

Data Provided: None

MIDTERM EXAMINATION

SCHOOL OF NURSING AND HEALTH SCIENCES Sept Semester 2013

CHEMISTRY 1 Hours

DATE: 22nd OF OCTOBER 2013

TIME:

This paper contains TWO (2) Sections on FIVE (5) printed pages, including the cover.

Answer ALL questions in SECTION A & B. All answers should be written in the answer booklet.

Any misconduct found during the paper will constitute a mark of 0 for the paper and you WILL be asked to LEAVE the exam hall IMMEDIATELY.

This paper comprises 20% of the total marks of the Final Assessment.

**Registration number from Student Card – to be completed by student**

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**SECTION A**

**(20 Marks)**

**This section contains (10) multiple choice questions TRUE/FALSE. Answer ALL questions in this section.**

|  |  |  |
| --- | --- | --- |
| 1. |  | Element P has nucleon number 31 and proton number 15. It also has |
|  |  | A. | number of neutron 16 |
|  |  | B. | number of electron 15 |
|  |  | C. | element P is in noble gases group |
|  |  | D. | number of neutrons same with number of nucleon |

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| 2. |  | The subatomic particles that are present in an atom are |
|  |  | A. | Electron |
|  |  | B. | Neutron |
|  |  | C. | Proton |
|  |  | D. | Photon |

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| --- | --- | --- |
| 3. |  | Properties of Neon and Argon. |
|  |  | A. | Known as noble gasses |
|  |  | B. | Group 18 in Periodic Table |
|  |  | C. | Have octet electron arrangement |
|  |  | D. | They are held together by weak Van der Waals forces  |

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| 4. |  | Properties of Halogen Group |
|  |  | A. | Group 17 |
|  |  | B. | Exist as diatomic gas |
|  |  | C. | Have 7 valence electron |
|  |  | D. | Have octet electron arrangement |

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| 5. |  | Alkali metal |
|  |  | A. | Group 1 |
|  |  | B. | Accept electron |
|  |  | C. | Donates electron |
|  |  | D. | Have 1 valence electron |

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| 6. |  | 3 mol of nitrogen gas, N2, is equal to(RAM: N=14 ; Avogadro constant= 6.02 x 1023 particles) |
|  |  | A. | 84 g |
|  |  | B. | 0.084 kg |
|  |  | C. | 3.612 x 1024 atom N |
|  |  | D. | 1.806 x 1024 molecule |

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| 7. |  | 10 g of NaCl is equal to(RAM: Na=23, Cl=35.5 ; Avogadro constant= 6.02 x 1023 particles) |
|  |  | A. | 0.5 mol |
|  |  | B. | 0.17 mol |
|  |  | C. | 1.0234 x 1023 molecule |
|  |  | D. | 6.02 x 1023 atom |

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| 8. |  | 0.5 mole of carbon dioxide (CO2) contains the same number of molecules as *(RAM: O=16, C=12, H=1)* |
|  |  | A. | 32 grams of oxygen gas, O2 |
|  |  | B. | 1 gram of hydrogen gas, H2 |
|  |  | C. | 2 grams of hydrogen gas, H2 |
|  |  | D. | 16 grams of oxygen gas, O2 |

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| 9. |  | Number of oxygen atom in 0.1 mole of water is [Avogadro: 6.02 x 1023 mol-1] |
|  |  | A. | 6.02 x 1022 |
|  |  | B. | 6.02 x 1023 |
|  |  | C. | 60.2 x 1023 |
|  |  | D. | 3.01 x 1023 |

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| 10. |  | Which of the following electron arrangement belongs to an element of Period 3 of the periodic table? |
|  |  | A. | 2.8 |
|  |  | B. | 2.8.5 |
|  |  | C. | 2.8.3 |
|  |  | D. | 2.8.8.2 |

SECTION B

(20 Marks)

This section contains TWO (2) short essay questions. Answer ALL questions in this section.

|  |
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| QUESTION 1 |
| The diagram shows a model of an atomhttp://www.desktopclass.com/wp-content/uploads/2010/12/atom.gifhttp://t2.gstatic.com/images?q=tbn:ANd9GcTvnqxTfEROxZTMHtliPLBPTL5FQc6BeZ4mkYlyemY1YCqfC07Bhttp://t2.gstatic.com/images?q=tbn:ANd9GcTvnqxTfEROxZTMHtliPLBPTL5FQc6BeZ4mkYlyemY1YCqfC07BYX |  |
| a. |  | What is represented by X and Y1. X
2. Y
 | (2 marks) |
| b. |  | Name the subatomic particles found in X? | (2marks) |
| c. |  | Name the subatomic particles that1. Carries a negative charge.
2. Carries a positive charge.
3. Does not carry any electric charge.
 | (3 marks) |
| d. |  | Define1. Atoms
2. Molecules
3. ions
 | (3 marks) |

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| **QUESTION 2** |

1. Figure 2 shows the changes of the state of matter

R

P

Solid

Liquid

Gas

S

Q

 *Figure 2*

 a) Name the processes which cause the change of matter

 P:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Q:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 R:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 S:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 [2 marks]

b) Briefly explain the processes occur in

 (i) P :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2 marks]

(ii) S :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2 marks]

c) Compare the solid and gas in terms of the following physical properties:

 (i) Movement of particles

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[2 marks]

(ii) Kinetic energy

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 **END OF QUESTION**