**Test 6 Dot Points**

**Certain overarching concepts may not be explicitly listed**

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| **Organic Chemistry**   * molecular formulae represent the number and type of atoms present in the molecules (refer to Appendix 2) **2.16** * percentage composition of a compound can be calculated from the relative atomic masses of the elements in the compound and the formula of the compound **2.17** * hydrocarbons, including alkanes, alkenes and benzene, have different chemical properties that are determined by the nature of the bonding within the molecules **2.18** * molecular structural formulae (condensed or showing bonds) can be used to show the arrangement of atoms and bonding in covalent molecular substances **2.19** * IUPAC nomenclature is used to name straight and simple branched alkanes and alkenes from C1- C8 **2.20** * alkanes, alkenes and benzene undergo characteristic reactions such as combustion, addition reactions for alkenes and substitution reactions for alkanes and benzene **2.21** |
| **Energy changes**   * chemical reactions and phase changes involve enthalpy changes, commonly observable as changes in the temperature of the surroundings and/or the emission of light 3.2 * endothermic and exothermic reactions can be explained in terms of the Law of Conservation of Energy and the breaking of existing bonds and forming of new bonds; heat energy released or absorbed by the system to or from the surroundings, can be represented in thermochemical equations **3.3** |

* fossil fuels (including coal, oil, petroleum and natural gas) and biofuels (including biogas, biodiesel and bioethanol) can be compared in terms of their energy output, suitability for purpose, and the nature of products of combustion **3.4**
* energy profile diagrams, which can include the transition state and catalysed and uncatalysed pathways, can be used to represent the enthalpy changes and activation energy associated with a chemical reaction **6.5**