Gilead Pathophysiology Sample Quiz 4 - Endocrine System and Diabetes

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Insulin:
   a. is secreted by the kidneys
   b. is secreted in response to decreased blood glucose
   c. stimulates the production of glycogen and fat
   d. stimulates the release of glucose from cells

2. Which of the following best describes the interactions between insulin and glucagon?
   a. synergistic
   b. permissive
   c. antagonistic
   d. cooperative

3. Which of the following is true of diabetes mellitus?
   a. cells starve of glucose
   b. blood is high in glucose
   c. patients urinate frequently
   d. all of the above are true

4. Which of the following is NOT an action of insulin?
   a. stimulates glucose uptake by cells
   b. stimulates glycolysis
   c. stimulates production of fat from glucose
   d. stimulates glycogenolysis

5. Which of the following is NOT a mechanism of controlling hormone secretion?
   a. hormonal control
   b. neural control
   c. erythrocyte control
   d. humoral control

Matching
Match the terms to their definition.

   a. ketones in urine
   b. excessive thirst
   c. excessive urine output
   d. faster breathing rate
   
6. polyuria
7. polydipsia
8. hyperpnea
9. ketonuria

Short Answer

10. Draw the negative feedback cycle that would occur if glucose levels in the blood increase, as they do after a meal. (3pts)
11. **Acute Complications of Low Insulin**

<table>
<thead>
<tr>
<th>Organs/tissue involved</th>
<th>Organ/tissue responses to insulin deficiency</th>
<th>Resulting conditions:</th>
<th>Signs and symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In blood</td>
<td>In urine</td>
</tr>
<tr>
<td></td>
<td>Decreased glucose uptake and utilization</td>
<td>Hyperglycemia</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Glycogenolysis</td>
<td>Osmotic diuresis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein catabolism and gluconeogenesis</td>
<td>Ketonuria</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Lipolysis and ketogenesis</td>
<td>Loss of Na⁺, K⁺; electrolyte and acid-base imbalances</td>
<td></td>
</tr>
</tbody>
</table>

Match the table blanks to the choices below.

- _____ lipidemia and ketoacidosis
- _____ glycosuria
- _____ polyphagia
- _____ polyuria
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Answer Section

MULTIPLE CHOICE

1. ANS: C  PTS:  1
2. ANS: C  PTS:  1
3. ANS: D  PTS:  1
4. ANS: D  PTS:  1
5. ANS: C  PTS:  1

MATCHING

6. ANS: C  PTS:  1
7. ANS: B  PTS:  1
8. ANS: D  PTS:  1
9. ANS: A  PTS:  1

SHORT ANSWER

10. ANS:
    see book

    PTS:  3
11. ANS:
    A - polyuria
    B - lipidemia and ketoacidosis
    C - polyphagia or polyuria
    D - polyphagia or polyuria

    PTS:  4