PHYSICS SCHEME
CLASS: - SS3

SN	TOPICS	CONTENT
1	Energy and society	1. Sources of energy 2. Renewable energy 3. Uses of energy 4. Energy and development 5. Energy diversification and conservation
2	Energy and society	Environmental impact of energy use • Global warning and house effect • Green house effect • Oil spillage Energy crisis
3	Energy conservation and conversion	1. Conservation of mechanical energy to electrical, heat, sound energy ete. • Electrical energy to heat mechanical, light energy etc. • Chemical energy to electrical, mechanical energy (vice versa)
4	Conversion of energy	1. Radiation energy to electrical, heat energy etc. 2. Devices used in energy conversion in (1) above
5	Properties of waves	1. Interference of wave light and sound 2. Diffraction of wave sound and light 3. Polarization of light:

		application in polaroid only.
6	Electromagnetic waves	Electromagnetic spectrum
7	Gravitational field	1. Gravitational force between two masses (Newton's law of universal gravitation) 2. 'G' as universal constance 3. Solar system 4. Icepler's law 5. Natural and artificial satellite 6. Escape velocity
8	Electric field	1. Production of continuum charges; primary cells, secondary cells. 2. Electric circuit; services and parallel arrangement of cells and resistors 3. Shunt and multipliers 4. Resistivity and conductivity 5. Principle of poteratiometer • Metre bridge • Wheatstone bridge
9	Electric field	1. Measurement of • Electric current • Potential difference • Resistance • Emf of a cell

10	Electric field	1. Electrical conduction, through liquids and gas • Electrolyte and non electrolytes • Conduction of charged electrolyte • Voltameter • Electroplating • Hot cathode emission • Applications • Faraday's law of electrolysis
		1. Electric force between point charges (coulomb's law) 2. Concept of • Electric field • Electric field intensity • Electric potential 3. Capacitance • Definition • Arrangement of capacitors in a circuit • Energy stored in a charged capacitor.
11	Magnetic field	1. Concept of magnetic field 2. Magnetic field around • bar magnets • a straight conductor carrying current • solenoid 3. Magnets • temporary and permanent • making magnets 4. Application of electro-magnetic field 5. Earth's magnetic field • Description and use • Marimer's compass

		6. Magnetic force on a moving
12	Electromagnetic field	1. Concept of electromagnetic field • Interaction between magnetic field and current in • A current carrying wire in a magnetic field 2. Current carrying solenoid in a magnetic field 3. Applications of electromagnetic field
		• Electric motor • Moving coil galvanometer • Induction coil • Electromagnetic induction • Faraday's law • Lenz's law • Motor – generator effect 5 eddy current

13	Simple A.C circuit	1. Alternating current circuits • Nomendation in a.c circuit • Reak and r.m.s values • Series circuit containing resistance, inductance and capacitance • Reactance and impedance 2. Power in an a.c circuit
14	Models of the atom	1. Concept of atom 2. The various models of atom

		• Thomson
		• Rutherford
		• Bohr
		• Electron cloud models
		3. Limitation of physical models
14	Nucleus	1. Radioactivity – natural and artificial
		• Isotopes
		• Radioactive elements
		• Radioactive emission
		• Half – life and decay constant
		2. Nuclear reaction
		• Fission
		• Fusion
		• Nuclear energy
		3. Nigeria's Nuclear energy programme
15	Energy quantization	1. Energy levels in atom
		• Ground state
		• Excited state
		• Emission of light-energy on return to ground state
		2. Photo electric effect
		3. Eistein photo-electric equation and its explanation
		4. X-rays
		• Production
		• Characteristics and properties
		• Uses
16	Applications of Electromagnetic field	1. Gawamometer
		2. Electric motor
		3. Generator
		4. Transformers
17	Dams and energy production	
18	Rodlets and	1. Component part of

	satellites	rockets and satellite 2. Functions of rockets and satellites 3. Uses of rockets and satellites
19	Niger – SATI	1. Features of Niger-SATI 2. Its operation and uses 1. Features of NICOM_SATI 2. Its operation and uses