Students

To get the maximum output in your exam preparation, follow these three simple steps:

1. **Master the Top 5 Chapters First:** Focus fully on Thermodynamics, Rotational Motion, Work-Energy, Laws of Motion, and Moving Charges.
2. **Build a Formula Notebook:** Physics in TG EAPCET is often formula-based. Keep a small notebook with all equations like velocity, work, power, and magnetic formulas for a quick daily review.
3. **Solve Previous Papers:** Practice the actual questions asked in the last 5 years to understand the complexity level of the exam.