Not all of these questions correlate to the objectives for Exam 1. They are intended to introduce students to the variation in type and difficulty level of questions encountered on CLS 412 Unit Exams. (Jeremy–open Jan 4, 2010 until 6:00 a.m. Jan 25 – multiple attempts ok)

MULTIPLE CHOICE: Choose the one best answer

1. The following laboratory results were obtained on a patient 5 days post acute myocardial infarction:

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CK</td>
<td>396 IU/L</td>
<td>(15-160 IU/L)</td>
</tr>
<tr>
<td>CK-MB</td>
<td>8 IU/L</td>
<td></td>
</tr>
<tr>
<td>Myoglobin</td>
<td>22 ng/mL</td>
<td>(&lt;90 ng/mL)</td>
</tr>
<tr>
<td>Troponin I</td>
<td>2.3 ng/mL</td>
<td></td>
</tr>
</tbody>
</table>

Choose the appropriate next step.

A. Repeat the myoglobin
B. Repeat the total CK and CK-MB
C. Repeat the troponin
**D. Report all test results**

2. A Gram stain of a first morning sputum specimen shows:

- Moderate polymorphonuclear cells
- Many gram-positive cocci in pairs
- Few gram-negative diplococci

On Blood Agar, the predominant growth was alpha-hemolytic mucoid colonies. What biochemical test needs to be performed?

A. Bacitracin
B. Bile esculin
**C. Bile solubility**
D. Pyrrolidonyl arylamidase (PYR)

3. Which of the following sets of test results is frequently associated with acute disseminated intravascular coagulation (DIC)?

<table>
<thead>
<tr>
<th>Antithrombin</th>
<th>Thrombin time</th>
<th>D-dimer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Decreased</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td><strong>B. Decreased</strong></td>
<td><strong>Prolonged</strong></td>
<td><strong>Increased</strong></td>
</tr>
<tr>
<td>C. Increased</td>
<td>Prolonged</td>
<td>Increased</td>
</tr>
<tr>
<td>D. Increased</td>
<td>Prolonged</td>
<td>Normal</td>
</tr>
</tbody>
</table>
4. A 4-year-old boy suspected of ingesting a toxic substance was brought to the ER. The following laboratory results were obtained. Determine the calculated serum osmolality.

- Serum sodium: 150 mmol/L
- Serum potassium: 4.5 mmol/L
- Serum glucose: 90 mg/dL
- Serum chloride: 112 mmol/L
- tCO₂: 18 mmol/L

A. 294 mosm/kg
B. 303 mosm/kg
C. 322 mosm/kg
D. 339 mosm/kg

5. A patient received two units of Red Blood Cells and had a delayed hemolytic transfusion reaction. Pretransfusion results are as follows:

<table>
<thead>
<tr>
<th>LISS</th>
<th>AHG</th>
<th>CC</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>II</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>III</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Repeat testing of the pretransfusion specimen detected an antibody at the antiglobulin phase. What is the most likely explanation for the original results?

A. Antiglobulin reagent was neutralized
B. Centrifugation time was prolonged
C. Patient’s serum was omitted from the original testing
D. Red cells were overwashed

6. A patient shows the following test results:

- ↑ Total bilirubin
- ↑ Conjugated bilirubin
- ↑↑↑ Alkaline phosphatase
- ↑↑↑ GGT
- Normal Total serum protein

Select the additional test results that would be expected with this patient.

<table>
<thead>
<tr>
<th>Urine bilirubin</th>
<th>AST</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Increased</td>
<td>Greatly increased</td>
</tr>
<tr>
<td><strong>B. Increased</strong></td>
<td><strong>Normal</strong></td>
</tr>
<tr>
<td>C. Normal</td>
<td>Greatly increased</td>
</tr>
<tr>
<td>D. Normal</td>
<td>Normal</td>
</tr>
</tbody>
</table>

7. After 24 hrs of incubation, a wound culture showed moderate growth in the primary streak area of Sheep Blood and MacConkey agars. The rough-edged colonies with a metallic sheen were beta-hemolytic and caused the MacConkey agar to turn a greenish color. This organism would also be oxidase _________ and glucose _________.

A. Negative; inactive
B. Negative; oxidizer
C. Positive; inactive
D. **Positive; oxidizer**
8. The following arterial blood gas results are most consistent with which acid-base disturbance?

   pH:     7.48
   pCO₂:  32 mmHg
   pO₂:  85 mmHg

A. Metabolic alkalosis, fully compensated
B. Metabolic alkalosis, uncompensated
C. Respiratory alkalosis, fully compensated
D. Respiratory alkalosis, uncompensated

9. A patient has the following laboratory results:
   GGT: 67 U/L  (8-78)  Total serum protein: 8.5 g/dL
   AST: 58 U/L  Albumin: 4.4 g/dL
   ALT: 54 U/L  Total bilirubin: 0.9 mg/dL
   BUN: 18 mg/dL  Calcium: 10.9 mg/dL  (8.6-10.0)

Which of the following serum protein electrophoresis patterns would be expected?
Correct choice is D