**Group I: Choose as required (16 Marks)**

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| --- | --- | --- | --- | --- |
| 1 | The condensed electronic configuration of an element in group 16, period 6 is: | | | |
|  |  | *[Xe] 4f14 5d106s25p5* |  | *[Kr] 4f14 5d106s15p5* |
|  | *[Kr] 4f10 5d146s25p4* |  | *[Xe]4f14 5d106s25p4* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 | The name of Group 17 elements is: | | | |
|  |  | *Halogene* |  | *Chalcogene* |
|  | *Salt like* |  | *Noble gases* |

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| --- | --- | --- | --- | --- |
| 3 | The symbol for the element antimony is: | | | |
|  |  | *As* |  | *Ar* |
|  | *Ac* |  | *Sb* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4 | F2 has weaker bond energy than Cl2 because: | | | |
|  |  | *F is larger than Cl* |  | *F2 has more lone pairs of electrons than Cl2* |
|  | *Cl2 has more bond than F2* |  | *F is smaller than Cl* |

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| 5 | The formula of potassium chlorate is: | | | |
|  |  | *KClO4* |  | *KClO3* |
|  | *KCl2* |  | *KClO2* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 6 | Carbon has tow allotropes they differ in: | | | |
|  |  | *Type of bonding* |  | *In their colors* |
|  | *In their hardness* |  | *All correct* |

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| --- | --- | --- | --- | --- |
| 7 | There is no compound with the name fluorine oxide, this is because: | | | |
|  |  | *Fluorine is less electronegative* |  | *Oxygen is smaller than flourine* |
|  | *Fluorine is more electronegative* |  | *Both in the same period* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8 | Group 18 name is noble gases and not inert gases as they: | | | |
|  |  | *Have full valence shell* |  | *Do not react with other elements* |
|  | *React selectively with other elements* |  | *Do exist as single atoms* |

**Group 2: Answer the following questions: (4 marks)**

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| 1 | Write and define Schrödinger equation and name all symbols.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2 | Write equations to show the ozone cycle in the stratospher |
|  |  |