CHM 101 EXAM I

Show all calculations with correct units and significant figures. Use complete sentences to answer questions. GOOD LUCK! Turn-in your take-home question with this exam.

1. Record the length of the two objects below using the devices included. (10)

A

1 meter

B

Ruler in centimeters

2. Name the following substances. (10)

KNO₃

Fe₂(SO₄)₃

H₂SO₄

Na₂CO₃

SO₃
3. Write the correct formula from the name below. (10)

sodium bicarbonate ______________
phosphoric acid ______________
calcium phosphate ______________
nitrous oxide ______________
chromium (III) oxide ______________

4. Complete the following table. (15)

<table>
<thead>
<tr>
<th>Element/ion</th>
<th>Number of protons</th>
<th>Number of neutrons</th>
<th>Number of electrons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Br</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cl⁻⁷</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C⁻⁴</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. List an element from the Periodic Table that has the characteristic given below. (15)

can be +2 ion __________ a B group element __________
a non-metal __________ a metal __________

can be -3 ion __________

6. How many milliliters are there in a pint of milk? (10)

(1 quart = 2 pints = 0.95 L)
7. Consider the mixture given in the box below. Suggest two different possible ways of separation based on physical properties. You may select the physical properties of your choice to propose your methods of separation.

<table>
<thead>
<tr>
<th>Particle</th>
<th>Property 1</th>
<th>Property 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>round</td>
<td></td>
<td></td>
</tr>
<tr>
<td>oblong</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Method 1 -

Method 2 -