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| SCHOOL No. | CANDIDATE No. |
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| INITIALS   | SURNAME       |
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# MINISTRY OF EDUCATION BAHAMAS JUNIOR CERTIFICATE EXAMINATION 2013

## 0055 HEALTH SCIENCE PAPER I (MULTIPLE CHOICE ITEMS) (40 Marks)

Friday **31 May 2013** 9:00 A.M.–10:00 A.M.

### 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, circle the letter of the answer you have selected.

### FOR EXAMPLE:

Which 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:

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

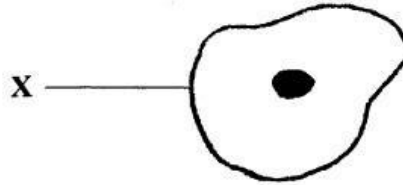
- ☐ A the circulatory system
- ☐ B the excretory system
- ☒ C the immune system
- ☐ D the nervous system

This question paper consists of 9 printed pages.

1. Which body system gets rid of nitrogenous wastes?

- A circulatory
- B excretory
- C respiratory
- D skeletal

2. The diagram shows a typical animal cell. What is the function of structure X?

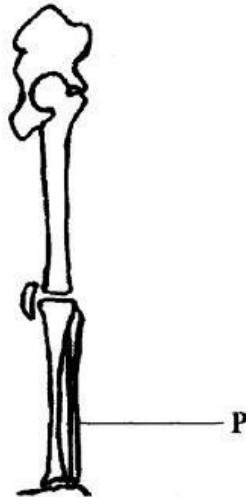


- A controls the activities of the cell
- B controls what enters and leaves the cell
- C contains the genetic information of the cell
- D stores food

3. Which type of cells are made in bone marrow?

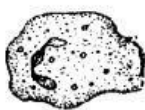
- A blood cells
- B muscle cells
- C nerve cells
- D skin cells

4. The diagram shows the bones in the leg. What is the name of the bone labelled P?

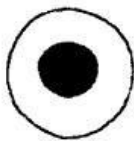


- A fibula
- B radius
- C tibia
- D ulna

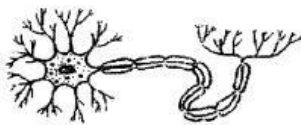
5. Sex cells are also known as gametes. Which cell below shows the female gamete?



A



B

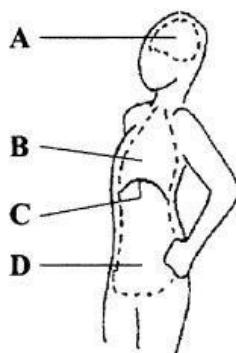


C

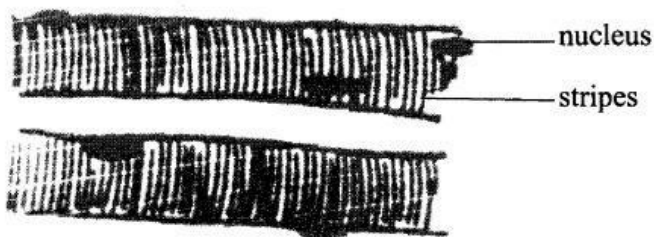


D

6. The diagram shows the human body cavities. In which cavity is the brain located?



Questions 7 and 8 refer to the muscle cells drawn below.



7. Which type of muscle cell is shown in the diagram?

- A cardiac muscle
- B involuntary muscle
- C skeletal muscle
- D smooth muscle

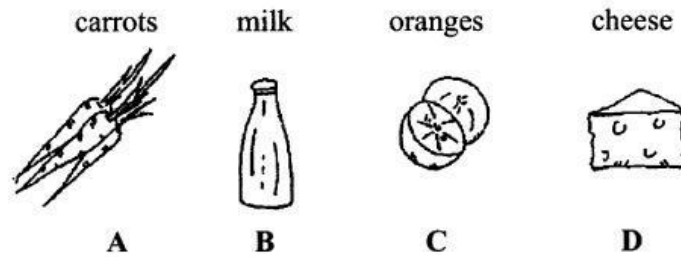
8. Where in the body would this type of muscle be found?

- A attached to a bone
- B in the heart
- C lining the intestine
- D lining the stomach

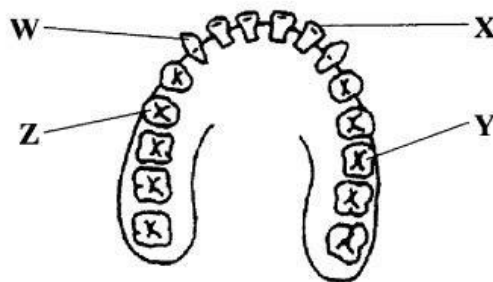
9. The biceps and triceps are examples of which of the following:

- A involuntary, cardiac muscles
- B voluntary, cardiac muscles
- C involuntary, skeletal muscles
- D voluntary, skeletal muscles

10. If a person wants to prevent the onset of the disease scurvy, which food must be present in that person's diet?



11. The diagram below represents the teeth in the lower jaw of a human. Which statement correctly identifies teeth **W** and **X**?



- A **W** is a canine and **X** is an incisor  
 B **W** is an incisor and **X** is a canine  
 C **W** is a molar and **X** is a premolar  
 D **W** is a premolar and **X** is a molar
12. If a boy weighs 100 kilograms and his body contains 70 kilograms of water, what is the percentage of water in his body?
- A 10%  
 B 35%  
 C 70%  
 D 100%

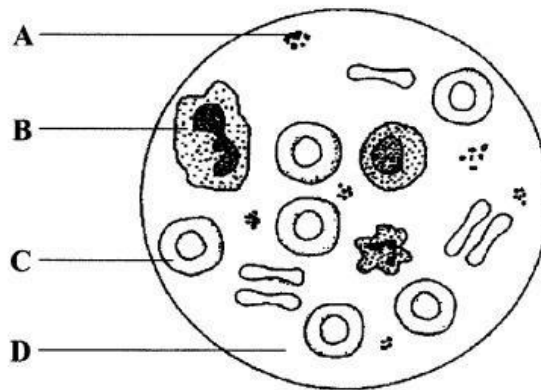
13. The table below shows the average calorific values for some common foods.

| Food                     | Calories |
|--------------------------|----------|
| 1 banana                 | 100      |
| 1 egg                    | 80       |
| 1 glass of milk          | 120      |
| 1 slice of toasted bread | 70       |
| 1 slice of ham           | 250      |
| 1 apple                  | 80       |
| 1 glass of orange juice  | 110      |

A boy eats 2 eggs, 2 slices of ham, 2 slices of toasted bread and a glass of milk for breakfast. How many calories would he take in from his breakfast?

- A 410 calories  
 B 500 calories  
 C 620 calories  
 D 920 calories
14. Which terms correctly identify the intake of food and its location?
- A assimilation, liver  
 B digestion, stomach  
 C egestion, anus  
 D ingestion, mouth
15. Amylase, lipase, sucrase and pepsin are examples of which of the following?
- A antibodies  
 B corpuscles  
 C enzymes  
 D hormones
16. Which blood vessel transports blood to the lungs?
- A aorta  
 B pulmonary artery  
 C pulmonary vein  
 D vena cava
17. Which mineral is needed for the production of haemoglobin?
- A calcium  
 B iodine  
 C iron  
 D potassium

18. The diagram shows the composition of blood as seen under a microscope. Which structure is responsible for fighting infection?



19. What percentage of plasma is water?
- A 5%
  - B 20%
  - C 60%
  - D 90%
20. What is the function of the septum in the heart?
- A It separates the heart into upper and lower chambers.
  - B It separates the heart into four chambers.
  - C It separates the heart into right and left sides.
  - D It separates the heart into four sides.
21. What is the name of the largest portion of the brain?
- A cerebrum
  - B cerebellum
  - C hypothalamus
  - D medulla
22. In which structure in the human eye are light-sensitive cells found?
- A choroid
  - B cornea
  - C retina
  - D sclera
23. Which structure controls the amount of light entering the eye?
- A cornea
  - B iris
  - C pupil
  - D sclera

24. Which one is a disease of the human respiratory system?

- A asthma
- B hypertension
- C scurvy
- D ulcer

25. Which row in the table shows the correct percentage of gases in the human body during inhalation?

|   | <b>gases</b>   | <b>percentage</b> |
|---|----------------|-------------------|
| A | Carbon dioxide | 4%                |
| B | Oxygen         | 16%               |
| C | Nitrogen       | 78%               |
| D | Water vapour   | 20%               |

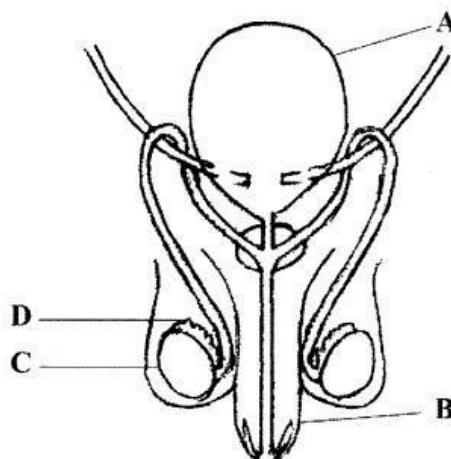
26. Which structure in the respiratory system contains rings of cartilage?

- A alveolus
- B epiglottis
- C larynx
- D trachea

27. In which part of the female reproductive system is the hormone estrogen produced?

- A cervix
- B ovary
- C oviduct
- D uterus

28. Which letter points to the structure in which sperms are stored?



29. Which **TWO** important substances are made in the testes?
- A enzymes and hormones
  - B estrogen and progesterone
  - C hormones and sperm cells
  - D semen and seminal fluid
30. Which **TWO** substances pass from the mother's blood to the foetus during pregnancy?
- A carbon dioxide and food
  - B carbon dioxide and wastes
  - C food and oxygen
  - D urine and oxygen
31. Which of the following is a symptom of the flu (influenza)?
- A bleeding from gums and teeth
  - B itching on skin and scalp
  - C sore throat and sneezing
  - D red eyes and stiff neck
32. Which mineral, along with phosphorus, is needed to build strong healthy bones?
- A calcium
  - B iodine
  - C iron
  - D magnesium
33. Which body system is made up of ductless glands?
- A circulatory system
  - B endocrine system
  - C excretory system
  - D lymphatic system
34. Which organ in the body regulates the salt and water content?
- A gall bladder
  - B kidneys
  - C lungs
  - D urinary bladder
35. After puberty, how often does ovulation and menstruation normally occur in a healthy young woman?
- A once a day
  - B once a week
  - C once a month
  - D once a year

36. Which statement about valves in the circulatory system is correct?

- A valves in veins prevent the flow of blood
- B valves in veins increase the flow of blood
- C valves in veins prevent the backward flow of blood
- D valves are only found in the heart

37. Which row in the table correctly identifies the hormone that controls blood sugar level and the gland that produces it?

|   | <b>hormone</b> | <b>gland that produces the hormone</b> |
|---|----------------|----------------------------------------|
| A | adrenaline     | thyroid gland                          |
| B | insulin        | pancreas                               |
| C | estrogen       | pituitary gland                        |
| D | testosterone   | ovaries                                |

38. In which body organ are sebaceous glands located?

- A eye
- B kidney
- C lungs
- D skin

39. What is melanin and what does it do?

- A It is a chemical in the skin; it gives the skin its colour.
- B It is an enzyme in the mouth; it breaks down starch.
- C It is a hormone in the brain; it regulates the body's growth.
- D It is a protein in the blood; it helps the blood to clot.

40. Why is fibre important in the diet?

- A It cools down body temperature.
- B It prevents constipation.
- C It provides the body with energy.
- D It stores fat in the cells.