



آغا خان یونیورسٹی ایگزامینیشن بورڈ
AGA KHAN UNIVERSITY EXAMINATION BOARD

Teaching and Learning Resources for Grade XI Physics

Recommended Key Textbook:

Punjab Textbook Board (First edition). *Physics 11*. Lahore: Punjab Textbook Board.

Additional Recommended Resource Material				
Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
1	Measurement	Sears, Zemansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 1: Models, Measurements, and Vectors	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 1: Measurement	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 1: The Scope of Physics	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
2	Vectors and Equilibrium	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 1: Models, Measurements, and Vectors Unit 4: Newton's Laws of Motion	http://phet.colorado.edu/ http://www.123physics.com www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 3: Forces in Equilibrium, Forces in Fluids	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 2: Scalars and Vectors Unit 5: Torque, Angular Momentum and Equilibrium	
3	Motion and Force	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 2: Motion along a Straight Line Unit 3: Motion in a Plane	http://phet.colorado.edu/ http://www.123physics.com www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 1: Dynamics	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 2: Motion in One Dimension Unit 4: Motion in Two and Three Dimensions	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 3: Motion Unit 4: Motion in Two Dimension	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
4	Work, Power and Energy	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 7: Work and Energy	http://phet.colorado.edu/ www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 4: Mechanics and Fluids Unit 5: Sources of Energy	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 11: Work and Kinetic Energy Unit 12: Potential Energy Unit 13: Conservation of Energy	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 7: Work, Power and Energy	
5	Circular Motion	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 6: Circular Motion and Gravitation Unit 9: Rotational Motion	http://phet.colorado.edu/ http://www.123physics.com www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 4: Mechanics and Fluids	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 8: Rotational Kinematics Unit 9: Rotational Dynamics Unit 10 : Angular Momentum	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 5: Torque, Angular Momentum and Equilibrium	
6	Fluid Dynamics	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 13: Fluid Mechanics	
		Halliday and Resnick, <i>Fundamental of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 16: Fluid Dynamics	
7	Oscillations	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 11: Periodic Motion	
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 17: Oscillations and Waves	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 17: Oscillations	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 8: Wave Motion and Sound	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
8	Waves	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 21: Mechanical Waves Unit 22: Reflections and Normal Modes Unit 23: Sound	http://phet.colorado.edu/ http://www.123physics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 17: Oscillations and Waves Unit 22: Applications of Sound Waves Unit 23: Waves in Strings and Pipes	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 18: Wave Motion Unit 19: Sound Waves	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 8: Wave Motion and Sound	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
9	Physical Optics	Sears, Zemansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 36: The Nature and Propagation of Light Unit 39: Interference and Diffraction	http://phet.colorado.edu/ http://www.123physics.com
		Nelson and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 15: Geometrical Optics Unit 19: Interference of Light Waves Unit 20: Diffraction of Light Waves Unit 21: Polarisation of Light Waves	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 41: Interference Unit 42: Diffraction Unit 43: Gratings and Spectra Unit 44: Polarisation Unit 45: The Nature of Light	
		Sindh Textbook Board. <i>Fundamental of Physics for Class XI</i> . Jamshoro: Sindh Textbook Board.	Unit 9: Nature of Light Unit 10: Geometrical Optics	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
10	Thermodynamics	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 18: The First Law of Thermodynamics Unit 19: The Second Law of Thermodynamics Unit 20: Molecular Properties of Matter	
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 25: Heat and Energy. Heat Capacity, Latent Heat Unit 26: Gas Laws, Basics of Thermodynamics Unit 27: Kinetic Theory of Gases	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 1)	Unit 23: The First Law of Thermodynamics Unit 24: Entropy and the Second Law of Thermodynamics	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 11: Heat	

Note: This resource list has been prepared primarily for teachers. While it can be shared with students, students should not be required to buy multiple books. Schools are encouraged to stock these books in the library. Moreover, these are only suggestions which have been compiled for the ease of teachers and students; schools are encouraged to use other resources for teaching and learning as well, as long as they are in line with the student learning outcomes (SLOs) mentioned in AKU-EB syllabi. Unless specified, AKU-EB does not endorse any of these books or websites. You are advised to use an ad-blocker while accessing the websites. In case any website is not functional for any reason, you may inform us at examination.board@aku.edu for an alternative or search material via any search engine. If you have any query, please contact us via email.



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Recommended Key Textbook:

Punjab Textbook Board (First edition). *Physics 12*. Lahore: Punjab Textbook Board.

Additional Recommended Resource Material				
Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
11	Electrostatics	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 24: Coulomb's Law Unit 25: The Electric Field Unit 26: Electrical Potential Unit 27: Capacitance and Dielectrics	http://phet.colorado.edu/ http://www.123physics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 8: Electrostatics. The Electric Field Unit 9: Capacitors	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 25: Electric Charge and Coulomb's Law Unit 26: The Electric Field Unit 27: Gauss' Law Unit 28: Electric Potential Energy and Potential Unit 30: Capacitance	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 12: Electrostatics	
12	Current Electricity	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 28: Current, Resistance and Electromotive Force Unit 29: Direct-Current Circuits	http://phet.colorado.edu/ http://www.123physics.com www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 10: Current Electricity	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 31: DC Circuits	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 13: Current Electricity	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
13	Electromagnetisms	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 30: Magnetic Field and Magnetic Forces Unit 31: Sources of Magnetic Field	http://phet.colorado.edu/ http://www.123physics.com www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 11: Magnetic Field and Force on Conductor Unit 12: Magnetic Fields of Current-Carrying Conductors Unit 30: Electron Motion in Fields, Cathode-Ray Oscilloscope	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 32: The Magnetic Field Unit 33: The Magnetic Field of a Current	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 14: Magnetism and Electromagnetism	
14	Electromagnetic Induction	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 32: Electromagnetic Induction	http://phet.colorado.edu/ www.animatedphysics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 13: Electromagnetic Induction	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 34: Faraday's Law of Induction	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 14: Magnetism and Electromagnetism	
15	Alternating Current	Sears, Zemansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 33: Inductance Unit 34: Alternating Current Unit 35: Electromagnetic Waves	http://phet.colorado.edu/
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 14: A.C. Circuits	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 36: Inductance Unit 37: Alternating Current Circuits Unit 38: Maxwell's Equations and Electromagnetic Waves	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 16: Electromagnetic Waves and Electronics	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
16	Physics of Solids	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 12: Elasticity	http://phet.colorado.edu/
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 49: Electrical Conduction in Solids	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 16: Electromagnetic Waves and Electronics	
17	Electronics	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 43: Atoms, Molecules, and Solids	http://phet.colorado.edu/
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 32: Analogue and Digital Electronics	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 49: Electrical Conduction in Solids	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 16: Electromagnetic Waves and Electronics	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
18	Dawn of Modern Physics	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 40: Relativistic Mechanics Unit 42: Quantum Mechanics	www.particleadventure.org http://www.123physics.com
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 33: Photoelectricity, Energy Levels, X-Rays, Wave-Particle Duality	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 52: Particle Physics and Cosmology	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 17: Advent of Modern Physics	
19	Atomic Spectra	Sears, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 41: Photons, Electrons, and Atoms	www.particleadventure.org
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 33: Photoelectricity, Energy Levels, X-Rays, Wave-Particle Duality	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 48: Atomic Structure	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Website
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 18: Atomic Spectra	
20	Nuclear Physics	Sears, Zemansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 44: Nuclear and High-Energy Physics	http://phet.colorado.edu/ www.particleadventure.org
		Nelson and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 34: Radioactivity, Nuclear Energy	
		Halliday and Resnick, <i>Fundamentals of Physics</i> : Walker Wiley India Pvt. Ltd. (Volume 2)	Unit 50: Nuclear Physics Unit 51: Energy from the Nucleus	
		Sindh Textbook Board. <i>A Textbook of Physics for Class XII</i> . Jamshoro: Sindh Textbook Board.	Unit 19: The Atomic Nucleus Unit 20: Nuclear Radiations	

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