. SCHEME OF WORK OF PHYSICS FORM FOUR YEAR OF 2024

Competence	Specific Objectives	Month	Week	Main Topic	Sub Topic	Periods	Teaching Activities	Learning Activities	Learning Aids	Assessment	References	Remarks
The student should have ability to: identify types of waves in nature	The student should be able to: a) explain the concept of a wave; b) explain the terms wave long frequency and velocity of a wave; and c) identify types of waves.	January	Week 2	WAVES	Introduction to waves	4	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.	i) Students groups to discuss e concept of waves. ii) Students to explain the waveleng frequency and velocity of a wave. iii) Students in groups to identify mechanical and electro magnetic waves	o Slinky spring * Rope, ripple * Vibrator * Ting fork c Chart showing graph of displacement against time *cathode rays oscilloscope	Is the stud able to explain e concept of a wave? Can the student explain the terms wavelength frequency and velocity of a wave? Can student identify types of wave?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: apply waves in daily life	The student should be able to: a) explain the term refraction, reflection, diffraction and interference of a wave b) mention the applications of refraction, reflection, diffraction and interference of a wave in daily life c) demonstrate the behaviour of waves	January	Week 3-4	WAVES	behaviour of waves	8	i) guide the students to explain the behaviour of gases such as refraction, reflection, diffraction, and interference of a wave	i) students to explain refraction, reflection, diffraction, and interference of a wave	ripple tank,rectangular prism,two metal rods, vibrator, two speakers and a radio,TV, mobile phone	is the student able to explain refraction, reflection, diffraction, and interference of a wave?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: apply waves in daily life	The student should be able to: a) explain the term refraction, reflection, diffraction and interference of a wave b) mention the applications of refraction, reflection, diffraction and interference of a wave in daily life c) demonstrate the behaviour of waves	February	Week 1	WAVES	behaviour of waves	4	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	ii) students mention the applications of refraction, reflection, diffraction, and interference of a wave iii)students in groups to demonstrate refraction, reflection, diffraction, and interference of a wave	ripple tank,rectangular prism,two metal rods, vibrator, two speakers and a radio,TV, mobile phone	can the student mention the applications of refraction, reflection, diffraction, and interference of a wave? can the student asses the bahaviour of a wave?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoVET-Zanzibar	.
The student should have ability to: describe the propagation of a wave	The student should be able to: a) Describe the propagation of mechanical waves. b) explain the propagation of electomagnetic waves	February	Week 2	WAVES	propagation of waves	4	i) To use question and answer technique to assist students to discuss propagation of mechanical waves.	i) Students groups to descrbe the propagation of mechanical waves ii)students to determine the relationship between frequency, speed and wavelength	c SIy spring * Tling fork * Ripple *Rope Chart showing electromagnetic spectrum chart showing the relationship between frequency, speed	Is e student able to describe propagation of mechanical waves? Is the student able to explain the propagation of electromagnetic waves?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.

	c) determine the relation between frequency, speed and wavelength of a wave and determine the refractive index of a medium								and wavelength.	Is the student able to determine the relation between frequency, speed and wavelength of a wave?		
The student should have ability to: describe the propagation of a wave	The student should be able to: a) Describe the propagation of mechanical waves. b) explain the propagation of electomagnetic waves c) determine the relation between frequency, speed and wavelength of a wave and determine the refractive index of a medium	Februa ry	Week 3	WAVES	propagation of waves	4	ii) To guide s en to demonstrate the propagation of mechanical 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	iii) Students to describe frequency from the equation students to determine the refractive index of a medium. iv) Students groups to demonstrate the propagation of waves	c SIy spring * Tling fork * Ripple *Rope Chart showing electromagnetic spectrum chart showing the relationship between frequency, speed and wavelength.	Is the student able to explain the propagation of electromagnetic waves? Is the student able to determine the relation between frequency, speed and wavelength of a wave?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoV ET-Zanzibar	.
The student should have ability to: explain the mechanism of hearing	the student should be able to: a) identify the sources of sound waves b) explain the concept of audability of sound	Februa ry	Week 4	WAVES	sound waves	4	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	i) students to identify sources of sound waves ii) students to explain the concept of audability range	drum, guitar, model of human hear,table with audability range, tall wall , hall, microphone	is the student able to: i) identify sources of sound waves	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: explain the mechanism of hearing	c) describe the perception of hearing d) explain the concept of echo and reverbaration of sound	March	Week 1	WAVES	sound waves	4	iv) guide the students to demonstrate the production of echo	iii) students to describe the perception of hearing iv) explain the concept of echo and reverbaration	drum, guitar, model of human hear,table with audability range, tall wall , hall, microphone	ii) explain the concept of audability range iii) describe the perception of hearing iv) explain the concept of echo and reverbaration v) determine the speed of sound in air.	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoV ET-Zanzibar	.
The student should have ability to: Construct simple musical instrument	The student should be able to: a) explain concept of a musical sound;	March	Week 2	WAVES	musical sounds	4	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.	i) Students to give meaning of music and noise ii) Student to identify factors affecting loudness, pitch and frequency of musical sound iii) students to explain the terms nodes, antinodes, and stationery waves iv) students to dlstinguish between fundamental note and overtones.	' Sonometer ' T for * Violin * Flute * Drum * guitar * Microphone * Cathode rays oscilloscope pipe musical instruments, string musical instruments, electronic musical instruments,	Is e student able to explain e concept of musical sound? Is the student able to identify factors affecting loudness, pitch and quality of musical sound? is the student able to identify different musical instruments? is the student able to explain the terms used in	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.

									helical string, marker pens, white sheet,	stationery waves? can the student determine the frequency of a note? Is the student able to differentiate between the fundamental notes and overtones? Is the student able to explain the concept of resonance as applied to sound? Is e student able to construct a simple musical instr		
The student should have ability to: Construct simple musical instrument	b) identify factors affecting loudness, pitch and quality of a musical sound. c) identify the different musical instruments d) explain the terms stationery wave, nodes and antinodes e) determine the frequency of a musical note f) differentiate between fundamental note and overtones g) explain the concept of resonance as applied in sound waves h) construct a simple musical instrument	March	Week 3	WAVES	musical sounds	4	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	v) The students to distinguish between fundamental note and overtones vi) Students to demonstrate and explain resonance as applied to sound.	' Sonometer ' T for * Violin * Flute	Is e student able to explain e concept of musical sound?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoVET-Zanzibar	.
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The student should have ability to: Construct simple musical instrument	b) identify factors affecting loudness, pitch and quality of a musical sound. c) identify the different musical instruments d) explain the terms stationery wave, nodes and antinodes e) determine the frequency of a	March	Week 4	WAVES	musical sounds	4	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	v) The students to distinguish between fundamental note and overtones vi) Students to demonstrate and explain resonance as applied to sound.	' Sonometer ' T for * Violin * Flute	Is e student able to explain e concept of musical sound?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoVET-Zanzibar	.

	musical note f) differentiate between fundamental note and overtones g) explain the concept of resonance as applied in sound waves h) construct a simple musical instrument											
The student should have ability to: identify rays in a spectrum	The student should be able to: a) ~explain the concept of the electromagnetic spectrum b) identify the main bands of the electromagnetic spectrum~ c) detect infra-red, visible and ultra violet rays	April	Week 3	WAVES	Electromagnetic Spectrum	4	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 iv) To guide students .tn groups to detect infra red rays, visible and ultra-violet rays.	i) Students to explain the concept of electromagnetic spectrum ii) students to draw and label the electromagnetic spectrum. iii) Students in groups to detect the infra red rays, visible and ultra violet rays	Glass prism Rain bow o Thermometer Iron * heater * Sun rays	Is the student able to ~explain the concept of the electromagnetic spectrum? Is the student able to identify the main bands of the electromagnetic spectrum? Can the student infra-red visible and ultraviolet rays?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: identify rays in a spectrum	b) identify the main bands of the electromagnetic spectrum~ c) detect infra-red, visible and ultra violet rays	April	Week 4	WAVES	Electromagnetic Spectrum	4	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 iv) To guide students .tn groups to detect infra red rays, visible and ultra-violet rays.	ii) students to draw and label the electromagnetic spectrum. iii) Students in groups to detect the infra red rays, visible and ultra violet rays	Glass prism Rain bow o Thermometer Iron * heater * Sun rays	Is the student able to identify the main bands of the electromagnetic spectrum? Can the student infra-red visible and ultraviolet rays?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoVET-Zanzibar	.
The student should have ability to: apply electromagnetism in agriculture	The student should be able to:a) identify the application of microwaves, radio-waves, infra-red, b) explain the importance of electromagnetic waves in Agriculture and climate.gamma rays	May	Week 1	WAVES	Applicanons of Electromagnetic Wave in Daily Life	2	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.	i) The students to identify the applications of microwaves, radio- waves, red, gamma rays and x-rays ii) Student to carry out experiment on importance of electromagnetic waves in agriculture	* Radio signal ' Vision ' Vitamin A * Hospital treatment ' Domestic use	Is the student able to identify the applications of microwaves, radio- waves, infra-red gamma rays and x-rays? Is student able to explain the application of electromagnetic wave in agriculture and climate.	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: determine the direction and presence of force of a magnetic field	The student should be able to a) explain how electric current produces a magnetic field; b) identify the pattern of the magnetic field lines around a straight conductor c) determine the	May	Week 1	ELECTROMAGNETISM	Magnetic fields due to a current - caring conductor	2	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	i) Students to perform an experiment to produce magnetic field due to a current carrying wire ii) students to carry out experiments to investigate the magnetic fields associated with electric current passing through a straight wire, loop and solenoid. iii) students to determine the direction of the forces acting	' Wire * Compass needle * iron fillings * Source of electricity thumb, wire, u shaped magnet, mercury, iron fillings	Is the student able to explain how electric current produce magnetic field? Is the student able to identify the pattern of the magnetic field lines around a straight conductor? is the student able to determine the	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.

	direction of magnetic field around a current carrying conductor d) determine the presence and direction of a force on a current carrying conductor in a magnetic field e) determine the direction of force of two current carrying conductors when the current is flowing in the same or o							on a current carrying conductor placed at the right angle to a magnetic field iv) students to apply flemings left hand rule and tell direction of a force due to a current carrying conductor v) students to carry out experiments to show the direction		direction of force when the current is flowing in the same direction or opposite direction? is the student able to determine the presence and direction of force in a magnetic field?		
The student should have ability to: construct a simple transforme r	the student should be able to: a) explain the concept of electromagnetic induction b) state the laws of electromagnetic induction c) explain the concept of self and mutual induction	May	Week 2	ELECTRO MAGNETI SM	Electromag netic induction	2	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 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	i) students to explain the concept of electromagnetic induction ii) students to state the fardays and lenzs laws of electromagnetic induction iii) students to explain the concept of self induction and mutual induction iv) explain the mode of action of a.c and d.c generators and how to convert a.c generator to d.c	source fo electricity, iron ring, coil, galvanometer, induction coil, chart of induction coil,chart of a.c and a.c generator	is the student able to explain the concept of electromagnetic induction?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: construct a simple transforme r	d) describe the mode of action of induction coil e) describe the mode of action of a.c and d,c generator f) construct a simple step up and step down transformer	May	Week 2	ELECTRO MAGNETI SM	Electromag netic induction	2	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	v)construct a simple step up and step down transformer vi) explain the concept of self and mutual induction vii) describe the mode of action of induction coil viii) describe the mode of action of a transformer ix) discuss the application of a t	source fo electricity, iron ring, coil, galvanometer, induction coil, chart of induction coil,chart of a.c and a.c generator	is the student able to state the laws of electromagnetic induction? is the student able to state the self and mutual induction? is the student able to describe the mode of action of induction coil is the student able to state the mode of action of a.c and d.c? is the student able to construct a simple transformer?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoV ET-Zanzibar	.
The student should have ability to: draw the structure of an atom	The student should be able to: a) describe the structure of the nucleus of an atom; b) explain the atomic number,	May	Week 3	RADIOAC TIVITY	Nucleus of an atom	2	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	i)students to discuss the structure of an atom ii) student to give the meaning of atomic number mass, number, and isotopes of an element iii)student to mention the forces holding the nucleus	model of an atom, chart of an atom,playing card	is the student able to explain the structure of an atom? can the student explain mass number, atomic number and	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.

	mass number and isotopes of and atom c) mention forces holding the nucleus									isotope? is the student able to mention the forces holding the nucleus		
The student should have ability to: apply radioactivity in daily life	the student should be able to explain: a) concept of radioactivity b) describe the properties of radiations emmited by radio active elements c) explain the nucleus changes to the emission of alpha, beta and gamma rays d) explain the detection of gamma, alpha ,and beta e) describe the half life as applied in radioactive substances f) determine the half life of a radiaoctive element	May	Week 3	RADIOACTIVITY	Natural radioactivity	2	i) assist the students explain the concept of radioactive	i) students explain the concept of radioactive ii)students to describe the properties of alpha, gamma, and beta rays iii)students to explain the nuclear changes due to emmision of alpha, beta and gamma radiations	mild radioactive elements, periodic tabel, chart showing bombarding elements, chart showing emmissions, photographic plates, spark chamber, wilson cloud chamber, graph showing radioactivity	is the student able to explain the concept of radioactivity? can the student describe the properties of particle emitted during radiations? can the student explain the nuclear charge due to radiations?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
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The student should have ability to: apply radioactivity in daily life	the student should be able to explain: a) concept of radioactivity b) describe the properties of radiations emmited by radio active elements c) explain the nucleus changes to the emission of alpha, beta and gamma rays d) explain the detection of gamma, alpha ,and beta e) describe the half life as applied in radioactive substances f) determine the	July	Week 1	RADIOACTIVITY	Natural radioactivity	4	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 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	iv) students to detect the alpha, beta and gamma radiations v) students to describe the meaning of half life as applied in radioactive substance and highlight the meaning of background radiations vi)students to demonstrate half life using various methods vii) students to identify the application of natural radioactive substances	mild radioactive elements, periodic tabel, chart showing bombarding elements, chart showing emmissions, photographic plates, spark chamber, wilson cloud chamber, graph showing radioactivity	can the student explain the detection of alpha, beta and gamma rays? is the student able to describe the application of half life in radioactivity? is the student able to determine the half life of an element? can the student mention the application of isotopes in life?	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoVET-Zanzibar	.

	half life of a radiaoctive element											
The student should have ability to: produce artificial radioactivity	The students should be able to: a) distinguish between natural and artificial radioactivity b)describe the methods of producing artificial radioactivity isotopes c) mention the application of artificial radioactivity	July	Week 2	RADIOACTIVITY	artificial radioactivity	4	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	i) students to distinguish artificial and natural radioactivity ii) describe the methods of producing artificial radioactive isotopes iii)students to mention the application of artificial radioactivity	charts of bombarding elements, periodic table,	is the student able to distinguish between artificial and natural radioactivity? is the student able to describe the methods of producing artificial radioactivity? is the student able to mention applications of artificial radioactivity?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: protect oneself from radiations	the student should be able to: a) explain the effects of nuclear radiations on human body b) protect himself or herself from human radiations hazards	July	Week 3	RADIOACTIVITY	radiation hazards an safety	4	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	i) students explore the effects of nuclear radiations on the human body ii) guide the students to understand how to protect themselves from nuclear radiations effects	charts showing the hazards of radiations radioactive shield	is the the student able to explain the effects of nuclear radiations? is the student able to protect himself from the effects of radiations?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: apply knowledge of nuclear fusion and fission in life	THE STUDENT should be able to: a) explain the nuclear fusion and fission b) mention the applications of nuclear fission and fusion	July	Week 4	RADIOACTIVITY	Nuclear fission and fusion	2	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	i) Students explore the concept of nuclear fusion and fission ii) Students in groups to mention the application of nuclear fusion and fission	Charts showing the nuclear fusion and fission, charts of nuclear power station	is the student able to explain nuclear fusion and fission? is the student able to explain the applications of nuclear fusion and fission?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: describe the use of cathode rays	the student should be able to: a) explain the production of cathode rays b) state the properties of cathode rays c) state the applications of cathode ray tube	August	Week 1	THERMIONIC EMISSION	Cathode rays	2	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	i) students to explain production of cathode rays ii) the student to state the properties of cathode rays iii) students to state the applications of cathode rays	TV, computer,maltose cross,paddle wheel,	is the student able to explain the production of cathode rays? is the student able to state the properties of cathode rays? is the student able to describe the use of cathode rays in daily life?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Describe the mode of action of x-rays	The student should be able to: a) describe the structure and mode of action of X- ray tube b) distinguish between soft and hard x- rays and	August	Week 2	THERMIONIC EMISSION	X-Rays	2	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	i) student to describe the structure and mode of action of x-ray tube ii) student to draw and label the diagram of x-ray tube iii) students to discuss the applications of X-rays in daily life iv) write notes on their	charts showing x-ray tubes, electromagnetic spectrum,x-ray unit center, x-rays photographic plate	is the student able to describe the mode of action of x-ray tube? is the student able to distinguish between soft and hard X-rays? is the student able	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.

	their production c) state the properties of X-rays d) identify the applications of X-rays in daily life						visit to the x-rays in diagnostic of patients	educational trip		to state the properties of X-rays?		
The student should have ability to: Demonstrate concept of semiconductors	The student should be able to: a) explain the concept of energy bands in solids	August	Week 3	ELECTRONICS	Semiconductors	2	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.	a) Students to draw the energy bands in solids. b) Students to distinguish between conductors, semiconductors and insulators.	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..	Is the student able to explain the concept of energy bands in solids? Can the student distinguish between conductors, semiconductors and insulators?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Demonstrate concept of semiconductors	b) distinguish between conductors, semiconductors and insulators; c) describe the effects of temperature on the conductivity of conductors,: semiconductors and insulators; d) identify types of semiconductors e) describe the mechanism of clopping intrinsic semiconductors.	August	Week 3	ELECTRONICS	Semiconductors	2	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.	c) Students to describe die energy levels of conductors, semiconductors and insulators. d) Students to identify types of semiconductors.	- Chart of energy and in solid Conductors, Semiconductors and Insulators Battery	Is the student able to describe the effect of temperature on the conductivity of conductors, semiconductors and insulators? Is the student able to identify types of semiconductors? Is the student able to describe the mechanism of clopping. intrinsic semiconductors?.	Olevel Physics Form Four By BN, Physics For Secondary School Form 3&4 By SCSU&MoVET-Zanzibar	.
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The student should have ability to: To demonstrate concept of diodes	The student should be able to: a)describe the construction of P-N junction; b) Explain the mode of action of a P-N junction; c) identify the types of diodes; d) construct a half-wave and	September	Week 3	ELECTRONICS	Diodes	2	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.	a) Students to describe the structure of a P-N junction. b) Students to explain the mode of action of a P-N junction. c) Students to identify types of diodes. d) Students to construct circuits which show half-wave and full-wave rectifications.	Chart showing diode. Diodes P-N junction diode Different types of diodes Light emitting. diode (LED). D.0 source Diodes	Is the student able to explain mode of action of P-N junction? is the student able to identify the types of diode? Is the student able to . identify the types of diode? is the student able	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.

	full-wave rectifier.								Capacitor Resistors Connecting wires	to construct a half-wave and full-wave rectifier?		
The student should have ability to: To demonstrate concept of transistor	The student should be able to: a) describe the construction of a PNP transistor; h) explain the mode of action of a PNP transistor; c) identify the types of transistors; d) outline the applications of transistors in daily life.	Septe mber	Week 3	ELECTRO NICS	Transistor	2	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.	a) Students to describe the construction of a transistor. b) Students to describe the structure of a transistor. c) Students to identify types of transistors. d) Students to outline the applications of transistors.	Chart showing a transistor Different types of transistors (PNP and NPN). Radio TV Voltage amplifier	Is the student able to describe the construction of PNP junction? Is the student able to explain the mode of action of a PNP transistor? Is the student able to identify the types of transistors? Is the student able to outline the applications of transistors in daily life?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Demonstrate concept of analog and digital signals	The student should be able to: a) explain the concept of analogue signals; b) explain the concept of digital signals; c) design and a single-stage amplifier.	Septe mber	Week 4	ELECTRO NICS	Single Stage Amplifier	2	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.	a) Students to explain the concept of analogue signals. b) Students to explain the concept of digital signals c) Students in groups to design single stage amplifier.	Chart showing analogy signal Mobile phone (analogy) Chart showing digital signal. Mobile phone (Digital) Watch Transistor Resistors Oscilloscope	Is the student explain the concept of analogue signals? Is the student able to explain the concept of digital signals? Is the student able to design a single stage amplifier?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Demonstrate importance of astronomy in every day life	The students should be able to: a) explain the concept of astronomy; b) explain the importance of astronomy in every day life.	Septe mber	Week 4	ELEMENT ARY ASTRONO MY	Introductio n to Astronomy	2	i) To guide students to explain the concept of astronomy. ii) To guide students to explain the importance of astronomy.	a) Students, by using think-pair-share technique to explain the concept of astronomy. b) Students in groups to discuss on importance of astronomy in daily life.	Model of universe Chart of universe Clear sky Charts of heavenly bodies	Is the student able to explain the concept of astronomy? Is the student explain the importance of astronomy in daily life? . .	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Demonstrate concept of solar system	The student should be able to: a) distinguish between a star and a planet; b) explain the force of gravitation which maintains celestial bodies in their orbits.	Septe mber	Week 4	ELEMENT ARY ASTRONO MY	Solar System	4	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.	a) Students in groups to give the difference between a star and planet. b) Students in group to explain the force of gravitation which maintains bodies in their orbits.	Venus star Chart of the solar system Binoculars Earth and moon Two bodies Chart of Earth	Is the student able to distinguish between a star and planet? Is the student able to explain the force of gravitation which maintain bodies in their orbits?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: To	The student should be able to: a) explain the concept of constellation b) identify	Octob er	Week 1	ELEMENT ARY ASTRONO MY	Constellatio ns	2	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	a)Students to explain the concept of constellation. b)Students to identify and name common constellations. c) Students to discuss the uses of constellations in	Chart of different constellations. Chart of different constellations. Chart showing	Is the student able to explain the concept of constellation? Is the student able	Physics For Secondary Schools, Students Book Form Four. By	.

demonstrate the concept of constellation	constellation s; c) uses of constellation s in every day life,						seasons prediction.	navigation and seasons prediction.	seasons.	to identify constellations? Is the student able to use constellations in every day life?	T.I.E	
The student should have ability to: Demonstrate knowledge of Structure and Composition of the Earth	The student should be able to: a) describe the structure of the earth; b) describe the composition of the layers of the earth. c) explain the importance of the layers of the earth.	October	Week 1	GEOPHYSICS	Structure and Composition of the Earth	2	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.	a) Students to describe the structure of the earth b) Students in groups to describe the composition of the layers of the earth. c)Students in groups to explain the importance of the layers of the earth	Chart of stracture of the earth. Global Chart of structure of the earth Minerals	Is the student able to describe the structures of the earth? Is the student describe the composition of the layers of the earth? Is the student able to explain the importance of the layers of the earth?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Describe earthquakes and volcanoes	The student should be able to: a) explain the origin of volcanoes; b) describe effects of volcanoes; c) explain the origin of earthquake; d) describe the principle of measurement of earthquake; e) identify precautions against earthquake hazards.	October	Week 2	GEOPHYSICS	Earthquakes and Volcanoes	2	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.	a) Students to explain the origin of volcanoes. b) Students to describe the effects of volcanoes. c) Students in groups to explain the origin of earthquakes. d) Students to discuss in groups how to record the measurement of earthquake. e) Students in group to identify the precautions against earthquake and hazards.	Charts of volcanoes. Pictures showing effect of volcano. Chart of earth quake Picture of earthquake. Seismometer chart Seismometer.	Is the student able to explain the origin of volcanoes? Is the student able to describe the effects of volcano? Is the student able to explain the origin of earthquakes? Is the student able to describe the principle of measurement of earthquake? Is the student able to identify precautions against earthquake hazards?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have ability to: Describe Structure and Composition of the Atmosphere	The student should be able to: a) describe the vertical structure of the atmosphere; b) describe the composition of the atmosphere. c) explain the importance of various layers of the atmosphere.	October	Week 2	GEOPHYSICS	Structure and Composition of the Atmosphere	2	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.	a) Students to describe the vertical structure of the atmosphere. b) Students by using think-pair-share technique to describe the composition of atmosphere. c) Students to explain the importance of various layers of the atmosphere.	Chart of structure of atmosphere. Chart of structure of atmosphere showing the layers. Chart of structure of atmosphere showing the layer. Communication system.	Is the student able to describe the vertical structure of the atmosphere? Is the student able to describe the composition of the atmosphere? . Is the student able to explain the importance of various layers of the atmosphere?	Physics For Secondary Schools, Students Book Form Four. By T.I.E	.
The student should have	The student should be able to: a) explain the greenhouse	October	Week 3	GEOPHYSICS	The Greenhouse Effect and Global	4	i) To guide the students to explain the green house effect ii) To lead students to identify sources of green house.	a) Students in groups to explain the green house effect. b) Students to identify	Chart of green house Chart of ozone	Is the student able to explain the green house effect? Is the	Physics For Secondary Schools, Students	.

ability to: Demonstrate Greenhouse Effect and Global Warming	effect; b) identify sources of greenhouse; c) explain the occurrence of global warming; d) state the consequence s of global warming.				Warming		iii) To assist students to explain the occurrence of global warming. iv) To guide students to state the consequences of global warming.	sources of green house. c) Students in groups to explain the occurrence of global warming	layer. , Green house gases. Chart of effect of global warning. Picture of effect of global warming Melting ice caps.	student able to identify sources of green house? Is the student able to explain the occurrence of global warming? Is the student able to state the consequences of global warming?	Book Form Four. By T.I.E	
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