**MWAKICAN JOINT EXAM TEAM (MJET) –TERM 1 2016**

MARKING SCHEME

**CHEMISTRY**

**FORM 2**

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| **QUESTION** | **ANSWER** | **MARKS** |
| **1.** | 1. Hydrated iron(iii)oxide 2. Nail with copper wire   This is because copper is less reactive than calcium and also below iron in the reactivity series.   1. –Extraction of less reactive metals from their oxides using more reactive metals |  |
| **2.** | 1. –miscible mixtures   -immiscible mixtures  b) Use a magnet to remove iron fillings, heat to sublime NH4CL and  remain with NaCL |  |
| **3.** | 1. Mass number 2. 2.8.8.1 3. Metal   This is because it would form a stable ion by losing an electron |  |
| **4.** | a) i) measure time  ii) store water for use during a practical  iii)mortar and pestle  b) Round bottomed flask allows distribution of heat during heating unlike flat bottomed flask |  |

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| 5. | 1. NH4NO3 2. NaNO3 3. H2O |  |
| 6. | 1. –Upward delivery / Downward displacement of air   -Hydrogen gas   1. –Over water   -Oxygen gas |  |
| 7. | 1. Miss use of drugs 2. –Mental problems   -Poor health e.g. lung cancer  -Social problems (specified) |  |
| 8. | 1. Check group I period IV 2. F:\ \IMG0079A.jpg 3. Atomic radius of A is smaller than that of Z.   This is because A has 2 energy levels while Z has 4 energy levels.   1. Transitional elements 2. It has delocalized electrons in its structure. Each atom contributes 2 electrons. 3. One 4. Period II 5. AS GROUP I – Has 1 electron in its outermost energy level  * Is a reducing agent   AS GROUP VII – Require 1 electron to attain a stable electronic  Arrangement. |  |
| 9. | 1. Reducing property 2. Black CuO turned to blown copper metal 3. CuO(S) + H2(g)  ………….. Cu(s) + H2O (L) |  |

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| 10. | RAM = [36X0.34] + [38X0.06] + [40X99.6]  100  = 39.9852g |  |
| 11. | 1. The charred parts were placed in hot blue flame, not charred part was placed in the colourless/ unburned gas region. 2. – Its not hot   - It stains the apparatus in the laboratory |  |
| 12. | 1. Physical change 2. Permanent chemical change 3. Temporary chemical change |  |
| 13. | 1. Group VII elements in the periodic table 2. Chlorine: - To make bleaches   - Manufacture of HCl acid  Sodium: - To give a yellow glow in street lighting  - Extraction of less reactive metal e.g. copper |  |
| 14. | 1. Boiling point 2. Solid 3. Pure.   This is because it has sharp melting and boiling points |  |
| 15. | a) -Solution B  - Solution C  b) Mg (s) + HCl(aq) …………… MgCl2 (aq) + H2 (g) |  |
| 16. | Once an electron has been lost from an atom, the remaining positive nuclear charge holds the remaining electrons more firmly. This then means more energy is required to remove the second electron. |  |
| 17. | a) Hydrogen peroxide  b) Used as a catalyst  c) –Welding (together with oxygen or acetylene gas)  -Used by deep sea diving  - Used by mountain climbers |  |

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| 18. | |  |  |  | | --- | --- | --- | | ……………… | positive | In the nuclear | | electrons | negative | ……………………. | | neutrons | …………………. | In the nuclear | |  |
| 19. | a) Universal indicator indicates whether a solution is acidic or basic and gives its strengths, while simple acid-base indicator determines whether a substance is a base or an n acid.  b) They keep changing their colour with time.  c) – ethanoic  - butanoic  -lactic  - |  |
| 20. | Hydrogen, Calcium, Potassium  least  reactive  most reactive |  |
| 21. | F:\ \IMG0078B.jpg |  |
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