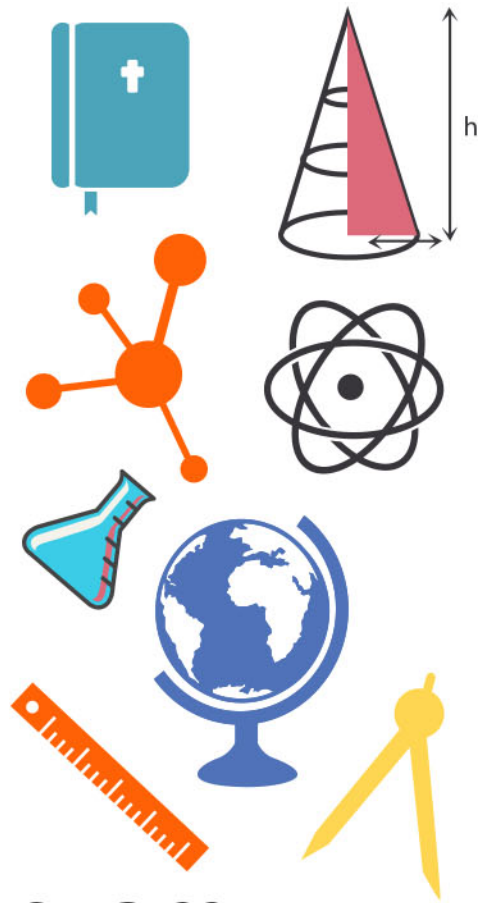


student **BJC** exam  
**Past Paper Booklet**  
Health  
Science



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**BJC Health Science**

**Year 2007**

**Papers 1 & 2**

SCHOOL No.	CANDIDATE No.
INITIALS	SURNAME

## 0055 HEALTH SCIENCE

### PAPER 1 MULTIPLE CHOICE ITEMS (40 MARKS)

Friday **8 June 2007** 9:00–10:00 A.M.

## MINISTRY OF EDUCATION BAHAMAS JUNIOR CERTIFICATE EXAMINATION 2007

### **INSTRUCTIONS TO CANDIDATES**

- Write your school number, candidate number, surname and initials in the spaces provided at the top right hand side of this page.
- For each question or item, there are four suggested answers – A, B, C, and D. When you have selected an answer to a question or item, circle the letter of the answer you have selected.

#### **FOR EXAMPLE:**

What body system is responsible for transporting oxygen around the body?

- A the circulatory system  
 B the excretory system  
 C the immune system  
 D the nervous system
- If you want to change your choice, erase the unwanted circle clearly or place an X across the letter. Then proceed to circle the letter which you think is correct.

#### **FOR EXAMPLE:**

What body system is responsible for transporting oxygen around the body?

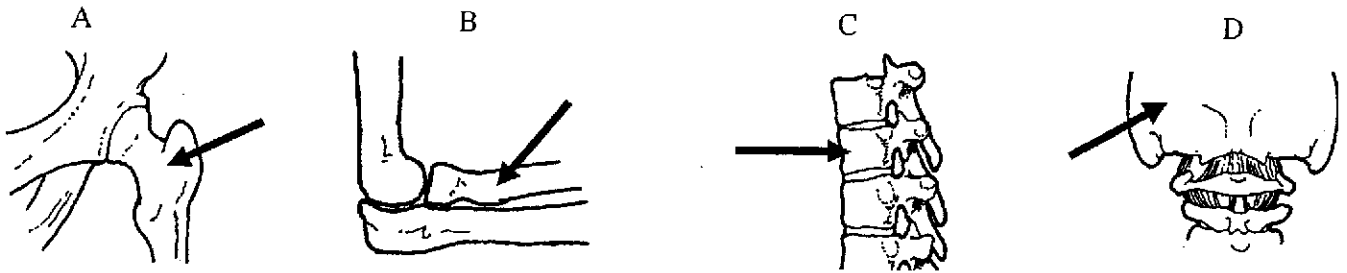
- A the circulatory system  
 B the excretory system  
 C the immune system  
 D the nervous system

1. Where is the diaphragm muscle located and what is its function?
  - A It is in the upper arm and it helps to bend the arm at the elbow.
  - B It is in the lower jaw and it helps in chewing food.
  - C It is at the bottom of the chest cavity and it helps in breathing.
  - D It is in the throat and it helps in swallowing food and drink.
  
2. Which of these structures is in both the chest cavity and the abdominal cavity?
  - A the bile duct
  - B the eustachian tube
  - C the oesophagus
  - D the trachea
  
3. Which system of the body is responsible for the transport of food nutrients and wastes, such as urea?
  - A the circulatory system
  - B the digestive system
  - C the excretory system
  - D the respiratory system
  
4. In this diagram of a human cell, which letter points to the part of the cell that is "selectively permeable" (or "semi-permeable")?



5. In what part of the human body would you find bones called carpals and meta-carpals?
  - A the ankles and feet
  - B the arms and legs
  - C the fingers and toes
  - D the wrists and hands

6. In which one of these diagrams is the arrow pointing to a vertebra?



7. When Mario fell off his bicycle, the bone in his upper right arm was cracked. Which of the following correctly describes what happened to Mario?
- A He dislocated his clavicle bone.  
 B He fractured his humerus bone.  
 C He ruptured his femur bone.  
 D He sprained his patella bone.
8. Which row in this table gives correct information about the muscles in your body?

	Type of Muscle	How it Works	What it Moves
A	Antagonistic Muscles	Voluntarily	The Brain
B	Cardiac Muscles	Involuntarily	The Heart
C	Skeletal Muscles	Involuntarily	The Bones
D	Smooth Muscles	Voluntarily	The Lungs

9. Which row in the table below gives correct information about food nutrients?

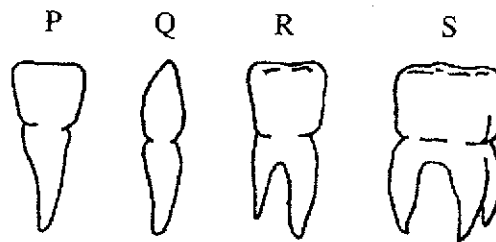
	Nutrient	Good Food Source	Deficiency Causes:
A	Calcium	Rice	Anaemia
B	Iron	Potatoes	Rickets
C	Vitamin C	Oranges	Scurvy
D	Vitamin D	Water	Night blindness

10. Which one of the following is not a carbohydrate?

- A fat  
 B glucose  
 C sucrose  
 D starch

11. In a science class, Melissa put a drop of iodine on a piece of white bread, a piece of ham, a piece of white potato and a piece of boiled egg white. On which of the foods would the iodine become a blue-black colour?
- A the egg white and the ham
  - B the ham and the white bread
  - C the potato and the egg white
  - D the white bread and the potato

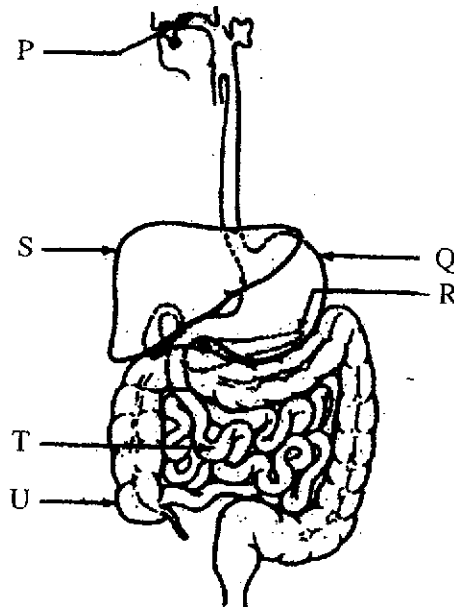
12. This diagram shows the four different kinds of teeth found in the human mouth.



Which teeth are found in the full set of human temporary, or milk, teeth?

- A P, Q and R only
  - B P, R and S only
  - C P, Q and S only
  - D P, Q, R and S
13. Which structure helps to prevent food and drink from entering the trachea when we swallow?
- A the epiglottis
  - B the larynx
  - C the tongue
  - D the tonsil

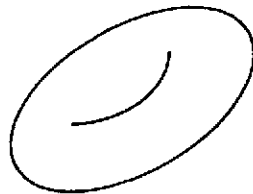
The diagram below shows some of the structures found in the human digestive system. Questions 14, 15 and 16 all refer to this diagram.



14. Which letters are pointing to the stomach and the liver?
- A S is pointing to the stomach; Q is pointing to the liver
  - B Q is pointing to the stomach; R is pointing to the liver
  - C R is pointing to the liver; S is pointing to the stomach
  - D S is pointing to the liver; Q is pointing to the stomach
15. Which letters are all pointing to structures where digestive enzymes are produced?
- A P, Q and R
  - B P, Q, R and S
  - C P, Q, R and T
  - D Q, R, S, T and U
16. Which letter on the diagram is pointing to the structure where ingestion occurs?
- A P
  - B Q
  - C T
  - D U



17. This organ changes excess proteins into useable glucose; it produces urea; it chemically breaks down toxins, like alcohol and drugs; it destroys old, worn out red blood cells. What organ in your body is it?
- A the heart  
B the liver  
C the pancreas  
D the stomach
18. Which component of your blood is a liquid?
- A platelets  
B plasma  
C red blood cells  
D white blood cells
19. A man has type O blood. To which blood groups can he donate his blood?
- A group A and group AB  
B group B and group AB  
C group A, group B, group AB and group O  
D group O only
20. What kind of cell is shown in this diagram and what is its function?



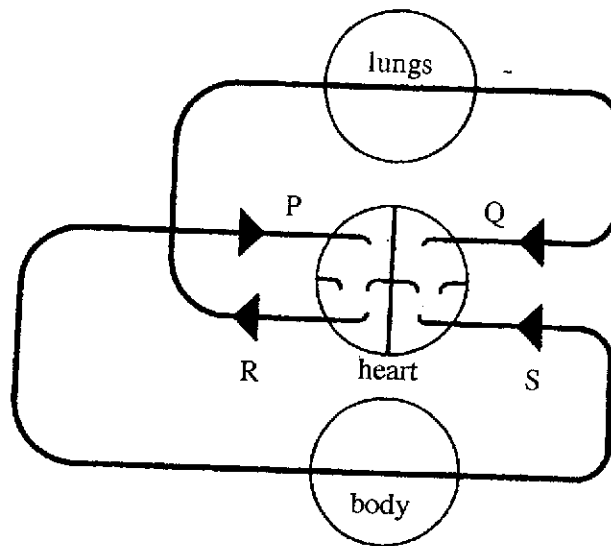
- A It is a smooth muscle cell; it contracts to bring about movement of the body.  
B It is a red blood cell; it absorbs and carries oxygen around the body.  
C It is a sperm cell; it fertilizes an egg cell for reproduction.  
D It is a white blood cell; it produces antibodies that can kill germs.
21. Which row in the table below gives correct information about most blood vessels called arteries?

	Have Valves	Have Thick Walls	Carry Oxygenated Blood
A	No	No	No
B	Yes	Yes	Yes
C	No	Yes	Yes
D	Yes	No	No

22. Which organ of the body is supplied with blood by the coronary arteries?

- A the brain
- B the heart
- C the liver
- D the skin

23. This diagram shows a simple plan of the human circulatory system. Which arrows show the correct direction of blood flow?

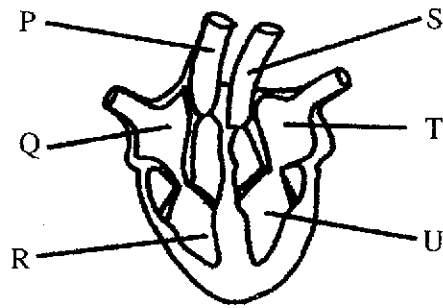


- A P, Q, R and S
- B Q, R and S
- C R, P and Q
- D S, P and Q

24. Approximately 2000 litres of blood are pumped through a person's heart each day. What amount of blood is pumped through the person's heart each hour?

- A approximately 83 litres
- B approximately 183 litres
- C approximately 2400 litres
- D approximately 24,000 litres

The diagram below represents the human heart, cut in half and seen from the front. Use it to answer questions 25 and 26.



25. In which labelled parts of the diagram would you expect to find deoxygenated blood?

- A P, Q and R
- B Q, R, S and T
- C R, S, T and U
- D S, T and U

26. Which row in the table below gives the correct names for Q, R, T and U on the diagram?

	Q	R	T	U
A	Left Ventricle	Left Atrium	Right Ventricle	Right Ventricle
B	Right Ventricle	Right Ventricle	Left Ventricle	Left Atrium
C	Left Atrium	Left Ventricle	Right Atrium	Right Ventricle
D	Right Atrium	Right Ventricle	Left Atrium	Left Ventricle

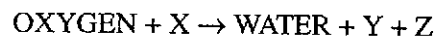
27. What organs of the body are connected to the circulatory system by renal arteries and renal veins?

- A the eyes
- B the kidneys
- C the lungs
- D the ovaries

28. Which row in the table below gives correct information about the difference between inhaled and exhaled air?

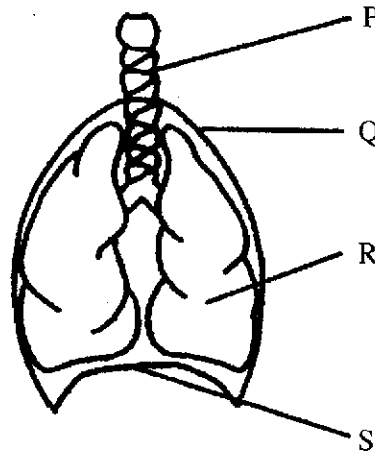
	INHALED AIR	EXHALED AIR
A	More Oxygen	Less Oxygen
B	More Carbon Dioxide	Less Carbon Dioxide
C	More Nitrogen	Less Nitrogen
D	More Water Vapour	Less Water Vapour

29. The equation below represents the process of respiration in body cells and tissues.



What do the letters X, Y and Z represent?

- A X is Energy, Y is Carbon Dioxide and Z is Glucose Sugar  
 B X is Energy, Y is Glucose Sugar and Z is Carbon Dioxide  
 C X is Glucose (Sugar), Y is Carbon Dioxide and Z is Energy  
 D X is Carbon Dioxide, Y is Energy and Z is Glucose (Sugar)
30. The diagram below represents some of the parts of the human respiratory system.



Where in the diagram would you find cartilage?

- A P  
 B P and R  
 C P, Q and R  
 D S

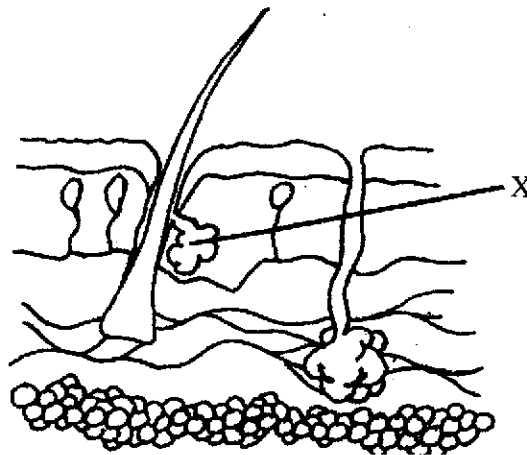
31. What happens to the blood as it flows through the lungs?

- A The blood picks up carbon dioxide and loses oxygen.
- B The blood loses carbon dioxide and picks up oxygen.
- C The blood becomes deoxygenated.
- D The blood loses its bright red colour.

32. Which row in the table below gives correct information about the liver, the kidneys and the urinary bladder?

	LIVER	KIDNEYS	URINARY BLADDER
A	Makes Urine	Makes Urea	Stores Urine
B	Makes Urea	Stores Urine	Makes Urine
C	Makes Urine	Stores Urea	Makes Urea
D	Makes Urea	Makes Urine	Stores Urine

33. The diagram below represents a section of human skin.



What is the part labelled X called and what does it do?

- A X is adipose tissue and it stores fat.
- B X is melanin and it gives skin its colour.
- C X is the epidermis and it insulates the skin.
- D X is a sebaceous gland and it makes oil.

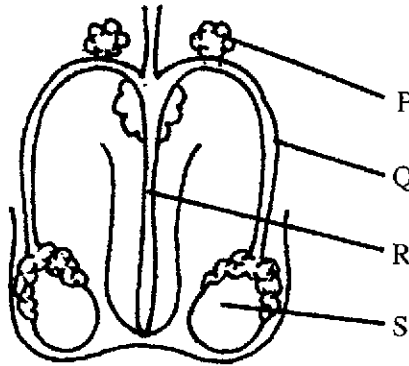
34. What part of the human nervous system is contained and protected by the cranial cavity?

- A the brain
- B the spinal cord
- C the spinal nerves
- D the vertebral column

35. Which row in the table below correctly matches the part of the human eye with its function?

	EYE PART	FUNCTION
A	Cornea	Carries nerve impulses to the brain
B	Iris	Controls the size of the pupil
C	Lens	Maintains the shape of the eyeball
D	Retina	Focuses light rays

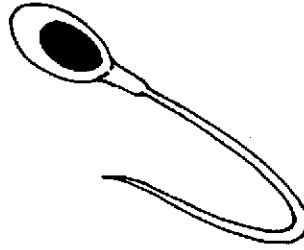
36. The diagram below represents the human male reproductive system.



Which letter points to the structure that produces sperm cells?

- A P  
 B Q  
 C R  
 D S
37. Which of the following is found in a woman's body, but not in a man's body?
- A epididymis  
 B oviduct  
 C prostate  
 D sperm duct

38. The diagram below represents a specialized human body cell.



What kind of cell is this?

- A a sperm cell  
 B a motor nerve cell  
 C a sensory nerve cell  
 D a smooth muscle cell
39. Which row in the table below correctly matches a disease with the part of the body it affects?

	DISEASE	BODY PART AFFECTED
A	Bronchitis	Blood
B	Gonorrhoea	Liver
C	Malaria	Lungs
D	Ringworm	Skin

40. Which of the following is an inherited disease?

- A herpes  
 B sickle cell anaemia  
 C syphilis  
 D tuberculosis

**0055/2**

**BJC**

FOR EXAMINERS' USE ONLY	
QUESTION	MARK
1	
2	
3	
4	
5	
6	
TOTAL	

SCHOOL No.	CANDIDATE No.
INITIALS	SURNAME

**0055 HEALTH SCIENCE**

**PAPER 2**

**(60 Marks)**

Friday **8 June 2007** 10:10 – 11:10 A.M.

**MINISTRY OF EDUCATION  
BAHAMAS JUNIOR CERTIFICATE  
EXAMINATION 2007**

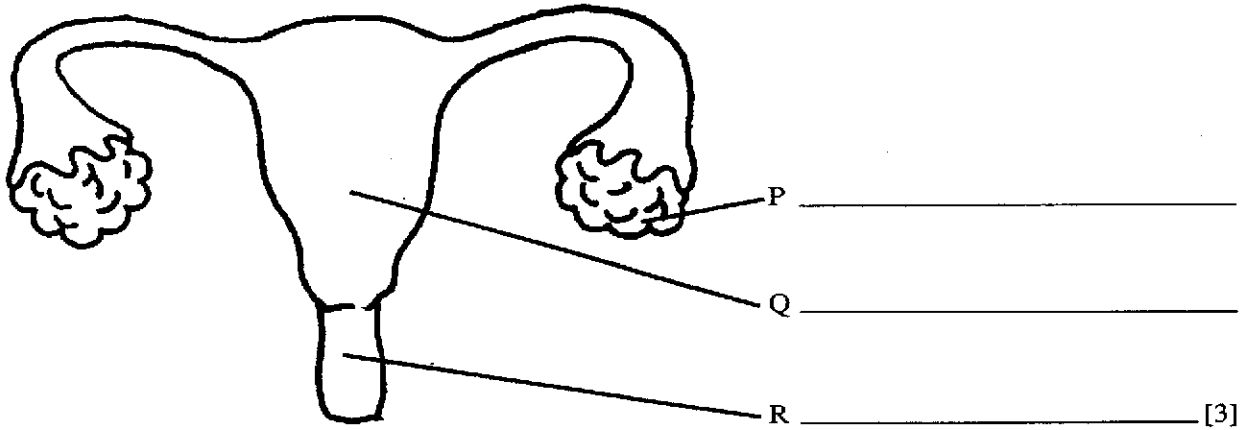
***INSTRUCTIONS TO CANDIDATES***

1. Write your school number, candidate number, surname and initials in the boxes at the top right hand corner of this page.



1. The diagram below represents the human female reproductive system.

(a) Write the names of the parts of the diagram labelled P, Q, and R.



(b) (i) Define the term “fertilization.” \_\_\_\_\_ [1]

(ii) Mark an “X” on the diagram to show where fertilization normally takes place. [1]

(iii) What is the fertilized egg called? \_\_\_\_\_ [1]

(c) Complete the following table by writing in the missing information about the female reproductive system during pregnancy.

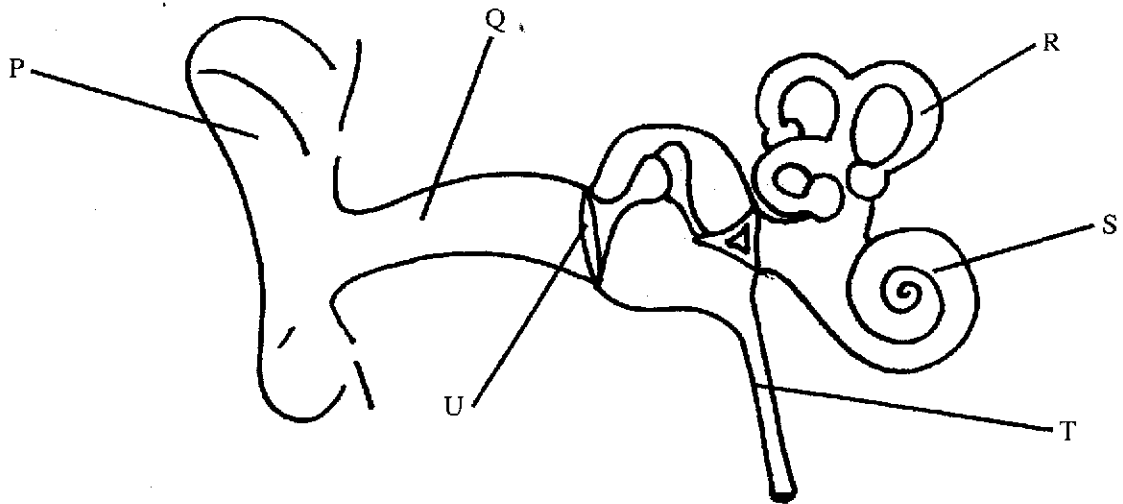
STRUCTURE	FUNCTION
	Protects the foetus and acts as a shock absorber
Placenta	
	Connects the foetus to the placenta

[3]

(d) When a woman gets a “pap smear” test from her doctor, what disease is she being tested for? \_\_\_\_\_ [1]

Total Marks [10]

2. This diagram represents structures that make up the human ear.



- (a) Write the names of the structures on the diagram labelled Q, S, T and U.

Q \_\_\_\_\_

S \_\_\_\_\_

T \_\_\_\_\_

U \_\_\_\_\_

[4]

- (b) What letter on the diagram is pointing to the structure that contains cartilage? \_\_\_\_\_ [1]

- (c) Name the structure that connects the ear with the brain. \_\_\_\_\_ [1]

- (d) What is the function of the part of the diagram labelled "R"?

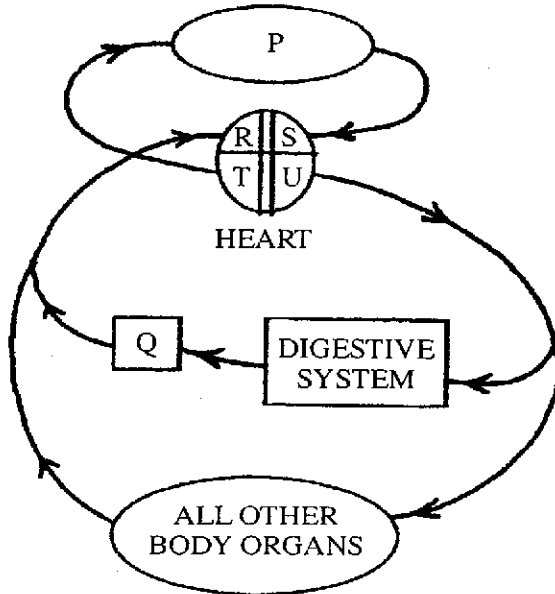
\_\_\_\_\_ [1]

- (e) What is the stimulus that causes the ears to respond as sense organs? \_\_\_\_\_ [1]

- (f) What letters on the diagram are pointing to the two parts of the ear that normally contain a fluid?

3. This diagram is a simplified plan of the human circulatory system. The arrows on the diagram represent the direction of blood flow.

(a) Write the names of the parts of the diagram labelled R, S, T and U.



R \_\_\_\_\_  
 S \_\_\_\_\_  
 T \_\_\_\_\_  
 U \_\_\_\_\_

[4]

(b) What body organs are represented by P and Q on the diagram?

P \_\_\_\_\_

Q \_\_\_\_\_

[2]

(c) Describe two ways that the blood changes as it flows through the part labelled P on the diagram.

(i) \_\_\_\_\_  
 \_\_\_\_\_

(ii) \_\_\_\_\_  
 \_\_\_\_\_

[2]

(d) Name the kind of blood vessels that:

(i) Have valves in them. \_\_\_\_\_

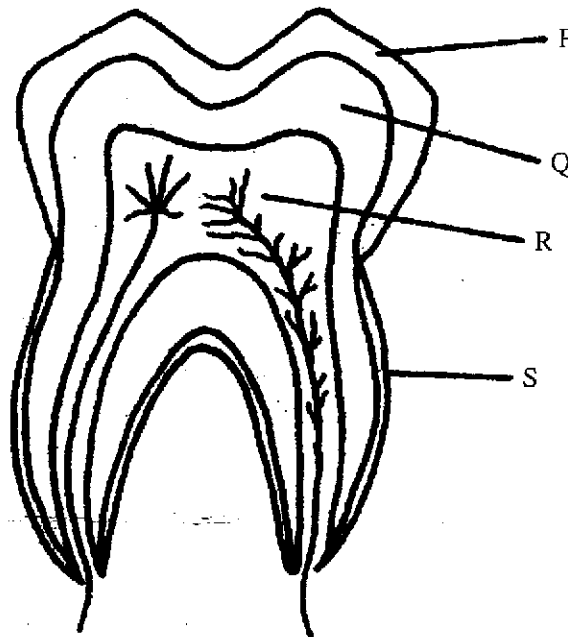
(ii) Have thick, muscular walls with no valves. \_\_\_\_\_

[2]

Total Marks [10]

4. This diagram shows a section through a tooth.

(a) Write the names of the parts of the diagram labelled P, Q and R.



P \_\_\_\_\_  
Q \_\_\_\_\_  
R \_\_\_\_\_ [3]

(b) Identify the type of tooth shown in the diagram. \_\_\_\_\_ [1]

(c) Everyone has two sets of teeth during their lifetime. Name the two sets of teeth and give the total number of teeth in each set.

(i) First Set of Teeth \_\_\_\_\_ Total Number \_\_\_\_\_

(ii) Second Set of Teeth \_\_\_\_\_ Total Number \_\_\_\_\_

[4]

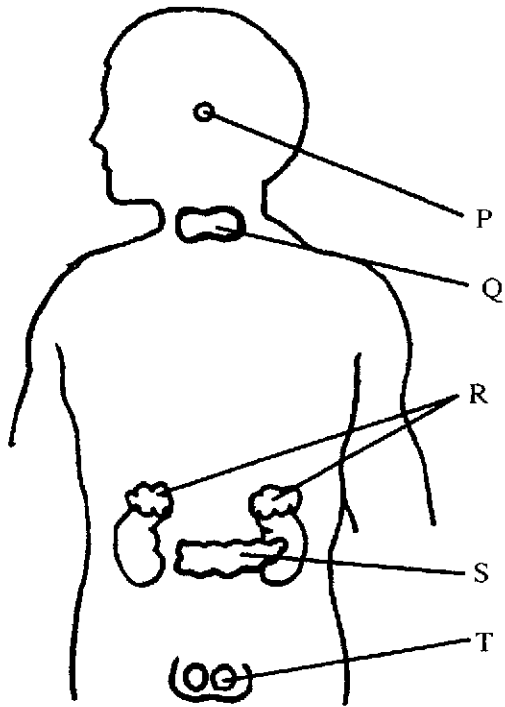
(d) What is the function of the part of the tooth labelled S on the diagram?

\_\_\_\_\_ [1]

(e) Name one mineral nutrient that is essential for forming our teeth and keeping them strong and healthy.

5. The diagram below shows some of the glands, in the male body, that produce hormones.

(a) Write the names of the glands labelled P, Q, R and S.



P \_\_\_\_\_  
 Q \_\_\_\_\_  
 R \_\_\_\_\_  
 S \_\_\_\_\_ [4]

(b) Name the system that these glands belong to. \_\_\_\_\_ [1]

(c) Why is the gland P referred to as "the master gland"?  
 \_\_\_\_\_ [1]

(d) The gland labelled S produces two important hormones. One of them is called glucagon. What is the other hormone made by this gland and what is its function in our body?

(i) Name of hormone \_\_\_\_\_ [1]

(ii) Function \_\_\_\_\_ [1]

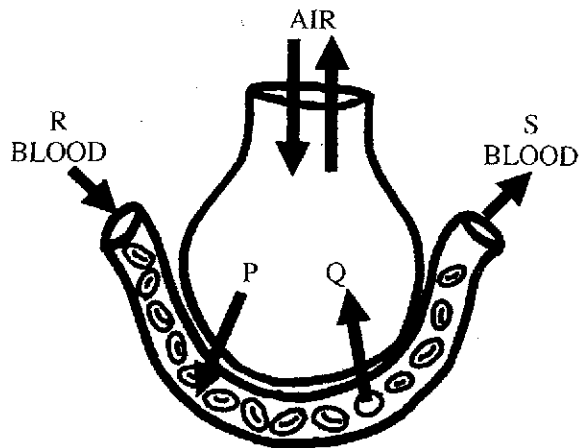
(e) Name the hormone made by the gland labelled T in the male body. \_\_\_\_\_ [1]

(f) Females do not have the glands labelled T. Name the glands similar to the glands labelled T found in females.

\_\_\_\_\_ [1]

Total Marks [10]

6. The diagram below represents an alveolus, surrounded by a blood capillary.



- (a) In what body organs do you find alveoli surrounded by capillaries? \_\_\_\_\_ [1]
- (b) Letters P and Q on the diagram represent two different gases. Name the two gases.  
 Gas P \_\_\_\_\_  
 Gas Q \_\_\_\_\_ [2]
- (c) Air is a mixture of gases. Name one other gas, besides Gas P and Gas Q, that air is made of.  
 \_\_\_\_\_ [1]
- (d) Which letters on the diagram represent oxygenated and deoxygenated blood?  
 Oxygenated blood \_\_\_\_\_  
 Deoxygenated blood \_\_\_\_\_ [2]
- (e) The red blood cells in the diagram contain a chemical that allows the cells to carry out their function. What is the name of this chemical and what is the function of the red blood cells?
- (i) Name of chemical \_\_\_\_\_
- (ii) Function of the red cells \_\_\_\_\_

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