SPM Physics 2021

		1ST SESSION
Section A	1	Heat: Cooling curve
	2	Photoelectric effect
	3	Centripetal force
	4	LDR (transistor)
	5	Refraction of wave
	6	Magnetic force (swing)
	7	Nuclear fission & reactor
	8	Total internal reflection (ring)
Section B	9	Force & Motion (II): towing lorry, frame
	10	Electricity: Heating element
Section C	11	Bernoulli's principle: hydrofoil

		2ND SESSION
Section A	1	Siphon
	2	Kepler's third law
	3	Rectification (4 Diodes)
	4	Damping
	5	Resultant force (pulley)
	6	Semiconductor diode (Forward & Reverse bias)
	7	Impulsive force (mallet)
	8	Nuclear fission + reactor
Section B	9	Impulse & Impulsive force (softball)
	10	Thermal equilibrium (heating pillow) & specific heat capacity
Section C	11	Light and optic (convex lens: focal length & power) Magnifying glass Microscope

Paper 3 (GUIDED)

Set 1:	***Electromotive force*** - Observation - Identify variable - Calculate gradient - Plot graph of V against I
Set 2:	***Pressure in liquid*** - density and pressure

The **KEY** to **SUCCESS** is to start **BEFORE** you are **READY**

SPM Physics 2022

Section A	1	***Buoyant force*** - graph Fb against depth of sinking
	2	***Half-life*** - meaning - determine the half life - determine the activity for 4th half life - why its decays
	3	***Photoelectric effect*** - photocurrent - calculate the work function (given threshold frequency)
	4	***Non-Geostationary satellite*** - calculate liner speed and orbital period (formula are given) - factor that effect the linear speed
	5	***Interference*** of water wave
	6	Kayak ***(weight and buoyant force)***
	7	***Prism*** - calculate the critical angle - choose the best macroscope to see the droplets of water (focal length and diameter of lens)
	8	***Half-wave Rectification*** - modified the step down transformer for laptop (diode and capacitance)
Section B	9	***Electricity*** - function voltmeter - explain emf (reading of ammeter and voltmeter when switch is on) - decision making = bulb that can light up brighter and not hot, arrangement of the dry cell (emf), arrangement of the bulb
	10	***Electromagnetic induction*** - meaning Electromagnetic induction - state the polarity of the solenoid - how pointer galvanometer deflected (direction of induced current) - decision making (induction pot) = ceramic, copper, type of current
Section C	11	***Heat*** - compare heat, temperature - concept of specific heat capacity (land and sea) - modification: house ventilation

Paper 3 (GUIDED & UNGUIDED)

Refraction of light (write the procedure: diagram is given)

- Diagram simulation (duck)
- Observation
- Calculate gradient
- Plot graph of r against i (curve graph)

Stay FOCUSED and NEVER GIVE UP

SPM Physics 2023

Section A	1	***Specific heat capacity*** - sea breeze
	2	***Hooke's law*** - calculate the gradient - factor effect the gradient (steel and copper spring)
	3	***Convex lens*** - converging lens (ray diagram) - factor effect image when thickness lens increase - calculate linear magnification
	4	***LDR (transistor):*** ***refer SPM 2021 set 1*** - calculate base voltage & current
	5	***Diffraction*** of water wave: ***refer Trial JUJ Pahang Set 2*** - flood siren
	6	Magnetic field (catapult field: direction) - simple motor electric
	7	***Geostationary satellite:*** ***clone Trial JUJ Pahang Set 2*** - calculate r = R + H and Linear speed - choose the Geostationary satellite for telecommunication (live broadcast)
	8	***EMF*** - meaning and calculate R ***(errata for R)*** - modified torch light
Section B	9	***Impulsive force*** - pile driver - safety helmet - decision making: pile driver
	10	***Fortin barometer:*** ***refer Trial Terengganu 2022***
Section C	11	***Decay graph*** ***(errata for labelling X & Y)*** - meaning half-life - explain nuclear fission - modification: nuclear reactor, current generator, turbine, solenoid, thickness of wall, type of radioisotope

Paper 3 (GUIDED)

Non-Ohmic conductor

- Hypothesis
- Observation
- Relationship between variables
- Sketch a graph & give a reason (replace the bulb with copper wire)
- Plot graph of V against I (curve graph)

The best way to predict the FUTURE is to CREATE it.

Peter Drucker

PERINCIAN TOPIK F4

TOPIC	STANDARD KANDUNGAN	2021 A	2021 B	2022	2023	2024
1.0 MEASUREMENT	1.1 Physical Quantities					
	1.2 Scientific Investigation					
2.0 FORCE & MOTION I	2.1 Linear Motion					
	2.2 Linear Motion Graphs					
	2.3 Free Fall Motion					
	2.4 Inertia					
	2.5 Momentum					
	2.6 Force					
	2.7 Impulse and Impulsive		7 ✓		9 ✓	
	2.8 Weight					
3.0 GRAVITATION	3.1 Newton's Universal Law of Gravitation	3 ✓				
	3.2 Kepler's Laws		2 ✓			
	3.3 Man-made Satellites			4 ✓	7 ✓	
4.0 HEAT	4.1 Thermal Equilibrium		10 ✓	11 ✓		
	4.2 Specific Heat Capacity		10 ✓	11 ✓	1 ✓	
	4.3 Specific Latent Heat	1 ✓				
	4.4 Gas Laws					
5.0 WAVES	5.1 Fundamentals of Waves					
	5.2 Damping and Resonance		4 ✓			
	5.3 Reflection of Waves					
	5.4 Refraction of Waves	5 ✓				
	5.5 Diffraction of Waves				5 ✓	
	5.6 Interference of Wave			5 ✓		
	5.7 Electromagnetic Waves					
6.0 LIGHT & OPTICS	6.1 Refraction of Light					
	6.2 Total Internal Reflection	8 ✓		7 ✓		
	6.3 Image Formation by Lenses	8 ✓	11 ✓		2 ✓	
	6.4 Thin Lens Formula				2 ✓	
	6.5 Optical Instruments		11 ✓	7 ✓		
	6.6 Image Formation by Spherical Mirrors					

PERINCIAN TOPIK F5

TOPIC	STANDARD KANDUNGAN	2021 A	2021 B	2022	2023	2024
1.0 FORCE AND MOTION II	1.1 Resultant Force		5 ✓			
	1.2 Resolution of Forces	9 ✓				
	1.3 Forces in Equilibrium	9 ✓				
	1.4 Elasticity				2 ✓	
2.0 PRESSURE	2.1 Pressure in Liquids		1 ✓			
	2.2 Atmospheric Pressure				10 ✓	
	2.3 Gas Pressure					
	2.4 Pascal's Principle					
	2.5 Archimedes' Principles			1 & 6 ✓		
	2.6 Bernoulli's Principle	11 ✓		9 ✓		
3.0 ELECTRICITY	3.1 Current and Potential Difference	10 ✓				
	3.2 Resistance	10 ✓				
	3.3 Electromotive Force (e.m.f) and Internal Resistance			9 ✓	8 ✓	
	3.4 Electrical Energy and Power					
4.0 ELECTROMAGNETISM	4.1 Force on a Current-carrying Conductor in a Magnetic Field	6 ✓			6 ✓	
	4.2 Electromagnetic Induction			10 ✓		
	4.3 Transformer			8 ✓		
5.0 ELECTRONICS	5.1 Electron					
	5.2 Semiconductor Diode		3 ✓	8 ✓		
	5.3 Transistor	4 ✓			4 ✓	
6.0 NUCLEAR PHYSICS	6.1 Radioactive Decay			2 ✓	11 ✓	
	6.2 Nuclear Energy	7 ✓	8 ✓		11 ✓	
7.0 QUANTUM PHYSICS	7.1 Quantum Theory of Light					
	7.2 Photoelectric Effect	2 ✓				
	7.3 Einstein's Photoelectric Theory			3 ✓		

Knowing is not enough; we must apply.
Willing is not enough; we must do.
Johann Wolfgang von Goethe