**PHYSICS FORMULA SHEET**

Vectors are indicated by arrows. If only the magnitude of a vector quantity is used, the arrow is not used.

**Symbols of common quantities**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| acceleration |  | force |  | mass |  | time |  |
| displacement |  | frequency |  | momentum |  | velocity |  |
| quantity of heat |  | kinetic energy |  | period |  | wavelength |  |
| electric current |  | resistance |  | potential difference |  | power |  |

**Magnitude of physical constants**

|  |  |  |  |
| --- | --- | --- | --- |
| Acceleration due to gravity at the Earth’s surface | m s-2 | charge of the electron | C |
| speed of light in a vacuum | m s-1 | mass of the electron | kg |
|  |  | mass of the proton | kg |

**Topic 1: Linear Motion and Forces**

|  |  |
| --- | --- |
|  | velocity at time  velocity at time 0 |
| time interval |  |
|  |  |

**Topic 2: Electric Circuits**

|  |  |
| --- | --- |
| = work done (also known as ) | Resistors in series: |
| *q* = charge | Resistors in parallel: |
|  |  |
| = work done (also known as ) | *cost* is in c  is in kWh (J ÷ 3.6×106)  *price* is in c/kWh |
|  |

**Topic 3: Heat**

|  |  |
| --- | --- |
| specific heat capacity | latent heat capacity |
| equilibrium temperature | |

**Topic 4: Energy and Momentum**

|  |  |
| --- | --- |
|  | = work done (also known as ) |
|  |  |
| height |  |
|  |  |

**Topic 5: Waves**

|  |  |
| --- | --- |
|  | refractive index  angle to the normal |
|  |  |

**Topic 6: Nuclear Models and Radioactivity**

|  |  |
| --- | --- |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Table of prefixes** | | |
| **Prefix** | **Symbol** | **Value** |
| tera | T | 1012 |
| giga | G | 109 |
| mega | M | 106 |
| kilo | k | 103 |
| centi | c | 10-2 |
| milli | m | 10-3 |
| micro | μ | 10-6 |
| nano | n | 10-9 |
| pico | p | 10-12 |
| femto | f | 10-15 |