Topic 5: Food and humans

1. The sugar found in human blood is:
   A. Fructose
   B. Starch
   C. Glucose
   D. Glycogen

2. Fat is formed from the condensation of:
   A. Amino acids
   B. Amino acids and glycerol
   C. Fatty acids and glycogen
   D. Fatty acids and glycerol

3. Beans are rich in which may be deficient in the diet of a vegetarian.
   A. proteins
   B. carbohydrates
   C. vitamins
   D. lipids

4. Which of the following can be used to test for the presence of proteins?
   A. Benedict’s test
   B. iodine test
   C. using Clinistix paper
   D. using Albustix paper

Directions: Questions 5 and 6 refer to the food label below, which shows the nutrition facts of a certain kind of food.

<table>
<thead>
<tr>
<th>Nutrition Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving size: 1 Package: 258 g</td>
</tr>
<tr>
<td>Servings per container: 1</td>
</tr>
<tr>
<td>Amount per serving</td>
</tr>
<tr>
<td>Energy 1134 kJ From fat 294 kJ</td>
</tr>
<tr>
<td>% Daily value</td>
</tr>
<tr>
<td>Total fat 8 g 12%</td>
</tr>
<tr>
<td>Saturated fat 3.5 g 15%</td>
</tr>
<tr>
<td>Cholesterol 30 mg 9%</td>
</tr>
<tr>
<td>Foodstuffs</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Orange</td>
</tr>
<tr>
<td>Lettuce</td>
</tr>
<tr>
<td>Potato</td>
</tr>
<tr>
<td>Soybean</td>
</tr>
</tbody>
</table>

5. Which of the following persons should not take this food regularly?
A. a 10-year-old boy
B. a pregnant woman
C. an old man with high blood pressure
D. an old woman with osteoporosis

6. In which of the following tests will the above food give a negative result?
A. Benedict’s test
B. DCPIP test
C. using Albusitx paper
D. grease spot test

7. Different kinds of proteins differ from each other in containing
   (1) Different kinds of amino acids
   (2) Different numbers of amino acids
   (3) Different orders of amino acids

A. (1) only
B. (3) only
C. (1) and (3) only
D. (1), (2) and (3)

8. Which one can be used as an immediate source of energy?
A. Orange
B. Lettuce
C. Potato
D. Soybean

9. The unit of energy value of food is
A. Kg
B. kJ
C. km
D. ml

10. Which foodstuff has the highest energy value?
A. Orange
B. Lettuce
C. Potato
D. Soybean

11. A person performed an experiment to estimate the concentration of vitamin C (ascorbic acid) in lemon juice. He obtained the following two results.
(1) 10 drops of the juice decolorized 4mL of a DCPIP solution
(2) 20 drops of a 0.1% ascorbic acid solution decolorized 2mL of the same DCPIP solution

The concentration of vitamin C in the lemon juice is
A. 0.05%
B. 0.1%
C. 0.2%
D. 0.4%

12. Glycogen can be stored in
(1) Liver
(2) Muscles
(3) Pancreas

A. (1) and (2) only
B. (2) and (3) only
C. (1) and (3) only
D. (1), (2) and (3)
13. On burning 4 g of starch, the temperature of the water rose from 25°C to 40°C. The experiment was repeated with 2.0 g of food X. The temperature of the water rose from 25°C to 42°C. Food X is most probably be:
A. Cane sugar
B. Bread
C. Soybean
D. Peanut oil

14. Which of the following factors would not affect the accuracy of the results in this experiment?
A. Heat was lost from the burning food to the surrounding
B. The masses of starch and food X were different
C. The food might not be completely burnt
D. The food had been set to burning before heating the water
The table below shows the results.

<table>
<thead>
<tr>
<th>Fruit juice</th>
<th>Volume added to decolorize 1cm³ DCPIP solution(cm³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemon juice</td>
<td>4</td>
</tr>
<tr>
<td>Orange juice</td>
<td>5</td>
</tr>
<tr>
<td>Boiled orange juice</td>
<td>40</td>
</tr>
<tr>
<td>Apple juice</td>
<td>10</td>
</tr>
</tbody>
</table>

15. What was the effect of boiling on vitamin C?
A. Change it to another vitamin
B. Evaporates it away
C. Alters its structure
D. Change its solubility

16. The fruit juice has the largest amount of vitamin C?
A. Orange juice
B. Apple juice
C. Lemon juice
D. Boiled orange juice

17. There is a unknown solution named X, if 40 drops of X even can’t decolorize 1cm³ DCPIP solution. What it possibly is?
A. Kiwi fruit juice
B. Water melon juice
C. Water
D. Cabbage juice

Directions: Questions 18 to 19 refer to the diagram below which shows a simple apparatus used to determine the energy content of peanut.
18. Which of the following is not a source of error
A. Heat was lost to the surrounding.
B. The burning peanut gave out light energy
C. The volume of water was too small
D. The test tube and thermometer absorbed heat energy

19. The outside of the test tube was blackened after the experiment. Why?
A. The glass was charred on heating.
B. Peanut oil was condensed on the glass surface
C. Peanut oil react with the glass to form a black compound
D. Incomplete combustion of peanut produced soot

20. The table below shows the daily nutritional requirement per kg body mass of four people.

<table>
<thead>
<tr>
<th>People</th>
<th>Energy (kJ)</th>
<th>Protein (g)</th>
<th>Calcium (mg)</th>
<th>Iron (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>325</td>
<td>0.95</td>
<td>40.0</td>
<td>0.50</td>
</tr>
<tr>
<td>X</td>
<td>178</td>
<td>0.86</td>
<td>15.4</td>
<td>0.12</td>
</tr>
<tr>
<td>Y</td>
<td>160</td>
<td>0.84</td>
<td>18.2</td>
<td>0.33</td>
</tr>
<tr>
<td>Z</td>
<td>176</td>
<td>1.3</td>
<td>18.2</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Which person is likely to be an 8-year-old boy?
A. W
B. X
C. Y
D. Z

21. Which of the following diet is more suitable for a patient suffering from
constipation and anaemia?
A. cheese, wholemeal bread and coffee
B. milk, fried egg and white bread
C. milk, beef and wholemeal bread
D. orange juice, cookies and sausage

22. Why do people need vitamin D to keep bones and teeth strong?
A. Vitamin D prevents the loss of calcium and phosphate ions.
B. Vitamin D stimulates the production of phosphate ions in the body.
C. Vitamin D is one of the components of bones and teeth.
D. Vitamin D promotes the uptake of calcium ions.

23. People who suffer from bleeding gums may lack
A. calcium
B. iron
C. vitamin C
D. vitamin D

Directions: Questions 24 – 25 refer to the table below.

<table>
<thead>
<tr>
<th>Deficiency disease</th>
<th>The food substance in deficiency</th>
<th>Food source(s) for supplement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scurvy</td>
<td>R</td>
<td>T</td>
</tr>
<tr>
<td>P</td>
<td>Vitamin A</td>
<td>Fish-liver oil and eggs</td>
</tr>
<tr>
<td>Anaemia</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Q</td>
<td>Dietary fibre</td>
<td>Plant foods</td>
</tr>
</tbody>
</table>

24. What are P, Q, R and S?

<table>
<thead>
<tr>
<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>rickets</td>
<td>constipation</td>
<td>vitamin C</td>
</tr>
<tr>
<td>B.</td>
<td>night blindness</td>
<td>constipation</td>
<td>vitamin C</td>
</tr>
<tr>
<td>C.</td>
<td>night blindness</td>
<td>osteoporosis</td>
<td>vitamin D</td>
</tr>
<tr>
<td>D.</td>
<td>constipation</td>
<td>rickets</td>
<td>vitamin C</td>
</tr>
</tbody>
</table>

25. What are T and U?

<table>
<thead>
<tr>
<th>T</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>citrus fruits and vegetables</td>
</tr>
<tr>
<td>B.</td>
<td>liver and spinach</td>
</tr>
<tr>
<td>C.</td>
<td>liver and spinach</td>
</tr>
</tbody>
</table>
26. Which of the following statements is not correct?
A. People at different ages and of different body sizes have different dietary requirements.
B. A balanced diet consists of three food substances in right amounts.
C. A balanced diet is essential for maintaining health.
D. Obesity and anorexia nervosa are health problems caused by improper diets.

A. (1) only
B. (1) and (2) only
C. (2) and (3) only
D. (1), (2) and (3)

27. Osteoporosis is a phenomenon closely associated with age. This phenomenon tends to occur in old people whose bone density decrease. Bone density decreases when bones lose
A. calcium.
B. iron.
C. bone cells.
D. vitamin D.