Syllabus & Mark Breakdown for the written exam of Laboratory Assistant (Physics)

Topic-Wise Syllabus & Mark Breakdown

Part A: General Aptitude & Foundations (90 Marks)

The 90 marks are rigorously distributed among the structural foundation sub-topics as follows:

- Reasoning & Data Interpretation (30 Marks): Visual reasoning, blood relations, Venn diagrams, age problems, arithmetic reasoning, and reading tables/charts/graphs.
- Quantitative Aptitude (30 Marks): Number systems, algebra, arithmetic & geometric progressions, profit-loss, percentages, ratios, and time-speed-distance.
- Constitution of India (10 Marks): Preamble, Fundamental Rights & Duties, Directive Principles, Parliamentary system, amendments, and the Judiciary.
- Current Affairs (10 Marks): Regional news spanning Gujarat, national events, and crucial science & technology advancements.
- Language Comprehension (10 Marks): Standard comprehension, interpretation, and grammar split between English (5 Marks) and Gujarati (5 Marks).

Part B: Technical Physics Domain (120 Marks)

The remaining 120 marks are exclusively dedicated to specific applications of educational qualifications in Physics, heavily testing Higher Secondary (11th & 12th Science) and core Undergraduate principles:

- Experimental Techniques & Lab Practices: Basic laboratory errors, calculation of significant figures, vernier calipers, screw gauge mechanisms, and general lab safety protocols.
- Mechanics & Properties of Matter: Laws of motion, work-energy theorem, rotational dynamics, gravitation, elasticity, surface tension, and fluid viscosity.
- Radiation & Wave Optics: Reflection, refraction, lens formulas, interference, diffraction, polarization, UV-Visible and Infrared radiation principles, and detectors.

- Electrostatics & Electromagnetism: Coulomb's law, electric fields, Gauss’s theorem, electric potential, capacitance, Ohm's law, Kirchhoff's laws, magnetic fields, and electromagnetic induction.
- Modern Physics & Electronics: Atomic structures, Bohr's model, radioactivity, semiconductors (p-n junction diodes, transistors), and foundational digital logic gates.

(નોંધ: સમગ્ર અભ્યાસક્રમ વિગતવાર ઉમેદવારોની સરળતા ખાતર પ્રસિધ્ધ કરવામાં આવે છે. જેની સર્વે ઉમેદવારોએ નોંધ લેવી.)