SECTION A

• Answer all the questions.
• For each question there are four possible answers A, B, C and D. Choose the one you consider correct and shade your choice in soft pencil on the separate answer sheet.

1 Identify the person least likely to transfer pathogens to the food they are preparing.
   
   A  B  C  D

   (1)

2 The common cold is an example of a disease caused by a
   
   A  bacterium.
   B  protozoan.
   C  virus.
   D  worm.

   (1)

3 The symptom of gonorrhoea in males is
   
   A  blisters around the genitals.
   B  a burning sensation when urinating.
   C  fever and rash on the body.
   D  hard red ulcers around the genitals.

   (1)

4 If a pregnant woman is infected with one of the following STDs, the baby might be born blind.
   
   A  AIDS
   B  Gonorrhoea
   C  Herpes
   D  Syphilis

   (1)

5 The Primary Health Care programme of Namibia is based on the government's belief that:
   
   A  doctors are important in our lives.
   B  health care is expensive.
   C  health is a basic human right.
   D  Namibia is an unhealthy country.
6 In Namibia new-born babies are vaccinated against two diseases. The two diseases are

A diphtheria and tetanus.
B polio and whooping cough.
C smallpox and measles.
D TB and polio.

7 On a microscope the eye-piece shows 10x and the objective lens 50x. What will be the total magnification on an object viewed through this microscope?

A 10
B 50
C 60
D 500

8 The leaf in the diagram is an example of:

A dicotyledons.
B fungi.
C monocotyledons.
D protista.

9 A special kind of diffusion that involves the movement of water molecules through a special membrane is called

A active transport.
B diffusion.
C osmosis.
D transpiration.

10 The dots represent molecules of a gas in four tubes.

In which tube do more molecules move from X to Y than in the opposite direction?

A
B
C
D
11 Which of the following factors does not affect the rate of diffusion?
   A air currents
   B surface area
   C temperature
   D water

12 The smallest group into which organisms are divided is
   A class.
   B order.
   C phylum.
   D species.

13 Name the structures which these cells have in common.
   A cell membrane and cell wall
   B cell membrane and nucleus
   C chloroplast and cell wall
   D chloroplast and nucleus

14 Identify the two cells that are modified to increase absorption.
   A P and Q
   B Q and R
   C R and S
   D S and Q

15 Identify the tissue represented by the diagram below.
   A blood tissue
   B muscle tissue
   C nerve tissue
   D skin tissue
16 The diagram below shows four people relaxing in different ways.

A B C D

Choose the method which is most likely to promote good health. (1)

17 Identify the list which represents four different organ systems.

A heart, lung, liver, brain
B nose, trachea, bronchi, lungs
C spinal cord, brain, nerves, skin
D testis, urethra, kidney, bladder

(1)

18 Identify the deficiency disease that results from a lack of iron in the human diet.

A anaemia
B marasmus
C rickets
D scurvy

(1)

19 Identify the line which matches a mineral correctly with its function.

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Calcium</td>
<td>Supports production of a hormone thyroxine.</td>
</tr>
<tr>
<td>B Iodine</td>
<td>Develops bones and teeth.</td>
</tr>
<tr>
<td>C Iron</td>
<td>Transports oxygen in the blood.</td>
</tr>
<tr>
<td>D Phosphorus</td>
<td>Maintains the salt balance in our blood.</td>
</tr>
</tbody>
</table>

(1)

20 Give the element, usually obtained from the soil, that plants need to make proteins.

A carbon
B hydrogen
C nitrogen
D oxygen

(1)
21 On the diagram, which labelled part is the diaphragm? (1)

22 The following numbered parts belong to the respiratory system.

1. alveoli  2. bronchi  3. trachea  4. bronchioles

Give the right order in which air passes through these organs.

A 1 2 3 4  
B 1 4 2 3  
C 3 2 4 1  
D 3 4 2 1 (1)

23 Give the labelled structure that stores urine. (1)

24 Name the labelled part on the diagram that indicates the pelvic girdle. (1)
25 Name the type of joint shown in the diagram.

[Diagram of a joint]

A ball and socket joint
B fixed joint
C hinge joint
D sliding joint

26 The diagram shows the fusion of gametes to produce a son and a daughter.

[Diagram of parents, gametes, and offspring]

Identify which chromosome/s will be present in Q and R.

27 Identify the gas which contributes most to global warming.

A carbon dioxide
B CFCs
C nitrogen oxide
D water vapour
If radioactive waste contaminates an area, people living nearby may suffer from

A bronchitis.  
B cancer.  
C sunburn.  
D TB.  

The production of rice causes the release of one of the following gases that also contributes to global warming.

A carbon dioxide  
B CFCs  
C methane  
D nitrous oxide  

What will be the effect of pesticides, such as dieldrin and DDT, when washed into a river?

A Carbon dioxide is added to the water.  
B Massive weed growth occurs in the water.  
C Organisms in the water are killed.  
D Oxygen is removed from the water.  

[30]
SECTION B

• Answer all the questions in this section.
• Use a pencil when making drawings.
• Draw a line after each question.

QUESTION 1

The graph below shows the lymphocytes and HIV concentration in the blood of an infected person.

![Graph showing lymphocytes and HIV concentration](image)

(a) Explain the increase of HIV shown in the graph. (2)

(b) How many years after infection could this person be said to have full-blown AIDS? (1)

(c) List two symptoms that might indicate that the patient has AIDS. (2)

(d) Name the most effective contraceptive that can be used to prevent infection with HIV. (1)

(e) (i) Discuss why tuberculosis can be described as a "social disease". (3)

   (ii) List three symptoms of tuberculosis. (3)

[12]
QUESTION 2

This is a diagram of a leaf.

(a) (i) Make a large outline drawing of the leaf and label the petiole/stalk.  

(ii) The original length of the leaf is 30 mm. Assume that the length of the leaf you have drawn is 90 mm, calculate the magnification.  
(Show your working.)
QUESTION 3

(a) List and define any two characteristics of living organisms. (4)

(b) The picture shows living and non-living things.

(i) List any two living things from the picture. (2)

(ii) Name any two non-living things from the picture. (2)

(c) Describe any three characteristics of living organisms that are similar to those of a motor car. (3)
QUESTION 4

(a) A plant cell is an example of a eukaryotic cell. Draw and label a simple plant cell as seen under the light microscope. (7)

(b) Compare in table form any three differences between eukaryotic and prokaryotic cells. (6)

(c) This is a diagram of a root hair cell.

(i) Name the process through which water is moved from the soil into the root hair. (1)

(ii) Define the above mentioned process. (2)

[16]
QUESTION 5

(a) Use the diagram to identify the main classes of vertebrates represented by the letters A, B, C, D and E.

animals with a backbone. vertebrates

scales on at least part of the skin

A
wet scaly skin

B
dry scaly skin

C
naked skin

D
feathers and two legs

E
no feathers, and either four legs or no legs

(b) Look at the pictures and identify the two kingdoms represented by A and B.
QUESTION 6

Study the examples of different food types.

A

B

(a) Identify the nutrients A and B present in each group of food types. (2)

(b) (i) Give one function of nutrient B. (1)

(ii) Name the disease caused by a lack of nutrient A in your diet. (1)

(iii) Explain why a fourteen-year-old boy needs more energy than an old man. (3)

[7]
QUESTION 7

(a) The figure shows a section through the heart.

(i) Name the parts labelled A, B and C. (3)

(ii) The coronary arteries supply oxygen to the heart muscle. Suggest two human activities, or a lack thereof, which might cause a clot in a coronary artery. (2)

(iii) Explain what might be the result of such a blockage. (2)
QUESTION 8

Study the diagrams of the reproductive organs of a male and female.

(a) Label parts A, B, C and D. (4)

(b) Write down the numbers (i) - (iv) and next to each the correct description.

(i) testis  the fusion of a male and female gamete
(ii) gamete place where sperms are stored
(iii) sperms place where sperms are produced
(iv) fertilisation the biological name for a sex cell

[8]
QUESTION 9

The diagram below shows positions of glands in the human body.

(a) Identity the glands labelled A and B. (2)

(b) Bennie is 13 years old. He is concerned about the deepening of his voice.
   (i) Which hormone is responsible for this condition? (1)
   (ii) Name the glands responsible for that condition. (1)

(c) The brain is part of the central nervous system.

(i) Name part A. (1)
(ii) Part A can be subdivided into areas. Identify areas B, C and D. (3)
QUESTION 10

The figure shows some major causes of global warming and the increase in carbon dioxide (CO₂) in the earth's atmosphere since 1965.

(a) (i) Define the term global warming.

(ii) Using the graph, read off the increase of CO₂ between the years 1965 and 2000.

(iii) Explain the influence that the increase of CO₂ in the atmosphere has on global warming.

(b) Deforestation is one of the processes which increase the CO₂ in the atmosphere.

(i) List two other processes that also increase the CO₂ in the atmosphere.

(ii) Name one process that decreases the CO₂ in the atmosphere.

(iii) Suggest how governments can contribute to the prevention of deforestation.

(c) Suggest three effects that global warming can have on Namibia.

(d) Sometimes human activities can damage the ozone layer which causes UV rays to reach the earth.

(i) Give the name of the gas that can deplete the ozone layer.

(ii) List any two activities that release this gas into the atmosphere.

(iii) Explain the importance of the ozone layer.

Total: [130]