Section A

1. Write short notes on the following:
   a. Casein
   b. Lactose

2. Below are the different chemical tests usually carried out on dairy products. Supply the missing information in the table below:

<table>
<thead>
<tr>
<th>S/N</th>
<th>Chemical Tests</th>
<th>Wavelength of measurement</th>
<th>Colour of complex formed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alkaline Phosphate Test</td>
<td>405nm</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>505nm</td>
<td>Pink complex</td>
</tr>
<tr>
<td>3.</td>
<td>Ammonia concentration test</td>
<td>700nm</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Milk Urea Nitrogen test</td>
<td>700nm</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>505nm/545nm</td>
<td>Violet complex</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>505nm</td>
<td>Red complex</td>
</tr>
<tr>
<td>7.</td>
<td>Chloride test</td>
<td>505nm</td>
<td></td>
</tr>
</tbody>
</table>

Section B

3. a. Mention the three main dairy schemes in Nigeria
   b. Write concisely on the Nigerian 'Urban dairy'
   c. What are the major problems militating against the Nigerian 'Urban dairy'?
   d. Enumerate the advantages of 'Rural dairy scheme'.

4. Mention and give the distinguishing characteristic features of two exotic and two indigenous dairy breeds of cattle.

Section C

5. a. Fill in the gaps below:
   Solids-not-fat = Protein; .....................; enzymes; ..........................; and ..........................
   Total solids = ............................................. plus Fat
   Skim milk (plasma) = milk minus .......................
   Whey (serum): skim milk minus ..........................

   b. List the series of systems that made up the 'Udder'

6. a. What are the constituents of Milk?
   b. Write a concise note on Milk Fat and Milk Protein under the following headings:
      i. Biochemistry.
      ii. Importance in nursing of the young
      iii. Importance in milk and milk products as foods for humans.