



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	Reference Book	Topic in the Reference Book	Website
1	Measurement	Sears, Zamansky 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	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		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	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		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	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	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a>
		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	Reference Book	Topic in the Reference Book	Website
9	Physical Optics	Sears, Zamansky 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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a>
		Nelkon 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	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	

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In case any website is not functional for any reason, you may search material via Google or Yahoo search engines. If you have any query, you may contact us at [examination.board@aku.edu](mailto:examination.board@aku.edu)

This resource list is applicable for syllabi which will be assessed in 2019 onwards.





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Topic No.	Topic	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a>
		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	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		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	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://fearofphysics.com/Videos/">http://fearofphysics.com/Videos/</a>
		Nelkon and Parker. (Seventh edition). <i>Principles of Physics</i> . Heinemann: Collins Int'l Textbooks.	Unit 13: Electromagnetic Induction	

Topic No.	Topic	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, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 33: Inductance Unit 34: Alternating Current Unit 35: Electromagnetic Waves	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a>
		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	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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a>
		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	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a>
		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	

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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	<a href="http://www.particleadventure.org">www.particleadventure.org</a> <a href="http://www.123physics.com/">http://www.123physics.com/</a>
		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	<a href="http://www.particleadventure.org">www.particleadventure.org</a>
		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	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, Zamansky and Young Addison, <i>College Physics</i> . New York: Wesley Publication Co.	Unit 44: Nuclear and High-Energy Physics	<a href="http://phet.colorado.edu/">http://phet.colorado.edu/</a> <a href="http://www.particleadventure.org">www.particleadventure.org</a>
		Nelkon 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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