KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

2026 CUSTOMISED KZN ATP: Grade 12 – Term 1: PHYSICAL SCIENCES

Weeks		Knowledge Area	Concepts for week	Page in CAPS doc	Date completed	SMT Member Signature	% Curriculum Coverage Per Term	% Curriculum Coverage Annual
Week 1 14 – 16 Jan (3 days)		MECHANICS: Momentum & Impulse (2 hrs)	• Define & calculate the momentum of a moving object: p = mv • Describe the vector nature of momentum & draw vector diagrams. • State Newton's second law in terms of momentum: $F_{net} = \frac{\Delta p}{\Delta t}$ • Calculate the change in momentum when a resultant force acts on an object. • Define impulse. • Use the impulse momentum theorem ($F_{net}\Delta t = m\Delta v$) in calculations for a variety of situations (1-D).	99			8.6	3,1
Week 2 19 – 23 Jan (5 days)		MECHANICS: Momentum & Impulse (4 hrs)	• Impulse and safety considerations. • State the principle of conservation of linear momentum. • Explain what is meant by an isolated system, internal and external forces. • **Prescribed Experiment (Formal)** Verify the conservation of linear momentum • Apply conservation of momentum to collisions between two objects (one dimension). • Distinguish between elastic and inelastic collisions bycalculation.	100 - 101			20	7,2
Week 3 26 – 30 Jan (5 days)		MECHANICS: Vertical projectile motion (4 hrs)	• Explain what is meant by free-fall and a projectile. • Use equations of motion to determine the position, velocity and displacement of a projectile at any given time. • Sketch y vs t, v vs t and a vs t graphs for a free falling object, an object thrown vertically upwards, an object thrown vertically downwards and bouncing objects.	102			31,4	11,3
Week 4 02 – 06 Feb (5 days)		MECHANICS: Vertical projectile Motion (4 hrs)	• Do calculations using equations of motion for two objects simultaneously in free fall. • For given y vs t, v vs t or a vs t graphs, determine position, displacement, velocity and/or acceleration at any time t. • For given y vs t, v vs t or a vs t graphs, describe the motion of an object dropped, thrown vertically upwards, thrown vertically downward or bouncing. **Recommended Experiment:** (Informal) Investigate the motion of a falling body. Draw a graph of position vs time and velocity vs time for a free falling object and use the data to determine the acceleration due to gravity	102 - 103			42,9	15,5
Week 5 O9 – 13 Feb (5 days)		MATTER & MATERIALS: Organic molecules (4 hrs)	• Define organic molecules, functional group, hydrocarbon, homologous series, saturated and unsaturated compounds, and structural isomers. • Write condensed, structural & molecular formulae (max 8 C atoms, 1 functional group per molecule) for alkanes (no rings), alkenes (no rings), alkynes, alcohols, haloalkanes (no rings), carboxylic acids, aldehydes, ketones and esters. • Write IUPAC names for structural / condensed structural formulae for compounds from above series.	104			54,3	19,6
Week 6 16 – 20 Feb (5 days)		MATTER & MATERIALS: Organic molecules (4 hrs)	• Write IUPAC names from structural or condensed structural formulae for compounds listed (one functional group per molecule, max. two functional groups for haloalkanes). • Identify alkyl substituents (methyl- and ethyl-); max. THREE alkyl substituents. • Identify compounds that are saturated, unsaturated, structural isomers (chain, positional and functional). • Identify the type of intermolecular forces in different organic molecules • Physical properties: boiling point, melting point, vapour pressure	104 - 108			65,7	23,7

2026 CUSTOMISED KZN: Grade 12 – Term 1: PHYSICAL SCIENCES

Weeks		Knowledge Area	Concepts for week	Page in CAPS doc	Date completed	SMT Member Signature	% Curriculum Coverage	
							Per Term	Annual
Week 7 23 – 27 Feb (5 days)		**MATTER & MATERIALS: Organic molecules (4 hrs)**	• Relationship between physical properties and strength of IMF, type of functional group, chain length and branching • Combustion of alkanes in excess O_2 and use as fuels. • Equation & reaction conditions for the formation of an ester and IUPAC names for reactant and products. • Classify reactions as elimination, addition or substitution. • Equations and reaction conditions for addition reactions of alkenes.	**106**			**77**	**27,8**
Week 8 02 – 06 March (5 days)		**MATTER & MATERIALS: Organic molecules (4 hrs)**	• Equations and reaction conditions for elimination reactions: dehydrohalogenation of haloalkanes, cracking of alkanes, dehydration of alcohols • Equations and reaction conditions for substitution reactions: hydrolysis of haloalkanes, halogenation of alkanes	**107 – 117**			**88,6**	**32**
Week 9 09 – 13 March (5 days)		**(4 hrs)**	• Revision: Newton's Laws (Grade 11) • Revision: Momentum & Impulse. • Revision: Vertical Projectile Motion. • Revision: Organic Molecules.	**117 - 118**			**100**	**36**
Week 10 16 – 20 March (5 days)		**CONTROLLED TEST (2 Hours)**	**ONE PAPER (100 Marks)** • Newton's laws of motion • Momentum and impulse • Vertical projectile motion • Organic molecules					
Week 11 23 – 26 March (4 days)								

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

2026 CUSTOMISED KZN ATP: Grade 12 – Term 2: PHYSICAL SCIENCES

Weeks		Knowledge Area	Concepts for week	Page in CAPS doc	Date completed	SMT Member Signature	% Curriculum Coverage: Per Term	% Curriculum Coverage: Annual
Week 1 08 – 10 April (3 days)		MECHANICS: Newton's Laws Work Done by a Force (2 hrs)	• Discussion and review of March Controlled Test • Define the work done on an object. • Draw force diagrams & free body diagrams. • Calculate the net work done on an object. • Distinguish between positive work and negative net work done on a system.	117 - 118			100	36
Week 2 13 – 17 April (5 days)		MECHANICS: Work, energy and power (4 hrs)	• State the work-energy theorem. • Apply the work-energy theorem on horizontal, vertical and inclined planes. • Define conservative and non-conservative forces and give examples. • State the principle of conservation of mechanical energy. • Solve problems using the equation $W_{nc} = \Delta E_k + \Delta E_p$ Show that E_{mech} is conserved in the absence of non-conservative forces.	118			8.6	39
Week 3 20 – 24 April (5 days)		MECHANICS: Work, energy and power (4 hrs)	• Define power and calculate the power involved when work is done. • Perform calculations using $P_{ave} = Fv_{ave}$ when an object moves at a constant speed along a rough horizontal surface or a rough inclined plane • Calculate the minimum power required of an electric motor to pump water from a borehole of a particular depth at a particular rate using $W_{nc} = \Delta Ek + \Delta Ep$ • State the Doppler Effect and explain (using illustrations) the change in pitch observed when a source moves toward or away from a listener (sound and ultra sound). • State applications of the Doppler Effect.	117- 120			20	43,3
Week 4 28 – 30 April (3 days)		WAVES, SOUND & LIGHT: Doppler Effect (2 hrs)	• Solve problems using the Doppler formula. • Solve problems using the Doppler formula. $f_L = \frac{v \pm v_L}{v \pm v_s} f_s$ when EITHER source or listener moves. • Calculations involving Doppler formula. • With light, explain 'red shifts' & use the Doppler Effect to explain why we conclude that the universe is expanding.	117 - 120			31,4	47,4
Week 5 04 – 08 May (5 days)		CHEMICAL CHANGE: Rate and extent of reaction (4 hrs)	• Rates of reaction and factors affecting rate [nature of reacting substances, concentration, pressure (for gases), temperature and presence of a catalyst]. • Explain in terms of the collision theory, how various factors affect the rate of chemical reactions. • Answer questions, and interpret data (graphs or tables) on different experimental techniques for measuring the rate of reaction.	121 - 122			42,9	51,5
Week 6 11 – 15 May (5 days)		CHEMICAL CHANGE: Rate and extent of reaction (4 hrs)	• Define the term *catalyst* • Explain that a catalyst increases the rate of a reaction by providing an alternative path of lower activation energy. It therefore decreases the net activation energy. • Interpret graphs of distribution of molecular energiesto explain how a catalyst, temperature and concentration affect the reaction rate. • **Recommended experiment (Informal)** Rate of chemical reactions with sodium thiosulfate and hydrochloric acid.	123- 124			54,3	55,7

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

2026 CUSTOMISED KZN ATP: Grade 12 – Term 2: PHYSICAL SCIENCES

Weeks		Knowledge Area	Concepts for week	Page in CAPS doc	Date completed	SMT Member Signature	% Curriculum Coverage Per Term	 Annual
Week 7 18 – 22 May (5 days)		Chemical Change: Chemical Equilibrium (4 hrs)	• Explain: open & closed systems; reversiblereactions; dynamic equilibrium • List the factors that influence the position of an equilibrium. • State Le Chatelier's principle and use it to explain changes in equilibria • Interpret simple graphs illustrating equilibrium.	123 - 124			65,7	59,8
Week 8 25 - 29 May (5 days)		CHEMICAL CHANGE: Chemical equilibrium (4 hrs)	• State the factor that influence the value of theequilibrium constant K_c. • Write an expression for the equilibrium constant from a given equation. • Perform calculations based on K_c values. • Explain the significance of high and low values of the equilibrium constant. • **Recommended experiment** (informal): Investigate equilibrium and the factors affecting equilibrium in the equilibrium of $CoCl_2$ and H_2O.	124			77	63,9
Week 9 01 - 05 June (5 days)		CHEMICAL CHANGE: Acids & bases (4 hrs)	• Define acids and bases according to the Arrhenius andLowry-Brønsted models. • Distinguish between strong and weak acids/bases with examples. • Distinguish between concentrated and dilute acids/bases. • Explain the pH scale and calculate pH values of strong acids and strong bases. • Identify conjugate acid-base pairs for given compounds. • Write neutralisation reactions of common laboratory acids and bases.	125			88,6	68
Week 10 08 - 12 June (5 days)		CHEMICAL CHANGE: Acids & bases (4 hrs)	• **Prescribed experiment** (formal) How do you use the titration of oxalic acid against sodium hydroxide to determine the concentration of sodium hydroxide? • Perform calculations based on titration reactions & motivate the choice of an Indicator. • Determine the approximate pH of salts in salt hydrolysis. • Define the concept of Kw and explain the auto ionization of water. • Compare the K_a and K_b values of strong and weak acids and bases. • Compare strong and weak acids by looking at pH, conductivity & reaction rate.	126 - 128			100	72,2
Week 11 17 - 19 June (3 days)		JUNE EXAMINATION 3 hour duration for each of papers 1 and 2	**Paper 1 (150 Marks)** • Newton's laws of motion • Momentum and impulse • Vertical projectile motion • Work, energy and power • Doppler effect • Electrostatics (Grade 11) • Electric Circuits (Grade 11)					
Week 12 22 - 26 June (5 days)			**Paper 2 (150 Marks)** • Stoichiometry • Organic Molecules • Rate and Extent of Chemical Reactions • Chemical Equilibrium • Acids & Bases					

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

2026 CUSTOMISED KZN ATP: Grade 12 – Term 3: PHYSICAL SCIENCES

Weeks		Knowledge Area	Concepts for week	Page in CAPS doc	Date completed	SMT Member Signature	% Curriculum Coverage: Per Term	% Curriculum Coverage: Annual
Week 1 21 – 24 July (4 days)		ELECTRICITY & MAGNETISM: Electrostatics & Electric Circuits (3 hrs)	• Review and corrections of June Exams **Electrostatics:** • Coulomb's Law • Electric fields **Electric circuits** • Solve problems involving current, voltage and resistance for circuits containing arrangements of resistors (maximum four) in series and in parallel.				11	75,3
Week 2 27 – 31 July (5 days)		ELECTRICITY & MAGNETISM: Electric Circuits (4 hrs)	• Explain the term internal resistance. • Solve circuit problems using • $\varepsilon = IR_{ext} + Ir$ or $\varepsilon = V_{load} + V_{int\ resistance}$. • Solve problems, with internal resistance, for circuits containing arrangements of resistors in series and in parallel (maximum four resistors). • **Recommended experiment** (informal): Determine the internal resistance of a battery.	84 – 85			25,9	79,4
Week 3 03 -07 Aug (5 days)		ELECTRICITY & MAGNETISM: Electrodynamics (4 hrs)	• State the energy conversion in generators & use principle of electro-magnetic induction to explain how generators work. • Give examples of uses of AC & DC generators & functions of components in both. • State the energy conversion in motors & use the motoreffect to explain how motors work. • Explain the functions of components of motors and give examples of uses of motors. • State the advantages of alternating current over direct current. • Draw and interpret sketch graphs of voltage vs time and current vs time for AC and DC generators.				40,7	83,5
Week 4 11 – 14 Aug (4 days)		ELECTRICITY & MAGNETISM: Electrodynamics (2 hours)	• Define the term *rms* for an alternating voltage or an alternating current. • Solve problems using $I_{rms} = \frac{I_{max}}{\sqrt{2}}$; $V_{rms} = \frac{V_{max}}{\sqrt{2}}$; $P_{ave} = I_{rms}^2 R$; $P_{ave} = \frac{V_{rms}^2}{R}$ and $P_{ave} = I_{rms}V_{rms}$	130			55,5	87.6
		M & M: Optical phenomena and properties of materials (1 hour)	**Optical phenomena and properties of materials** • Describe the photoelectric effect and state its significance. • Define threshold frequency, f_o. • Define work function, W_o.	130				
Week 5 17 - 21 Aug (5 days)		MATTER & MATERIALS: Optical phenomena and properties of materials (4 hrs)	• Perform calculations using the photoelectric equation: $E = W_o + K_{max}$, where $E = hf$, $W_o = hf_o$ and $K_{max} = \frac{1}{2} mv_{max}^2$ • Explain the effect of intensity and frequency on the photoelectric effect. • Explain the formation of atomic spectra by referring to energy transitions. • Explain the difference between atomic absorption spectra and atomic emission spectra	132			70,4	91,7

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

2026 CUSTOMISED KZN ATP: Grade 12 – Term 3: PHYSICAL SCIENCES

							% Curriculum Coverage	
Weeks		**Knowledge Area**	**Concepts for week**	**Page in CAPS doc**	**Date completed**	**SMT Member Signature**	**Per Term**	**Annual**
Week 6 **24 - 28 Aug** **(5 days)**		**CHEMICAL CHANGE: Electrochemical reactions** **(4 hrs)**	• Define oxidation & reduction in terms of electron transfer & oxidation numbers. • Define oxidising & reducing agents in terms of oxidation and reduction. • Define an anode and cathode in terms of oxidation and reduction. • Define an *electrolyte* **Galvanic cells** • Define a galvanic cell. • State the function of a salt bridge. • Predict the movement of ions and the direction of electron flow in external circuit. • Write half-reactions at each electrode & the overall cell reaction. • Predict in which half-cell oxidation / reduction takes place. • Use cell notation or diagrams to represent a galvanic cell. • Calculate emf for a galvanic cell. • Explain that V_{cell} decreases as [product ions] increases and [reactant ions] decreases and $V_{cell} = 0$ when equilibrium is reached, (the cell is 'flat'). • State the standard conditions under which standard electrode potentials are determined.	**134 - 138**			**85.2**	**95,9**

Week 7
31 Aug – 04 Sept
(5 days)
		CHEMICAL CHANGE: Electrochemical reactions
		(4 hrs)
			• Describe the standard hydrogen electrode and explain its role as the reference electrode.
			• Explain how standard electrode potentials can be determined using the reference electrode; state the convention regarding positive and negative values.
			
			Electrolytic cells
			• Define an electrolytic cell.
			• Describe the movement of ions in the solution.
			• State the direction of electron flow in the external circuit.
			• Write equations for the half-reactions at the anode and cathode.
			• Write down the overall cell reaction.
			• Describe, using half-reactions and the equation for the overall cell reaction as well as the layout of the particular cell using a schematic diagram, the following electrolytic processes:
			  ◦ The decomposition of copper (II) chloride
			  ◦ Electroplating, e.g. the electroplating of an iron spoon with silver/nickel
			  ◦ Refining of copper
			• The electrolysis of a concentrated solution of sodium chloride.
				134			**100**	**100**

Week 8 **07 - 11 Sept** **(5 days)**		**Paper 2 Revision** **(2 hrs)** **Paper 1 Revision** **(2 hrs)**	**Paper 2** • Representing chemical change (Gr 10) • Intermolecular forces • Energy and chemical change (Gr 11) • Stoichiometry (application only) (Gr 11) • Chemical Change • Organic Chemistry **Paper 1** • Newton's laws (Gr 11) • Electrostatics (Gr 11) • Electric circuits (Gr 11) • Mechanics • Waves, Sound and light • Electricity and magnetism • Optical properties of Matter					

Week 9, 14 - 18 21 – 23 Sept		**PREPARATORY EXAMINATION** **P1: 3 hrs** **P2: 3 hrs**	**PAPER 1: 150 marks** • Mechanics (65) • Waves, Sound and light (15) • Electricity and magnetism (55) • Matter & Materials (15) **PAPER 2: 150 marks** • Chemical Change (92) • Matter & Materials (58) The following **gr 10 and 11 topics** will form part of the two papers:**:** **Paper 1** • Newton's laws (Gr 11) • Electrostatics (Gr 11) • Electric circuits (Gr 11) **Paper 2** • Representing chemical change (Gr 10) • Intermolecular forces • Energy and chemical change **(Gr 11)** • Stoichiometry (Gr 11)						

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

2026 CUSTOMISED KZN ATP: Grade 12 – Term 4: PHYSICAL SCIENCES

							% Curriculum Coverage	
Weeks		**Knowledge Area**	**Concepts for week**	**Page in CAPS doc**	**Date completed**	**SMT Member Signature**	**Per Term**	**Annual**
Week 1 **06 – 09 Oct** **(4 days)**		**REVIEW: PREPARATORY EXAMINATIONS** **(3 hrs)**	Discussion and correction of errors in Preparatory Exams (P1 & P2)					
Week 2 **12 - 16 Oct** **(5 days)**		**REVIEW: PREPARATORY EXAMINATIONS** **(4 hrs)**	Discussion and correction of errors in Preparatory Exams (P1 & P2)					
Week 3 **19 – 23 Oct** **(5 days)**		**CONSOLIDATION AND REVISION** **(4 hrs)**	Preparation for final Exams					
FINAL EXAMS **Week 4 - 7** **26 Oct – 27 Nov**			**PAPER 1: 150 marks** • **Mechanics (65)** Momentum and impulse; Vertical projectile motion, Work, energy and power, Newton's laws (Gr 11) • **Waves, Sound and light (15)** Doppler effect • **Electricity and magnetism (55)** Electric circuits, Electrodynamics, Electrostatics (Gr11), Electric circuits (Gr 11) • **Matter & Materials (15)** Optical phenomena and properties of materials **PAPER 2: 150 marks** • **Chemical Change (92)** Rate and extent of reaction, Chemical equilibrium, Acids and bases, Representing chemical change (Gr 10), Energy and chemical change (Gr 11), Stoichiometry (application only) (Gr 11), Electrochemical reactions • **Matter & Materials (58)** Organic molecules, Intermolecular forces (Gr 11)					

NAME OF SCHOOL: ______________________________ **YEAR: 2026**

PROGRAMME OF FORMAL ASSESSMENT FOR GRADE 12						
ASSESSMENT TASKS:SBA (25%)						**END-OF-YEAR ASSESSMENT (75%)**
TERM 1		**TERM 2**		**TERM 3**		**TERM 4**
Type	**Weighting and duration**	**Type**	**Weighting and duration**	**Type**	**Weighting and duration**	**Type**
Experiment (Conservation of linear momentum) **(Term weight : 25%)**	**15%** (Minimum 50 marks and minimum 2 hours duration)	**June Exam** **(Term weight : 100%)**	**20%** **Two papers of 150 marks each** **Paper 1: Physics** 150 marks 3 hours duration **Paper 2: Chemistry** 150 marks 3 hours duration	**Experiment** (Determine the unknown concentration of an acid or base by titration against a standard solution) **(Term weight: 25%)**	**15%** (Minimum 50 marks and minimum 2 hours duration)	**Final Examination** Two papers of 150 marks each **Paper 1: Physics** (150 marks) 3 hours duration **Paper 2:** Chemistry (150 marks) 3 hours duration
Control Test **(Term weight : 75%)**	**20%** (1X100 Marks) 2 hours **Physics:** 50 marks **Chemistry:** 50 marks			**Preliminary Examination** **(Term weight: 75%)**	**30%** **Paper 1: Physics (150 marks)** **Paper 2: Chemistry (150 marks** 3 hours duration for each paper	
Total weighting: 35%		**Total weighting: 20%**		**Total weighting: 45%**		
FINAL MARK = 25% (SBA) + 75% (FINAL EXAM) = 100%						

Notes for the teacher:

- **TWO formal & TWO informal practical activities must be done**
- **Before each formal task, there must be evidence of at least 2 informal tasks conducted.**
- **All tasks must be pre-moderated before they are administered.**