Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
WAVES	Introduction to waves	i) To guide students to brainstorm the concept of waves ii) To lead students to demonstrate iii) Through questions and answer technique assist students to explain the terms wavelength (/), frequency (l) and velocity (v) of a wave. iv) To guide students to identify types of waves.	January	Week 2	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	o Slinky spring * Rope, ripple * Vibrator * Ting fork c Chart showing graph of displacement against time *cathode rays oscilloscope	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	behaviour of waves	i) guide the students to explain the behaviour of gases such as refraction, reflection, diffraction, and interference of a wave	January	Week 3	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	ripple tank,rectangular prism,two metal rods, vibrator, two speakers and a radio,TV, mobile phone	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	behaviour of waves	i) guide the students to explain the behaviour of gases such as refraction, reflection, diffraction, and interference of a wave	January	Week 3	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	ripple tank,rectangular prism,two metal rods, vibrator, two speakers and a radio,TV, mobile phone	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	behaviour of waves	ii) lead the students to brainstorm on the applications of refraction, reflection, diffraction, and interference of a wave iii)assist the students to demonstrate the behaviour of gases	February	Week 1	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	ripple tank,rectangular prism,two metal rods, vibrator, two speakers and a radio,TV, mobile phone	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
WAVES	propagation of waves	i) To use question and answer technique to assist students to discuss propagation of mechanical waves. ii) To guide s en to demonstrate the propagation of mechanical waves.	Februa ry	Week 2	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	c SIy spring * Tling fork * Ripple *Rope Chart showing electromagnetic spectrum chart showing the relationship between frequency, speed and wavelength.	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	propagation of waves	iii) To apply question and answer technique to explain the propagation of electromagnec waves. iv) Students groups to discuss the propagation of electromagnec waves. v) Through question and answer technique to lead	Februa ry	Week 3	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	SIy spring * Tling fork * Ripple *Rope Chart showing electromagnetic spectrum chart showing the relationship between frequency, speed and wavelength.	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	sound waves	i) guide the students to identify sources of sound waves ii) help the students to explain the concept of hearing iii) assist the students to describe the perception of hearing iv) guide the students to demonstrate the production of echo	Februa ry	Week 4	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	drum, guitar, model of human hear,table with audability range, tall wall , hall, microphone	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	sound waves	iii) assist the students to describe the perception of hearing iv) guide the students to demonstrate the production of echo	March	Week 1	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	drum, guitar, model of human hear,table with audability range, tall wall , hall, microphone	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
WAVES	musical sounds	i) To guide students to explain the concept of musical sound ii) To lead students to the identify factors affecting loudness pitch and quality of musical sound. iii) organize students visit for students to identify different types of musical instruments iv) lead the students to explain the terms nodes, antinodes, and stationery waves v) guide the student to determine the factors that affect the frequency of a note vi)To lead students to dlstinguish between fundamental note and overtones. vii) To lead students to explain the concept of resonance as applied to sound. viii) To invite an expert to support students to construct a simple musical instrument. vii) Students to	March	Week 2	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	- Sonometer - T for * Violin * Flute * Drum * guitar * Microphone * Cathode rays oscilloscope pipe musical instruments, string musical instruments, electronic musical instruments, helical string, marker pens, white sheet,	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	musical sounds	vii) To lead students to explain the concept of resonance as applied to sound. viii) To invite an expert to support	March	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	- Sonometer - T for * Violin * Flute * Drum * guitar * Microphone * Cathode rays oscilloscope pipe musical instruments, string musical instruments, electronic musical instruments, helical string, marker pens, white sheet,	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	musical sounds	vii) To lead students to explain the concept of resonance as applied to sound. viii) To invite an expert to support	March	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	- Sonometer - T for * Violin * Flute * Drum * guitar * Microphone * Cathode rays oscilloscope pipe musical instruments, string musical instruments, electronic musical instruments, helical string, marker pens, white sheet,	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
MID TERM EXAM-22/03/2024-27/03/2024 MID TERM BREAK-28/03/2024-07/04/2024									

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
WAVES	Electromagnetic Spectrum	i) To guide students to explain the concept of the .electromagnetic spectrum. ii) To guide students to draw and label the electromagnetic spectrum. iii) Students to identify bands of electromagnetic spectrum	April	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	Glass prism Rain bow o Thermometer Iron * heater * Sun rays	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	Electromagnetic Spectrum	iv) To guide students .tn groups to detect infra red rays, visible and ultra-violet rays.	April	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	Glass prism Rain bow o Thermometer Iron * heater * Sun rays	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
WAVES	Applicanons of Electromagnetic Wave in Daily Life	i) To guide students to identify the applications of microwaves, radio-waves, infra red, gamma rays and x-rays. ii) To support students to perform a project work on the Importance of electromagnetic wave.	April	Week 4	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	* Radio signal - Vision - Vitamin A * Hospital treatment - Domestic use	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
ELECTROMAGNETISM	Magnetic fields due to a current - caring conductor	i) To assist students to explain how electro current produce magnetic field. ii) To guide students to carry out experiments to investigate the magnetic fields associated with electric current passing through a straight wire, loop and solenoid. iii) guide the students to state the right hand rule and the cork screw rule iv) guide the students to determine the directions and repulsion of force	May	Week 1	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	- Wire * Compass needle * iron fillings * Source of electricity thumb, wire, u shaped magnet, mercury, iron fillings	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
ELECTROMAGNETISM	Electromagnetic induction	i) guide the student to demonstrate the production of induced current using coil and magnet ii) guide the students to explain the concept of electromagnetic induction	May	Week 1	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	source fo electricity, iron ring, coil, galvanometer, induction coil, chart of induction coil,chart of a.c and a.c generator	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
ELECTROMAGNETISM	Electromagnetic induction	iii) guide the students to state the fardays and lenzs laws of electromagnetic induction iv) guide the students to explain the concept of self induction and mutual induction v) expose and demonstrate the structure of an induction coil to the students and guide them on how it works vi) teacher to explain the flow of a.c and d.c from a coil rotating in a magnetic field vii) explain the mode of action of a.c and d.c generators and how to convert a.c generator to d.c viii) discuss the application of a.c generator and the advantages and disadvantages of a.c over d.c generator	May	Week 2	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	source fo electricity, iron ring, coil, galvanometer, induction coil, chart of induction coil,chart of a.c and a.c generator	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
RADIOACTIVITY	Nucleus of an atom	i) guide the students to discuss the structure of an atom ii) assist the student to give the meaning of atomic number mass, number, and isotopes of an element iii) assist the student to mention the forces holding the nucleus	May	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	model of an atom, chart of an atom,playing card	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
RADIOACTIVITY	Natural radioactivity	i) assist the students explain the concept of radioactive ii) assist students to describe the properties of alpha, gamma, and beta rays iii) guide the students to explain the nuclear changes due to emmision of alpha, beta and gamma radiations	May	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	mild radioactive elements, periodic tabel, chart showing bombarding elements, chart showing emmissions, photographic plates, spark chamber, wilson cloud chamber, graph showing radioactivity	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
TERMINAL EXAM- 20/05/2024-30/05/2024 END OF TERM ONE HOLIDAY BREAK-31/05/2024-01/07/2024									
RADIOACTIVITY	Natural radioactivity	iii) guide the students to explain the nuclear changes due to emmision of alpha, beta and gamma radiations iv) guide the students to detect the alpha, beta and gamma radiations v) guide the students to describe the meaning of half life as applied in radioactive substance and highlight the meaning of background radiations vi) help students to demonstrate half life using various methods vii) guide the students to identify the application of natural radioactive substances	July	Week 1	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	mild radioactive elements, periodic tabel, chart showing bombarding elements, chart showing emmissions, photographic plates, spark chamber, wilson cloud chamber, graph showing radioactivity	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
RADIOACTIVITY	artificial radioactivity	i) guide the students to distinguish artificial and natural radioactivity ii) describe the methods of producing artificial radioactive isotopes iii) guide the students to mention the application of artificial radioactivity	July	Week 2	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	charts of bombarding elements, periodic table,	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
RADIOACTIVITY	radiation hazards an safety	i) explore the effects of nuclear radiations on the human body ii) guide the students to understand how to protect themselves from nuclear radiations effects	July	Week 3	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	charts showing the hazards of radiations radioactive shield	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
RADIOACTIVITY	Nuclear fission and fusion	i) To assist students explore the concept of nuclear fusion and fission ii) To assist students in groups to mention the application of nuclear fusion and fission	July	Week 4	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	Charts showing the nuclear fusion and fission, charts of nuclear power station	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
THERMIONIC EMISSION	Cathode rays	i) to guide students to explain production of cathode rays ii) to facilitate the student to state the properties of cathode rays iii) assist the students to state the applications of cathode rays	August	Week 1	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	TV, computer,maltose cross,paddle wheel,	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	
THERMIONIC EMISSION	X-Rays	i) to guide the student to describe the structure and mode of action of x-ray tube ii) guide the students to distinguish between soft and hard x- ray and their production iii) guide the students to view the position of X-rays in electromagnetic spectrum iv) guide arrange for students to study visit to the x-rays in diagnostic of patients	August	Week 1	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	charts showing x-ray tubes, electromagnetic spectrum,x-ray unit center, x-rays photographic plate	• Quizzes, questions and answers, • class presentation, tests, monthly evaluation • project work, debates, group discussion, • observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
ELECTRONICS	Semiconductors	i) To guide students to explain the concept of energy bands in solids. ii) To guide students to explain the difference between electrical conductivity for conductors, semiconductors and insulators.	August	Week 2	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart of energy and in solid • Conductors, Semiconductors and Insulators • Battery • Galvanometer • Connecting wires • Chart of energy levels for Conductor; Semiconductor and Insulator. • Silicon, Germanium semiconductors. • Chart showing clopping process..	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
ELECTRONICS	Semiconductors	iii) To guide students to describe the effects of temperature on conductivity of conductors, semiconductors and insulator. iv) To guide students to identify types of semiconductors. v) To guide. students to describe the mechanism of dapping impurities in intrinsic Students to describe the mechanism of dopping intrinsic semi conductors.	August	Week 2	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart of energy and in solid • Conductors, Semiconductors and Insulators • Battery • Galvanometer • Connecting wires • Chart of energy levels for Conductor; Semiconductor and Insulator. • Silicon, Germanium semiconductors. • Chart showing clopping process..	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
ELECTRONICS	Diodes	i) To lead students to describe the construction of a P-N junction. ii) To guide students to explain the mode of action of a P-N junction. iii) To display different types of diodes iv) To guide students to discuss a circuit which shows half and full- wave rectifications.	August	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart showing diode. • Diodes • P-N junction diode • Different types of diodes • Light emitting. diode (LED). • D.0 source • Diodes • Capacitor • Resistors • Connecting wires	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
ELECTRONICS	Transistor	i) To display transistors and show a diagram of a transistor. ii) To display transistors and diagram of a transistor. iii) To assist students to identify types of transistors. iv) Through question and answer technique to lead students to outline the applications of transistors.	August	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart showing a transistor • Different types of transistors (PNP and NPN). • Radio • TV • Voltage amplifier	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
ELECTRONICS	Single Stage Amplifier	i) To explain the analogue signal ii) To assist students to explain the concept of digital signals. iii) To guide students to design single stage amplifier.	August	Week 4	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart showing analogy signal • Mobile phone (analogy) • Chart showing digital signal. • Mobile phone (Digital) • Watch • Transistor • Resistors • Oscilloscope•	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
MID TERM EXAM-23/08/2024-29/08/2024-MID TERM BREAK-30/08/2024-16/09/2024									
ELEMENTARY ASTRONOMY	Introduction to Astronomy	i) To guide students to explain the concept of astronomy. ii) To guide students to explain the importance of astronomy.	September	Week 3	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Model of universe • Chart of universe • Clear sky • Charts of heavenly bodies	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
ELEMENTARY ASTRONOMY	Solar System	i) To guide students to distinguish between star and planet. ii)To lead students to explain the concept of force of gravitation which maintains bodies in their orbits.	September	Week 4	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Venus star • Chart of the solar system • Binoculars • Earth and moon • Two bodies • Chart of Earth	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
ELEMENTARY ASTRONOMY	Constellations	i) To guide students to explain the concept of constellation. ii) To guide students to identify kinds of constellations. iii) To guide students to discuss the uses of constellations in navigation and seasons prediction.	October	Week 1	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart of different constellations. • Chart of different constellations. • Chart showing seasons.	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
GEOPHYSICS	Structure and Composition of the Earth	i) To guide students to describe the structure of the earth. ii) To guide students to describe the composition of the layers of the earth. iii) To guide students to explain the importance of the layers of the earth.	October	Week 1	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart of stracture of the earth. • Global • Chart of structure of the earth • Minerals	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
GEOPHYSICS	Earthquakes and Volcanoes	i) To guide students to explain the origin of volcanoes; ii) To guide the students to describe the effects of volcanoes. iii) To guide students to explain the concept of the earthquake. iv) To describe the principle of measurement of earthquakes. v) To assist students to identify the hazards precautions against earthquake hazards.	October	Week 2	4	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Charts of volcanoes. • Pictures showing effect of volcano. • Chart of earth quake • Picture of earthquake. • Seismometer chart • Seismometer.	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
GEOPHYSICS	Structure and Composition of the Atmosphere	i) To lead students to describe the vertical structure of the atmosphere. ii) To guide students to describe the compositions of the atmosphere. iii) To guide students to explain the importance of various layers of the atmosphere.	October	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart of structure of atmosphere. • Chart of structure of atmosphere showing the layers. • Chart of structure of atmosphere showing the layer. • Communication system.	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	

Main Competence	Specific Competence	Teaching Activities	Month	Week	Periods	Reference	Teaching & Learning Tools	Assessment Tools	Remarks
GEOPHYSICS	The Greenhouse Effect and Global Warming	i) To guide the students to explain the green house effect ii) To lead students to identify sources of green house. iii) To assist students to explain the occurrence of global warming. iv) To guide students to state the consequences of global warming.	October	Week 3	2	Physics For Secondary Schools. Students Book Form Four. By T.I.E	• Chart of green house • Chart of ozone layer. , • Green house gases. • Chart of effect of global warning. • Picture of effect of global warming • Melting ice caps.	- Quizzes, questions and answers, - class presentation, tests, monthly evaluation - project work, debates, group discussion, - observation, remedial work, take home assignment	
PREPARATIONS AND SITTING FOR NATIONAL EXAMINATIONS									