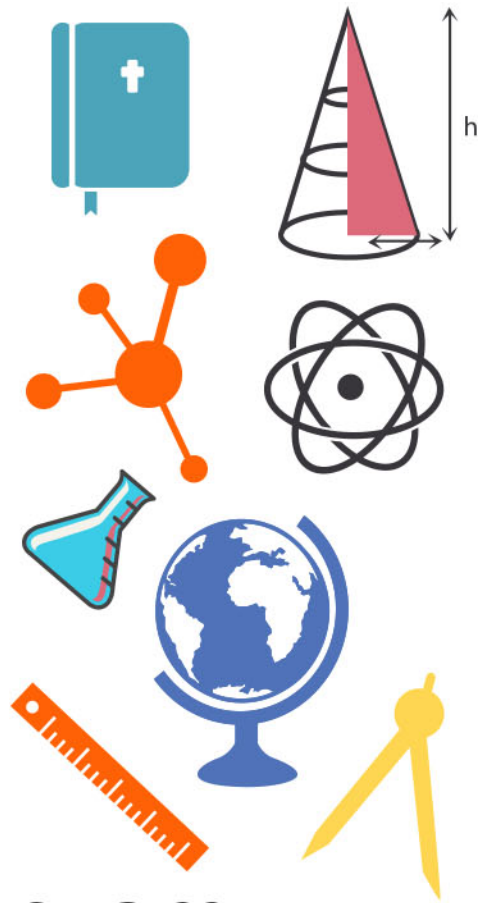


student **BJC** exam  
**Past Paper Booklet**  
Health  
Science



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**BJC Health Science**

**Year 2009**

**Papers 1 & 2**

SCHOOL No.	CANDIDATE No.
INITIALS	SURNAME

**0055 HEALTH SCIENCE**  
**PAPER 1 MULTIPLE CHOICE ITEMS**  
**(40 MARKS)**

Wednesday **3 June 2009** 9:00 A.M.–10:00 A.M.

**MINISTRY OF EDUCATION**  
**BAHAMAS JUNIOR CERTIFICATE**  
**EXAMINATION 2009**

***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?

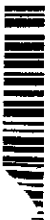
- A the circulatory system
- B the excretory system
- C the immune system
- D the nervous system

- 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. What kind of joints are found in the human skull?
- A freely moveable joints
  - B immoveable joints
  - C slightly moveable joints
  - D there are no joints in the skull
2. Which row in this table gives the correct information about the **number of ribs** in the human body?

	Total Number of Ribs in Men	Total Number of Ribs in Women
A	11	12
B	12	12
C	23	24
D	24	24

3. Which chemicals are found in the largest amount in human bones?

- A carbon and iron
- B fats and proteins
- C phosphorous and calcium
- D vitamins and carbohydrates

4. What kind of tissue attaches bones to bones?

- A cartilage
- B ligaments
- C muscles
- D tendons

5. Which row in this table gives correct information about muscles in the body?

A	Biceps muscles	Bend the arm at the elbow
B	Cardiac muscles	Straighten the arm at the elbow
C	Intercostal muscles	Move food through the intestines
D	Triceps muscles	Rotate the head on the neck

6. Which row in this table correctly describes how the different teeth are used?

	Incisors	Canines	Premolars
A	Chewing	Biting	Tearing
B	Biting	Tearing	Chewing
C	Tearing	Biting	Chewing
D	Chewing	Tearing	Biting

7. The diagram on the right shows a type of tooth.

What is the total number of this type in the human permanent set of teeth?

- A 2
- B 4
- C 8
- D 12



8. What organ in the body breaks down excess proteins; it manufactures bile; it stores vitamins and glycogen?

- A the kidney
- B the liver
- C the pancreas
- D the skin

9. Which row in the table below gives correct information about the mineral **iodine**?

	The Use of Iodine in the Body	Good Food Sources of Iodine	Deficiency Disease
A	Healthy Eyes	Carrots and Cabbage	Night Blindness
B	Healthy Bones and Teeth	Milk and Eggs	Rickets
C	Healthy Thyroid Gland	Salt and Seafood	Goitre
D	Healthy Skin and Nails	Chicken and Rice	Scurvy

10. Bacteria cells can reproduce by dividing once every 20 minutes. Starting with one bacterial cell, how many bacteria could be produced after three hours?

- A 64
- B 128
- C 256
- D 512

11. This table shows the partial composition of 150 g of four different foods. Which one food, by itself, would provide the body with the most energy?

Food	Carbohydrates	Fats	Proteins	Fibre
A	0.5 g	74.0 g	1.1 g	0.0 g
B	1.0 g	0.5 g	13.0 g	0.0 g
C	12.0 g	1.0 g	4.0 g	3.0 g
D	18.0 g	1.3 g	8.2 g	12.0 g

12. Which of these beverages contain nutrients that could help to prevent the deficiency disease called scurvy?

A cocoa



B milk



C orange juice



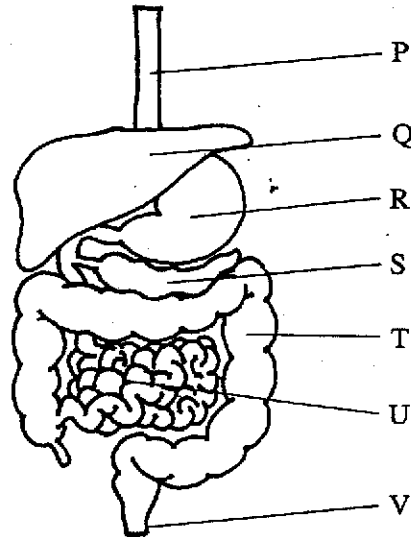
D tea



13. Which row in this table gives correct information about the enzyme called **amylase**?

	Digestive Juice it is in	Where it Works	Nutrient it Breaks Down
A	Bile	In the Liver	Fats
B	Gastric Juice	In the Stomach	Proteins
C	Intestinal Juice	In the Duodenum	Fibre
D	Saliva	In the Mouth	Starch

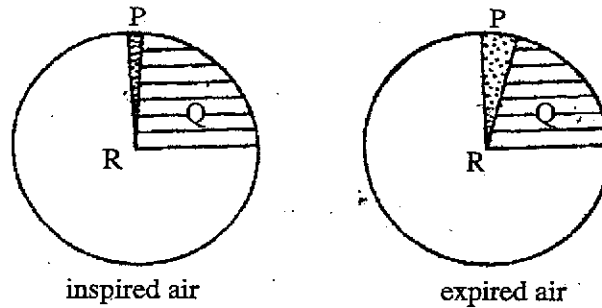
Questions 14, 15 and 16 refer to the diagram of the digestive system below.



14. Which letter on the diagram points to where most water is absorbed from food?
- A Q  
B R  
C T  
D U
15. Which letter on the diagram points to the organ where hydrochloric acid is secreted?
- A R  
B S  
C T  
D U
16. Which letters all point to organs where peristalsis takes place?
- A P, Q, R, S, T, U and V  
B P, R, T and U  
C Q, R, S and T  
D Q, S and V
17. What is another name for the human wind pipe?
- A epiglottis  
B esophagus  
C larynx  
D trachea

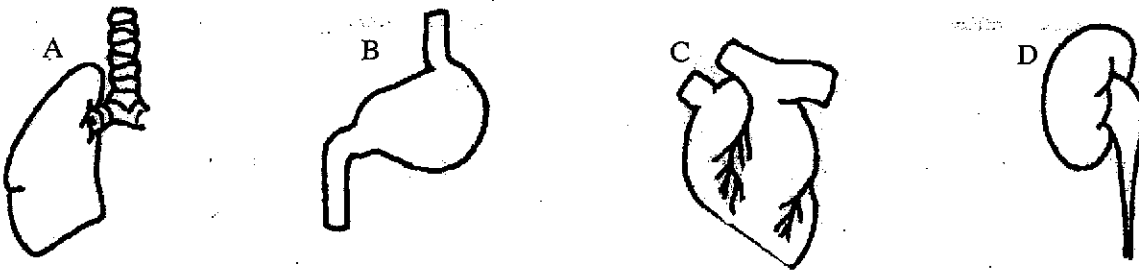


18. These pie diagrams show the percentage of three gases in inspired and expired air.



Which gas does P represent?

- A carbon dioxide
  - B nitrogen
  - C oxygen
  - D water vapour
19. James had a urine test during his physical exam for the school's basketball team. The test results showed a large amount of glucose in James' urine. A second test two days later showed the same results. What disease does this indicate James may have?
- A anaemia
  - B diabetes
  - C hepatitis
  - D sickle cell anaemia
20. This diagram shows four organs of the body. Which organ contains valves and a septum?

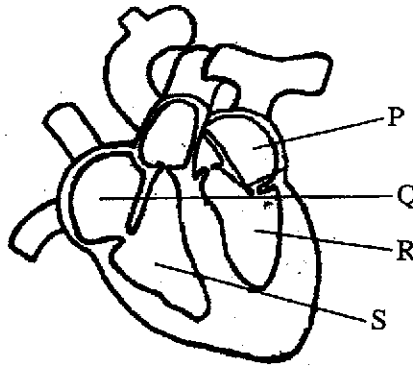


21. Hypertension or High Blood Pressure is often called the "silent killer". Why is this so?
- A People with hypertension often die suddenly while they are sleeping.
  - B People with hypertension often have no warning symptoms.
  - C People who do not have hypertension often think that they do.
  - D People who think they have hypertension often do not really have it.

22. A person is admitted to the hospital with a bleeding ulcer. What body organ would be the most likely source of the bleeding?
- A the brain
  - B the kidney
  - C the lung
  - D the stomach
23. What kind of blood vessels have thin, elastic walls, contain valves and transport blood under low pressure towards the heart?
- A arteries
  - B arteriole
  - C capillaries
  - D veins
24. Where in the human body would you normally find synovial fluid?
- A in the cochlea of the ear
  - B between two ventricles in the heart
  - C between two bones in a joint
  - D in the pituitary gland
25. What row in the table below gives correct information about the organ of the body which contains melanin and what melanin does?

	Organ That Contains Melanin	What Melanin Does
A	Brain	Protects and Cushions the Brain
B	Liver	Protects the Liver from Viruses
C	Skin	Protects the Skin from Ultra Violet Light
D	Scrotum	Protects the Testes from Overheating

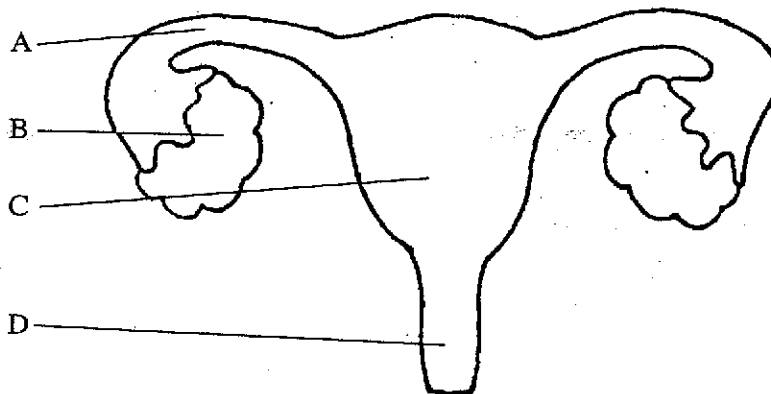
26. This diagram shows the heart in cross-section, seen from the front.



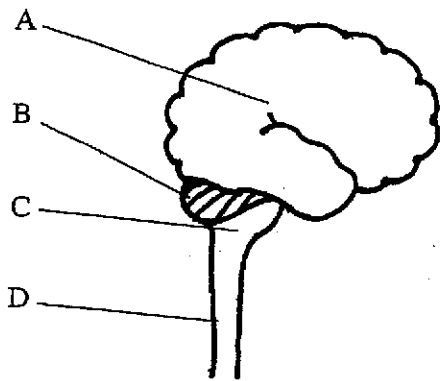
Which row in the table below correctly identifies where oxygenated and deoxygenated blood would normally be found?

	Oxygenated Blood	Deoxygenated Blood
A	P and Q	R and S
B	Q and S	P and R
C	P and R	Q and S
D	R and S	P and Q

27. Which letter below points to where oestrogen and progesterone are produced?



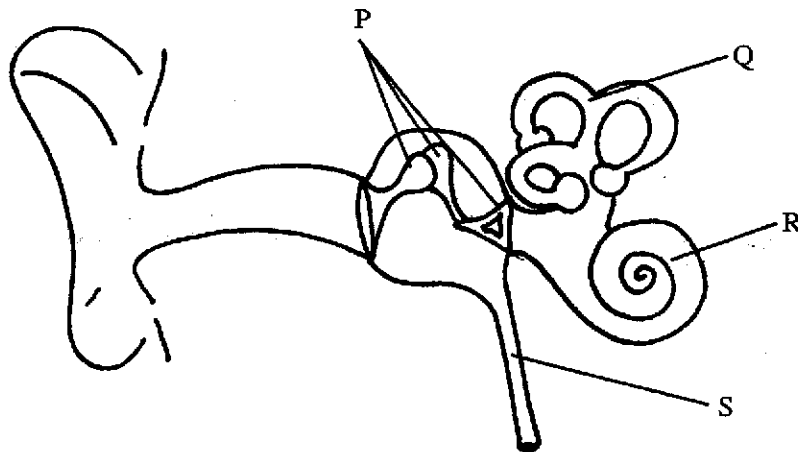
28. The drawing below represents part of the central nervous system. Which letter is pointing to the cerebrum?



29. Which of these structures is found in a male, but not found in a female?

- A adrenal gland
- B lymph gland
- C prostate gland
- D sebaceous gland

The diagram below represents the main parts of the human ear. Questions 30 and 31 both refer to this diagram.



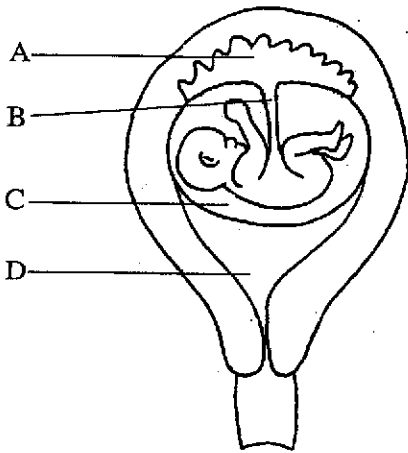
30. What is the name of the part of the diagram labelled S?

- A the auditory canal
- B the cochlea
- C the eustacean tube
- D the semicircular canals

31. Which row in the table below correctly matches the part of the human ear with its description?

	EAR PART	DESCRIPTION
A	P	Connects the middle ear with the throat
B	Q	Helps to maintain balance
C	R	Connects the ear with the brain
D	S	Directs sound waves onto the eardrum

32. This diagram represents a human foetus before birth. Which letter is pointing to the placenta?



33. In human reproduction, if two separate egg cells are fertilized by two different sperm cells, what would normally be the result?

- A fraternal twins
- B identical twins
- C mutated twins
- D triplets

34. Which row in the table below gives the correct order of the stages of human reproduction?

	Occurs First	Occurs Second	Occurs Third	Occurs Last
A	Implantation	Ovulation	Fertilization	Birth
B	Birth	Fertilization	Implantation	Ovulation
C	Ovulation	Fertilization	Implantation	Birth
D	Fertilization	Birth	Ovulation	Implantation

35. While you are reading this question, which of the following statements explains what is happening?
- A light is being reflected from the question paper into your eyes
  - B light is being reflected from your eyes onto the question paper
  - C the question paper is giving off visible light of its own
  - D your eyes are producing the light needed to see the question on the paper
36. In the human body, sense organs contain cells that are sensitive to stimuli. Which sense organ contains heat-sensitive cells?
- A the ear
  - B the nose
  - C the skin
  - D the tongue
37. What kind of human body cells contain axons and dendrites?
- A bone cells
  - B cardiac muscle cells
  - C nerve cells
  - D sperm cells
38. What instrument would a doctor normally use to check a patient's heartbeat?
- A a blood-glucose meter
  - B a sphygmomanometer
  - C a stethoscope
  - D an ultrasound
39. Which of these body organs works to regulate the salt and water levels in the human body?
- A the gall bladder
  - B the kidneys
  - C the lungs
  - D the urinary bladder
40. Which of the following is an inherited disease?
- A Cholera
  - B Down's syndrome
  - C German measles
  - D Rabies

**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)**

Wednesday **3 June 2009** 10:10 A.M. – 11:10 A.M.

**MINISTRY OF EDUCATION  
BAHAMAS JUNIOR CERTIFICATE  
EXAMINATION 2009**

***INSTRUCTIONS TO CANDIDATES***

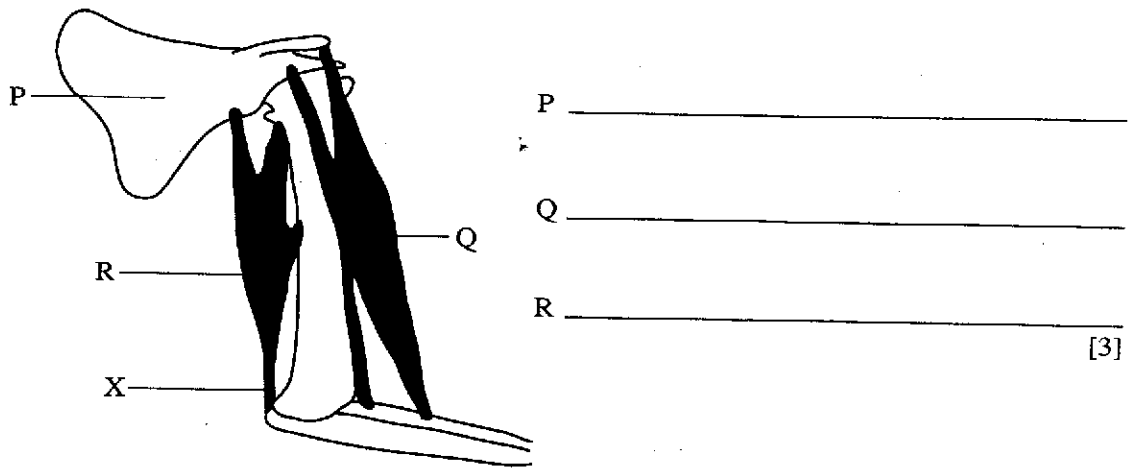
1. Write your school number, candidate number, surname and initials in the boxes at the top right hand corner of this page.
2. Answer **ALL** questions in the spaces provided.
3. The number of marks available is shown in brackets [ ] at the end of each question part and at the end of the entire question.



This question paper consists of 7 printed pages.

1. The diagram below shows some of the bones and muscles in the upper arm and shoulder.

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



(b) Name the **type** of tissue labelled X on the diagram. \_\_\_\_\_ [1]

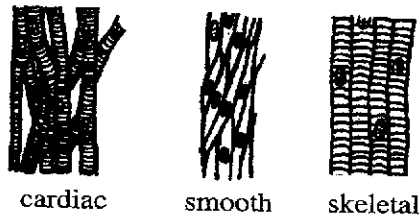
(c) Complete the following table by writing in the missing terms to describe what muscle Q and muscle R must do in order to straighten the arm at the elbow.

Choose your answer from these words: EXPAND      CONTRACT      INFLATE  
RELAX      DILATE      DEFLATE

MUSCLE	What it does to straighten the arm
Q	
R	

[2]

(d) This diagram shows the three types of muscles found in the body.



(i) Name an organ in the body that is made of **cardiac** muscle. \_\_\_\_\_

(ii) Which of these types of muscles is the **stomach** made of? \_\_\_\_\_

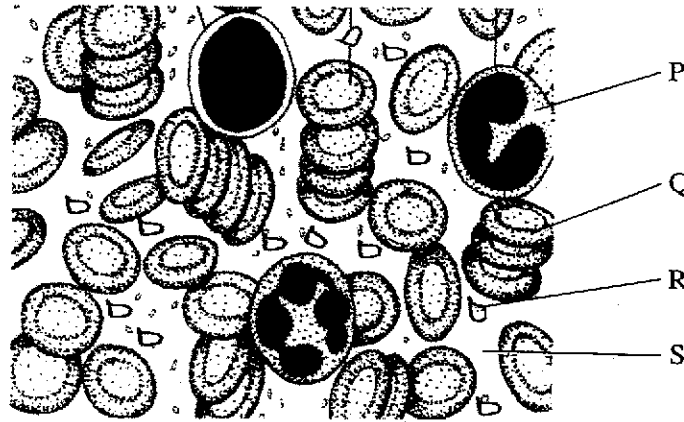
(iii) What kind of tissue attaches a **skeletal muscle** to a **bone**. \_\_\_\_\_

[3]

Total marks [9]



2 - This diagram represents a drop of human blood seen through a microscope.

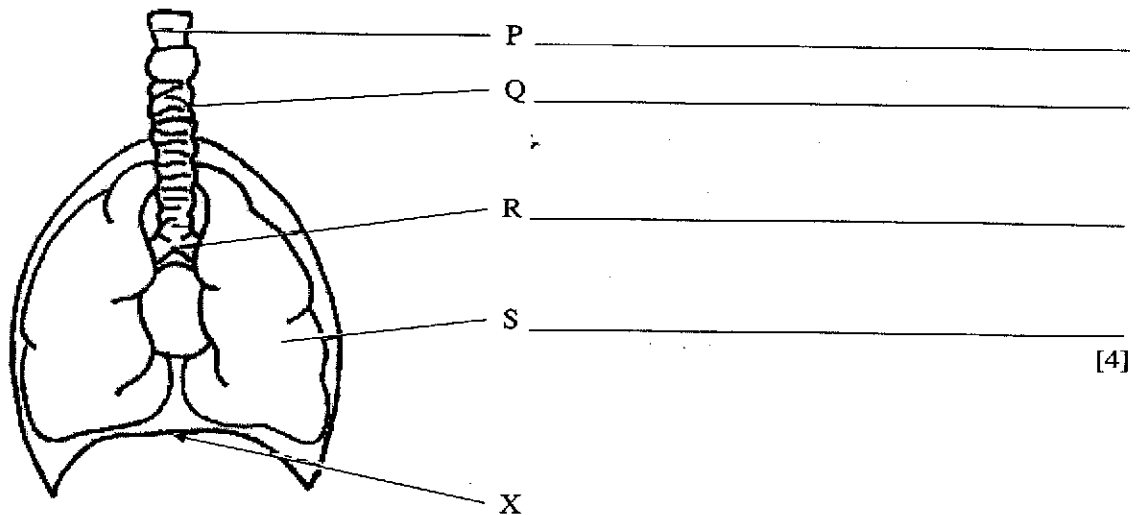


- (a) Name the parts of the diagram labelled P, Q and S. P \_\_\_\_\_  
 Q \_\_\_\_\_  
 S \_\_\_\_\_ [3]
- (b) What is the function of the part labelled R? \_\_\_\_\_  
 \_\_\_\_\_ [1]
- (c) What is the function of the part labelled P? \_\_\_\_\_  
 \_\_\_\_\_ [1]
- (d) Haemophilia is an inherited blood disease. What function of the blood is affected when a person has haemophilia? \_\_\_\_\_ [1]
- (e) (i) Name the pigment found in the cells labelled Q. \_\_\_\_\_  
 (ii) Name the dietary mineral required for the manufacture of this pigment.  
 \_\_\_\_\_ [2]
- (f) Nutrients are dissolved in the blood.  
 (i) Which nutrients are primarily used by the body cells to produce energy?  
 \_\_\_\_\_  
 (ii) Which nutrient is used for growth and repair of body cells? \_\_\_\_\_ [3]

Total marks [11]

3 - This diagram represents the human respiratory system.

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



[4]

(b) What kind of tissue is in the lining of part Q and prevents it from collapsing?

[1]

(c) (i) What kind of tissue is structure X made of? \_\_\_\_\_

(ii) Explain what happens to X during inhalation (breathing in). \_\_\_\_\_

(iii) Explain what happens to X during exhalation (breathing out). \_\_\_\_\_

[3]

(d) "Gas exchange" is an important function of the respiratory system. Name the two gases that are involved in this gas exchange.

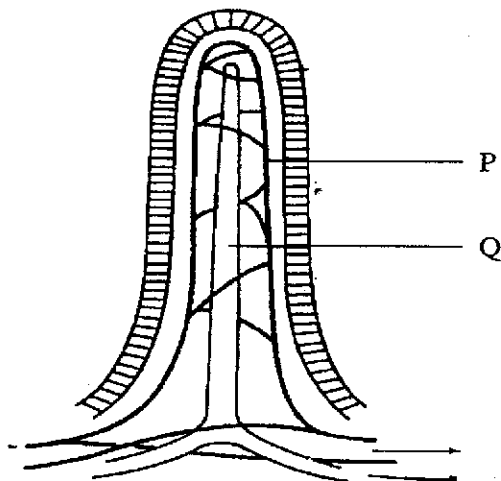
(i) \_\_\_\_\_

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

[2]

Total marks [10]

4. The diagram below represents one of many structures found in the human alimentary canal.

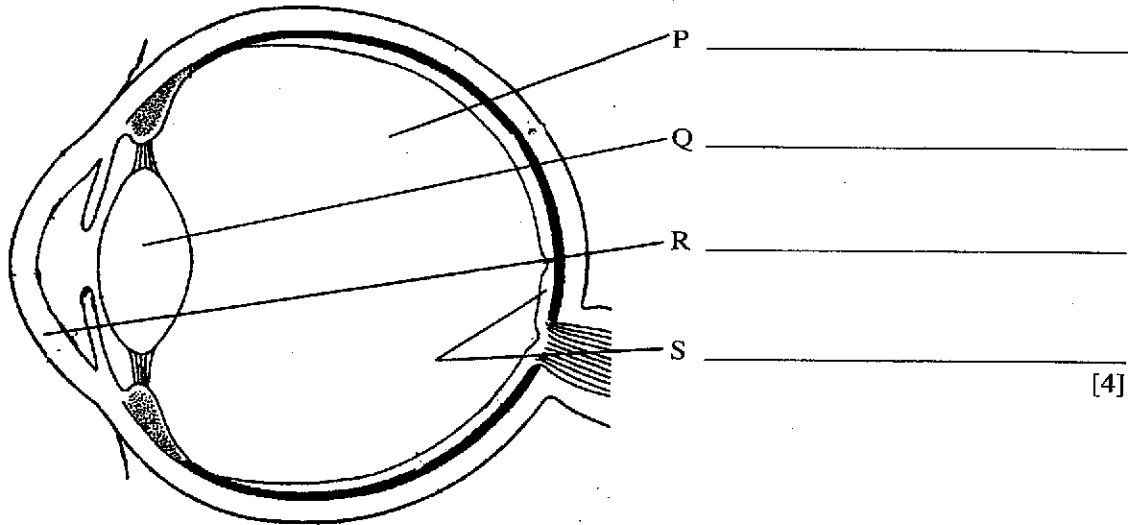


- (a) Write the name of the parts of the diagram labelled P and Q.
- P \_\_\_\_\_
- Q \_\_\_\_\_ [2]
- (b) What is the name of this structure? \_\_\_\_\_ [1]
- (c) In what part of the alimentary canal is this structure found? \_\_\_\_\_ [1]
- (d) The parts labelled P and Q contain different fluids. Name the fluid normally found in:
- P \_\_\_\_\_
- Q \_\_\_\_\_ [2]
- (e) The fluids in P and Q absorb and carry away nutrients. Name **two** nutrients that are normally absorbed by the fluid in P.
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_ [2]
- (f) (i) What is "ingestion"? \_\_\_\_\_
- \_\_\_\_\_
- (ii) Where does ingestion take place \_\_\_\_\_
- \_\_\_\_\_ [2]

Total marks [10]

5- The diagram below shows the human eye in cross section.

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



[4]

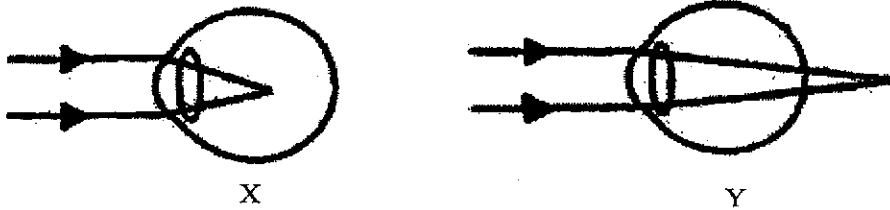
(b) Name the part of the eye that controls the amount of light entering it.

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

(c) Name the nerve that connects the eye with the brain.

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

(d) Diagrams X and Y below show two eye defects.



Identify the eye defect shown in:

Diagram X \_\_\_\_\_

Diagram Y \_\_\_\_\_

Name the type of lens which would correct the eye defect shown in:

Diagram X \_\_\_\_\_

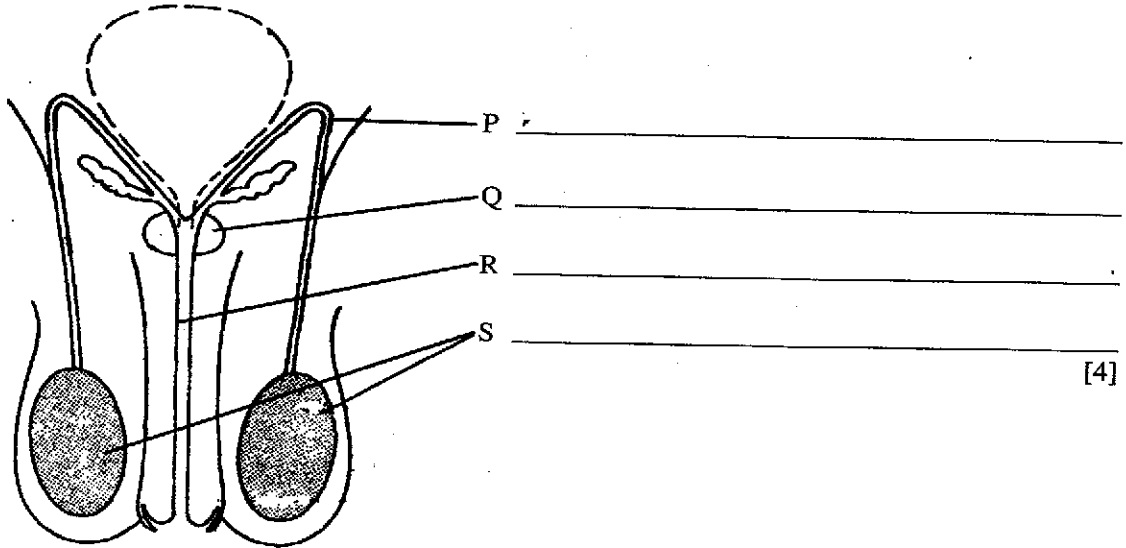
Diagram Y \_\_\_\_\_

[4]

Total marks [10]

6 - The diagram below shows structures that make up the male reproductive system.

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



(b) Two different fluids pass, at different times, through the part labelled R.

Name these two fluids. (i) \_\_\_\_\_  
 (ii) \_\_\_\_\_ [2]

(c) (i) Name the reproductive cells made by the parts labelled S. \_\_\_\_\_

(ii) Name the hormone made by the parts labelled S. \_\_\_\_\_ [2]

(d) Explain why the parts labelled S are contained in the scrotum and not in the abdominal cavity.  
 \_\_\_\_\_  
 \_\_\_\_\_ [1]

(e) Explain why some older men might have to have the part labelled Q surgically removed.  
 \_\_\_\_\_  
 \_\_\_\_\_ [1]

Total marks [10]

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