**NAME OF SUBJECT TEACHER: MR SOLOMON UWAOMA**

**CLASS: SS3**

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**SUBJECT: PHYSICS**

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|  | **TOPIC** | **CONTENT** | **PERFORMANCE OBJECTIVES** | **PRACTICE QUESTIONS** |
| 1. | **ENERGY QUANTIZATION** | -atomic energy levels, frank-hertz experiment, atomic spectra; colour and light frequency, photoelectric effect, X-ray | -Explain the concept of energy quantization  -use the photon concept to explain the ejection of electrons in the photo-electric effect.  -Describe X-ray production and state its characteristics properties uses and safety precautions | 1. State the energy transformation that takes place during the operation of the x-ray tube  2. With the aid of a diagram describe the mode of operation of a modern x-ray tube  3. State four applications of photoelectric effects  4. Explain Einsteins photoelectric equations and the symbol each represent? |
| 2. | **NUCLEUS,RADIOACTIVITY,NUCLEAR REACTION** | -radioactivity(natural and artificial),nuclear energy and nuclear reactions | -identify the radiations from radioactive substances  -state some uses of radioactive substances  -determine the products of a radioactive decay | 1. What are radioisotopes? Describe the uses of radioisotopes.  2. distinguish between natural and artificial radioactivity.  3. Explain chain reaction  4. state three (3) applications of atomic energy. |
| 3. | **LENSES AND OPTICAL INSTRUMENTS** | -convex and concave lenses, simple lens camera and projector, human eye, microscope and telescope | -identify the type of lenses for correcting the various defects of the lens  -set up a single lens project and use it to project a film strip on a screen  -derive and use the lens formular to solve simple numerical problems on lenses | 1. find the position, magnification and nature of the image formed by a lens of power +5 Dioptres when the object is 20m away from it.  2. Draw a ray diagram showing the arrangement of the apparatus necessary to obtain a pure spectrum of white light.  3. draw a ray diagram to show how a converging lens placed near the eye may be used as a magnifying glass |
| 4. | **ELECTRIC FIELD II** | -production of continuous charges, arrangement of cells and resistors, resistivity and conductivity, galvanometer conversion, principle of a potentiometer. | -solve problems involving series and parallel connection of resistance and cell  -State the factors on which the resistance of a uniform wire depends  -identify all the component parts of a simple cell and an acculumator. | 1. Name the two advantages which a lead-acid accumulator has over a primary cell  2. Derive an expression for the resistance R of two resistors of resistances R1 and R2 connected  (i) in series  (ii) in parallel  3. Draw and label  (a) a leclanche cell  (b) lead-acid accumulator |