



**List Of Definition
In Physics**

FORM 5

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CHAPTER 1 FORCE AND MOTION II

1

Resultant Force

~ The single force that represents the vector sum of two or more forces acting on an object.

2

Free Body Diagram of an Object

~ Diagram that shows all the forces acting on that object only.

3

Resolution of Forces

~ The process of resolving a force into two components.

4

Equilibrium of Forces

~ An object is said to be in equilibrium of forces when the forces acting on it produce a zero resultant force.



5

Elasticity

~ The property of material that enables an object to return to its original shape and size after force applied on it is removed.

6

Spring Constant, k

~ Representative of how stiff the spring is.

7

Hooke 's Law

~ The extension of the spring is directly proportional to the force applied on the spring provided the elastic limit of the spring is not exceeded.

CHAPTER 2 PRESSURE

1 Pressure

~ Force per unit area



2 Atmospheric Pressure

~ The pressure due to the weight of the layer of air acting on the surface of the earth.

3 Manometer

~ An apparatus used to measure gas pressure.

4 Pascal's Principle

~ The pressure applied on an enclosed fluid is transmitted uniformly in all direction in the fluid.

5

Buoyant Force

~ The force acting upwards on an object immersed in a liquid when there is pressure difference between the lower and upper surface of an object.

6

Archimedes Principle

~ An object which is partially or fully immersed in a fluid will experience buoyant force equal to the weight of fluid displaced.

7

Hydrometer

~ A measuring instrument that applies Archimedes' principle to measure the density of liquids.

8

Bernoulli's Principle

~ When the velocity of a fluid increases, the pressure in the liquid decreases and vice versa.

CHAPTER 3 ELECTRICITY

1

Electric Field

~ The region around a charged particle where any electric charge in the region will experience an electric force.

2

Electric Field Strength

~ The electric force acting on a unit positive charge at the point.

3

Current, I

~ The rate of flow of charge, Q in a conductor.

4

Potential Difference, V

~ The work done, W in moving one coulomb of charge, Q from one point to another.

5 Resistivity Of A Conductor

~ A measure of a conductor's ability to oppose the flow of electric current.



6 Superconductor

~ Materials that conduct electricity without any resistance.

7 Critical Temperature

~ The temperature when the resistivity of a superconductor becomes zero.

8 Electromotive Force

~ The energy transferred or work done by an electrical source to move one coulomb of charge in a complete circuit.



Internal Resistance

9

~ The resistance within a battery or other power sources that causes a drop in voltage from source when there is current.

10

Electrical Energy, E

~ The energy carried by moving charges and can be converted into other forms of energy by electrical appliances or device.

11

Electrical Power, P

~ The rate at which electrical energy is transferred by an electrical circuit.



CHAPTER 4 ELECTROMAGNETISM

1

Catapult Field

~ Resultant magnetic field produced by the interaction between the magnetic field from a current-carrying conductor and the magnetic field from a permanent magnet.

2

Electromagnetic induction

~ The production of an induced e.m.f. in a conductor when there is relative motion between the conductor and a magnetic field or when the conductor is in a changing magnetic field.

3

Transformer

~ A device to step-up or step-down output voltage.

4

Ideal Transformer

~ Transformer that does not experience any loss of energy, the efficiency is 100%.

5

Faraday's Law

~ The induced e.m.f is directly proportional to the rate of change of magnetic flux.

6

Lenz's Law

~ The electromotive force opposes the magnet moving into the solenoid.



CHAPTER 5 ELECTRONICS

1

Thermionic Emission

~ The emission of free electrons from a heated metal surface.

2

Cathode Rays

~ Beams of electrons moving at high speed in a vacuum.

3

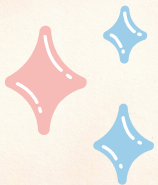
Semiconductor Diode

~ An electronic component which allows electric current to flow in one direction only.

4

Rectification

~ The process of converting an alternating current into a direct current.



5

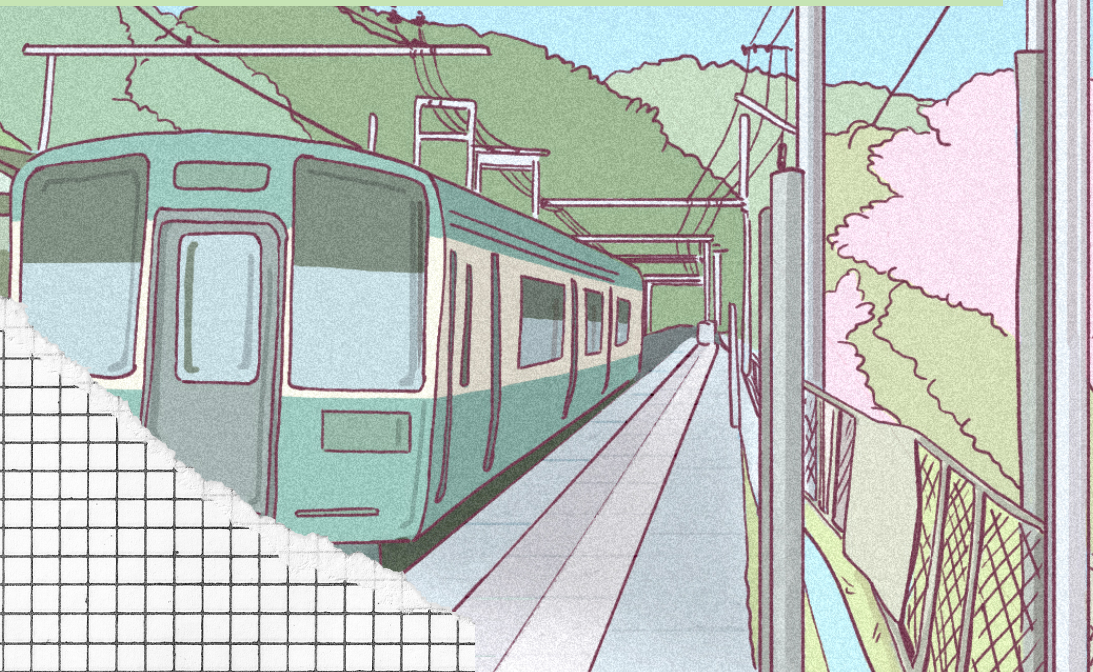
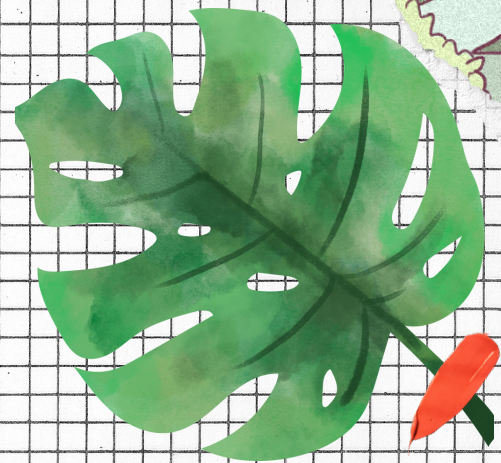
Full-wave Rectification

~ Process where both halves of every cycle of an alternating current to flow in the same direction

6

Transistor

~ An electronic component that has three terminals, emitter E, base B and collector C.



CHAPTER 6 NUCLEAR PHYSICS

1

Radioactive Decay

~ A process in which an unstable nucleus becomes more stable by emitting radioactive radiation.

2

Half - Life, $T_{1/2}$

~ The time taken for a sample of radioactive nuclei to decay to half of its initial number.

3

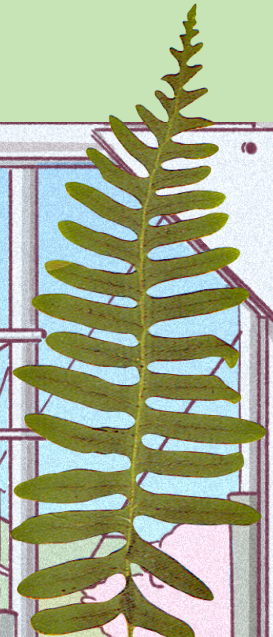
Nuclear Energy

~ Atomic energy, released during nuclear reactions such as radioactive decay, nuclear fission and nuclear fusion.

4

Nuclear Fission

~ Nuclear reaction when a heavy nucleus splits into two or more lighter nuclei while releasing large amount of energy.



Nuclear Fusion

5 ~ A nuclear reaction in which small and light nuclei combined to form a heavier nucleus, releasing a large amount of energy and happens under extremely high temperature and pressure.



CHAPTER 7 QUANTUM PHYSICS

1

Black Body

~ An idealised body that is able to absorb all electromagnetic radiation that falls on it.

2

Quantum of Energy

~ Discrete energy packet and not a continuous energy.

3

Photoelectric Effect

~ Process of emission of electrons from a metal surface when electromagnetic radiation such as light of suitable frequency shines upon the surface.

4

Threshold Frequency

~ The minimum frequency required to produce photoelectric effect on a metal.

5

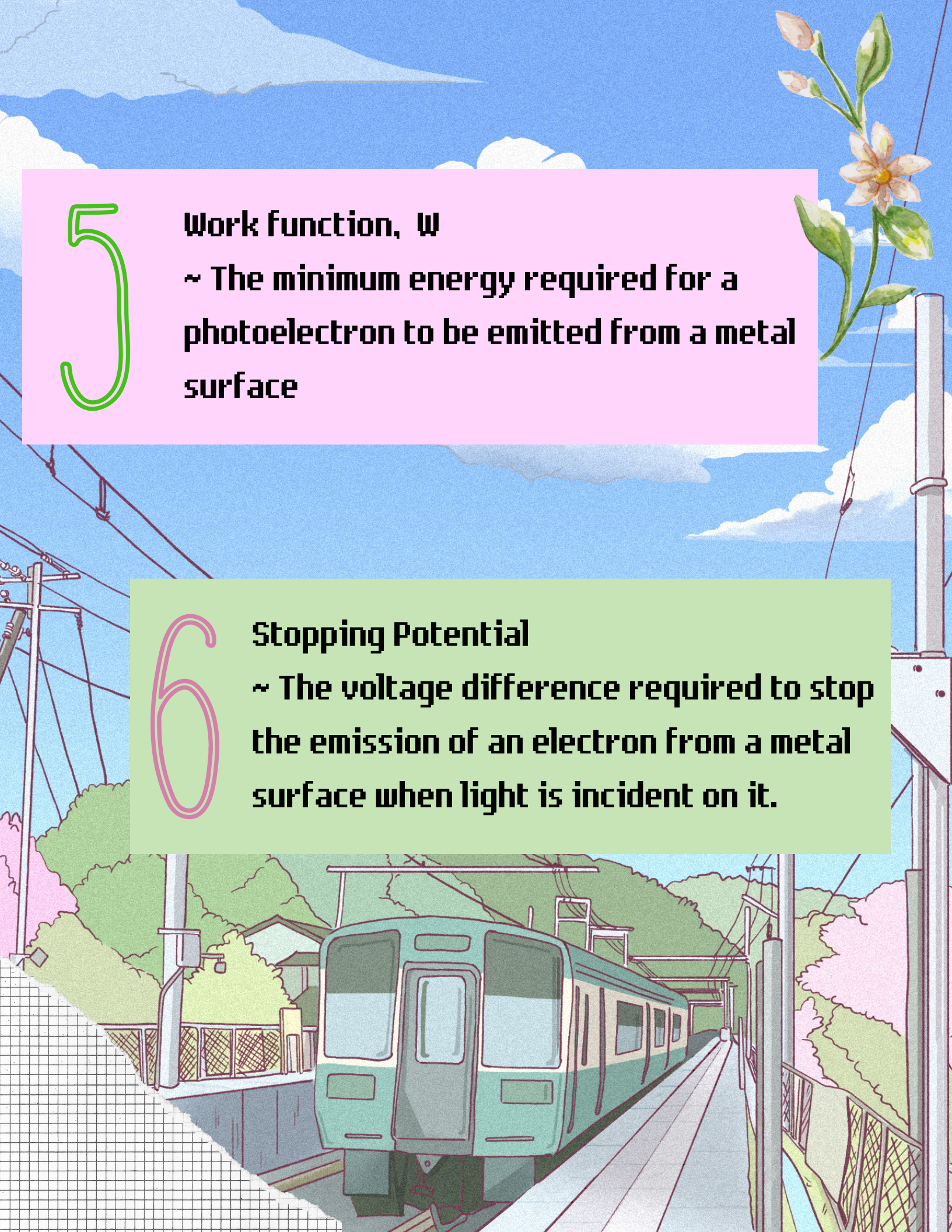
Work function, W

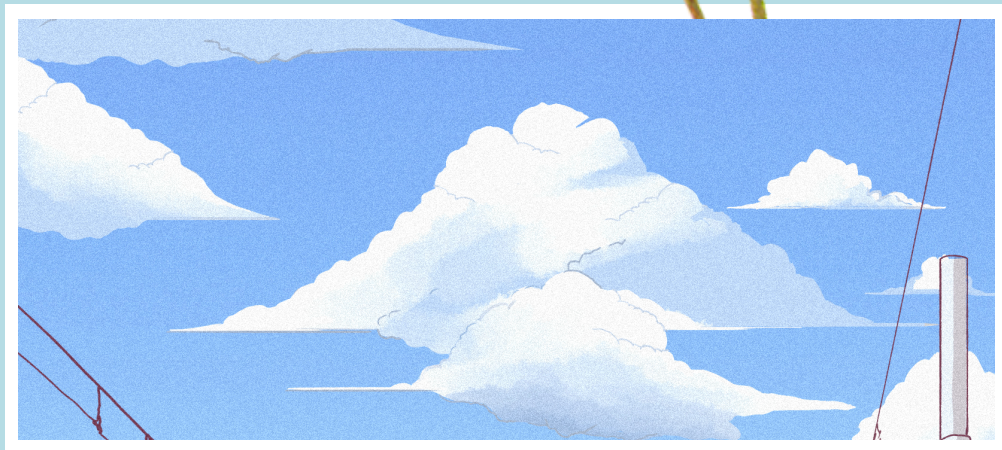
~ The minimum energy required for a photoelectron to be emitted from a metal surface

6

Stopping Potential

~ The voltage difference required to stop the emission of an electron from a metal surface when light is incident on it.





Thank You, Good Luck!
SMK DOKTOR BURHANUDDIN,
TAIPING PERAK