**Physics Formula Revision (Conditions highlighted in red) [Draft Ver]**

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| Topic | Formula | SI unit | Final unit |
| 2.1: Kinematics |  | Distance (m)  Time (sec) | m/s |
| ; | Displacement (m)  Time (sec) | m/s |
| Condition: Used only when acceleration is constant. | Velocity (m/s)  Time (sec) | m/s2 |
| 2.2 Dynamics |  | Force (N)  Mass (kg)  Acceleration (m/s2) | Newton (N) |
| 2.3 Mass Weight Density |  | Mass (kg)  g = 10 N/kg | Newton (N) |
| ;. | Mass (g/kg)  Volume (cm3/m3) | g/cm3 or kg/m3 |
| 2.4 Turning Effect of Forces |  | Force (N)  Perpendicular Distance (m) | Newton metre (Nm) |
| Note: Perpendicular Distance is not always the length of the rod. | | |
| 2.5 Pressure | Solids: | Force (N)  Area (m2) | N/m2 , Pa |
| Liquids: | h (m): Depth of Liquid  (kg/m3): Density of liquid  g: 10N/kg | N/m2 , Pa |
| Gases (when temp. is constant) | P (Pa): Pressure  V (m3): Volume | NA |
| 2.6 Energy, Work, power |  | F (N): Force  d (Perpendicular dist): m | J |
|  | m (kg): Mass  v (m/s): Velocity | J |
|  | m (kg): Mass  g: 10N/kg  h (m): Height | J |
| X | Energy change /Work done(J)  Time (s) | J/s, W (watt) |
| 3.1 Principles of Thermometry | (For Celsius scale only) | Theta: Unknown temperature  X0: “ice point”, X100: Steam pt | oC |
| 3.2 Thermal Properties of Matter |  | C: Heat capacity | J |
|  | m: mass c: Specific Heat Capacity | J |
|  | : Latent heat of fusion | J |
|  | : Latent heat of vapourisation | J |
| 4.1: General Wave Properties |  | f: Frequency  t (sec): Time | Hz |
|  | v (m/s): Velocity  (m): Wavelength  f(1/t): Frequency | m/s |
| 4.2: Light | Snell’s Law: | n = refractive index (ratio)  i/r (o): angle of incidence/refraction  \*Set calculator in degree mode. | NA. Ratio. |
| Condition: The angle of incidence must be in the less dense medium; angle r must be in the denser medium. | | |

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| 4.2: Light |  | c (m/s): Speed of light in vaccum (3x108 m/s)  v (m/s): Speed of light in medium. | NA. Ratio. |
|  |  | c (o): Critical angle. | o |
| 5.1: Current Electricity |  | I: Current (A)  Q: Charge (Columb)  t: Time (sec) | Coloumb, C |
|  |  | : E.m.f. (Volts – V)  W: Work done/energy of circuit (J)  Q: Charge (Columb) | V, J/C |
|  |  | V: Potential Diff. (V)  W: Work done/energy across circuit component  Q: Amount of charge | V, J/C |
|  | Ohm’s Law:  Condition: Only for ohmic conductors. | R: Resistance () | V |
|  |  | : Resistivity (m)  L: Length  A: Cross-sectional Area |  |
| 5.2: Practical Electricity |  |  | J |
|  |  | P = Power  R = Resistance | W |
| 5.3: Electromagnetic Induction |  |  |  |