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| OCR Physics AModule 2 : Foundations of physics | Module RAG sheet |

Use this sheet to track and review your learning and revision.

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| **2.1** | **Physical quantities and units** | RAG1 | RAG2 | RAG3 |
| **2.1.1** | **Physical quantities** |  |  |  |
| (a) | physical quantities have a numerical value and a unit  |  |  |  |
| (b) | making estimates of physical quantities listed in this specification. |  |  |  |
| **2.1.2** | **S.I. units** |  |  |  |
| (a) | Système Internationale (S.I.) base quantities and their units – mass (kg), length (m), time (s), current (A), temperature (K), amount of substance (mol) |  |  |  |
| (b) | derived units of S.I. base units Examples: momentum kg m s−1 and density kg m−3 |  |  |  |
| (c) | units listed in this specification |  |  |  |
| (d) | checking the homogeneity of physical equations using S.I. base units |  |  |  |
| (e) | prefixes and their symbols to indicate decimal submultiples or multiples of units – pico (p), nano (n), micro (μ), milli (m), centi (c), deci (d), kilo (k), mega (M), giga (G), tera (T) |  |  |  |
| (f) | the conventions used for labelling graph axes and table columns. As set out in above, e.g. speed / m s−1. |  |  |  |
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| **2.2** | **Making measurements and analysing data** | RAG1 | RAG2 | RAG3 |
| **2.2.1** | **Measurements and uncertainties** |  |  |  |
| (a) | systematic errors (including zero errors) and random errors in measurements |  |  |  |
| (b) | precision and accuracy |  |  |  |
| (c) | absolute and percentage uncertainties when data are combined by addition, subtraction, multiplication, division and raising to powers |  |  |  |
| (d) | graphical treatment of errors and uncertainties; line of best fit; worst line; absolute and percentage uncertainties; percentage difference. A rigorous statistical treatment is not expected. |  |  |  |
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| **2.3** | **Nature of quantities** | RAG1 | RAG2 | RAG3 |
| **2.3.1** | **Scalars and vectors** |  |  |  |
| (a) | scalar and vector quantities Learners will also be expected to give examples of each.  |  |  |  |
| (b) | vector addition and subtraction |  |  |  |
| (c) | vector triangle to determine the resultant of any two coplanar vectors To be done by calculation or by scale drawing |  |  |  |
| (d) | resolving a vector into two perpendicular components; *Fx = F cos* θ*, Fy = F sin* θ |  |  |  |