CANDIDATE – PLEASE NOTE!

PRINT your name on the line below and return this booklet with your answer sheet. Failure to do so may result in disqualification.

TEST CODE **01253010**

MAY/JUNE 2025

FORM TP 02025084

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

HUMAN AND SOCIAL BIOLOGY

Paper 01 – General Proficiency

1 hour 15 minutes

02 JUNE 2025 (a.m.)

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This test consists of 60 items. You will have 1 hour and 15 minutes to answer them.

2. In addition to this test booklet, you should have an answer sheet.

3. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

4. On your answer sheet, find the number which corresponds to your item and shade the space having the same letter as the answer you have chosen. Look at the sample item below.

Sample Item

Abnormally high blood pressure is called

(A) distension
(B) hypotension
(C) hypertension
(D) hyperglycaemia

Sample Answer



The best answer to this item is "hypertension", so (C) has been shaded.

5. If you want to change your answer, erase it completely before you fill in your new choice.

6. When you are told to begin, turn the page and work as quickly and as carefully as you can. If you cannot answer an item, go on to the next one. You may return to that item later.

7. Figures are not necessarily drawn to scale.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

Copyright © 2024 Caribbean Examinations Council
All rights reserved.

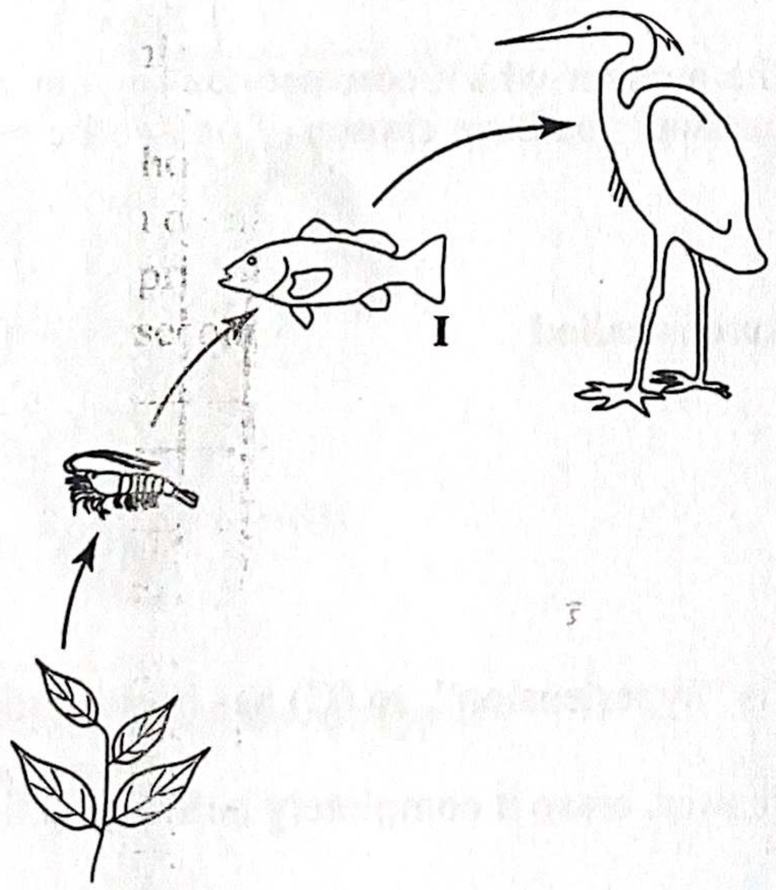
1. The ability of a living organism to detect and respond to changes in its environment is referred to as

(A) nutrition
(B) excretion
(C) irritability
(D) movement

2. An example of simple diffusion is the movement of

(A) sodium across cell membranes
(B) glucose from the digestive tract to the villi
(C) oxygen from the alveoli to the capillaries
(D) sucrose from phloem tubes to companion cells

Item 3 refers to the following freshwater food chain.



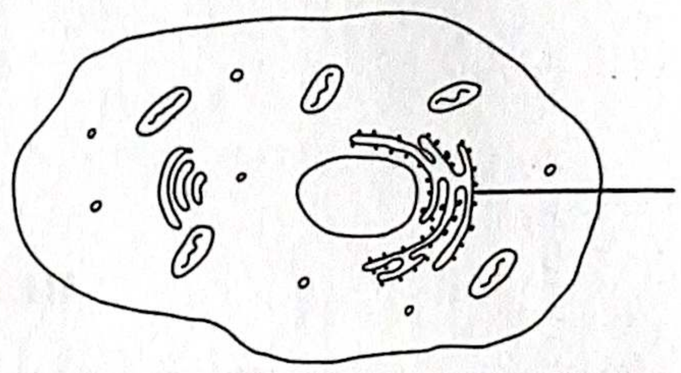
3. The organism labelled I is

(A) a herbivore
(B) an omnivore
(C) a primary consumer
(D) a secondary consumer

4. Which of the following cell struc traps energy from sunlight to help i production of simple sugars?

(A) Nucleus
(B) Cell wall
(C) Chloroplast
(D) Mitochondrion

Item 5 refers to the following diagram v represents an animal cell.



5. The structure labelled X is involved i

(A) storage of fats
(B) production of proteins
(C) breaking down of substances
(D) packaging of substances transport out of the cell

6. Which of the following vitamins is the involved in producing?

(A) Vitamin A
(B) Vitamin B
(C) Vitamin C
(D) Vitamin D

7. To which of the following food group oats belong?

(A) Fruits
(B) Staples
(C) Legumes
(D) Vegetables

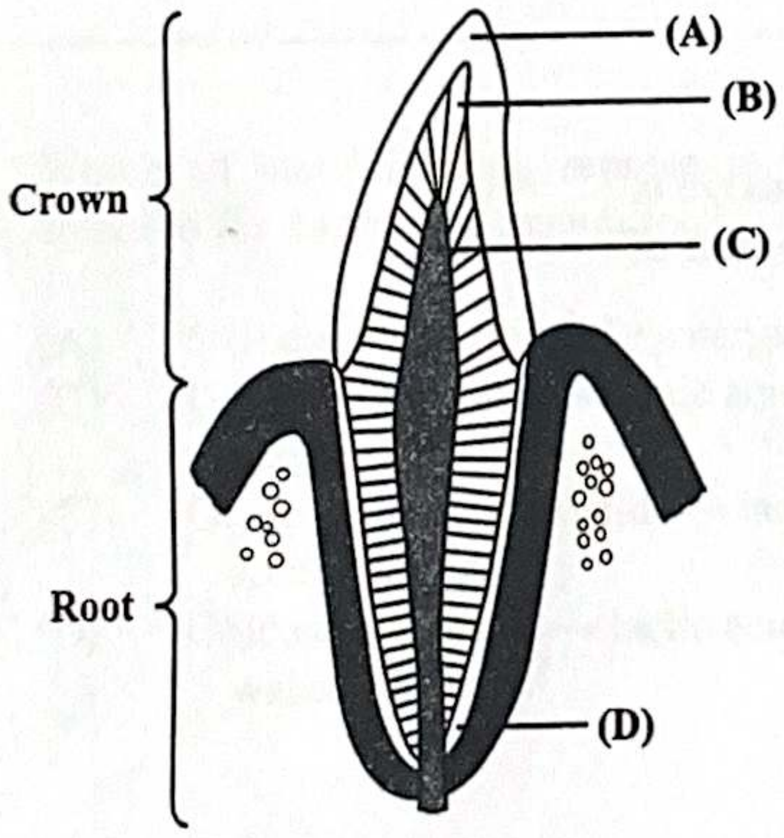
8. The process by which undigested food is eliminated from the body is called

(A) egestion
(B) ingestion
(C) excretion
(D) deamination

9. Kwashiorkor is a deficiency disease caused by a lack of

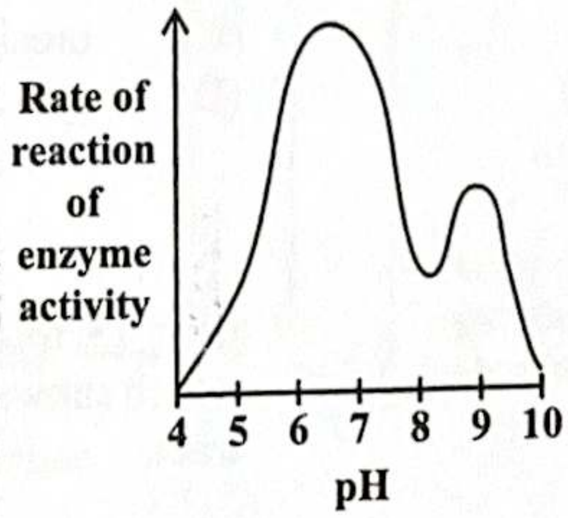
(A) fats
(B) protein
(C) glycogen
(D) carbohydrates

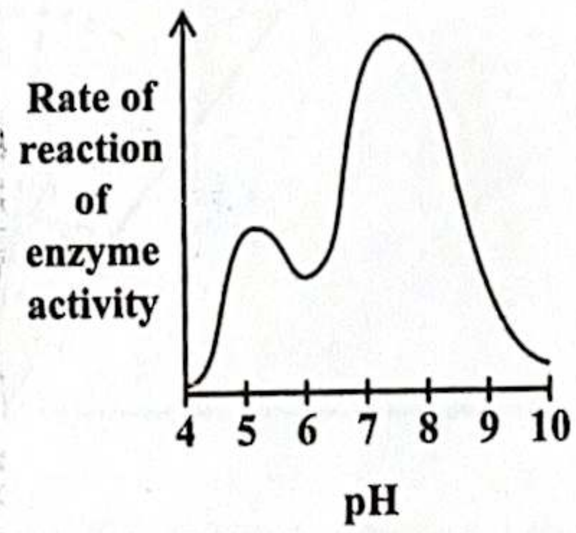
Item **10** refers to the following diagram which shows the structure of a typical tooth.

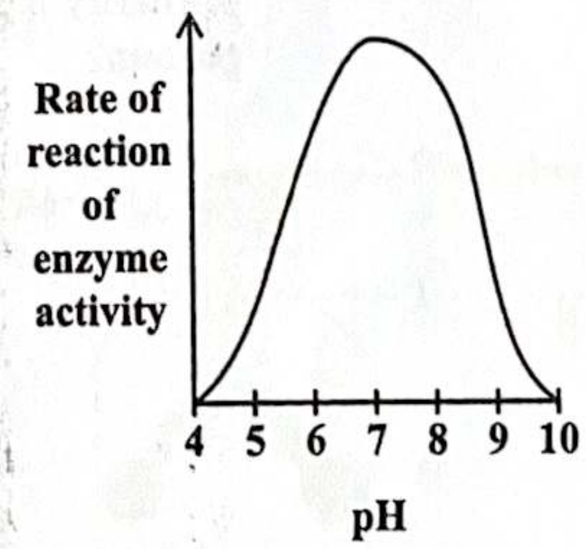


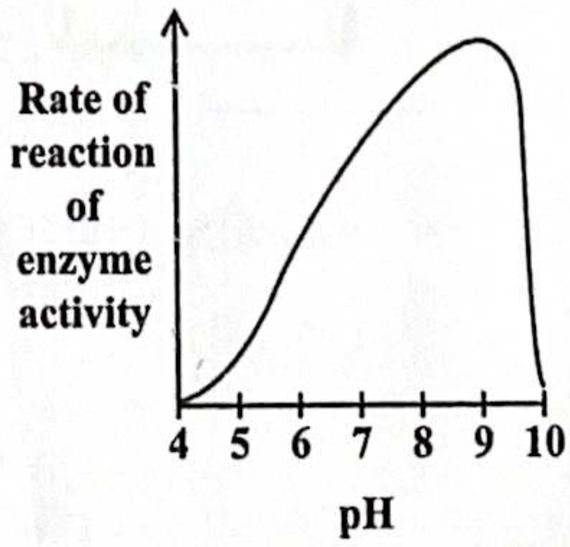
10. Which of the labelled parts above supplies the tooth with nutrients?

11. Which of the following graphs BEST represents the effect of pH on the activity of the enzyme, salivary amylase, in the digestive process?

(A)


(B)


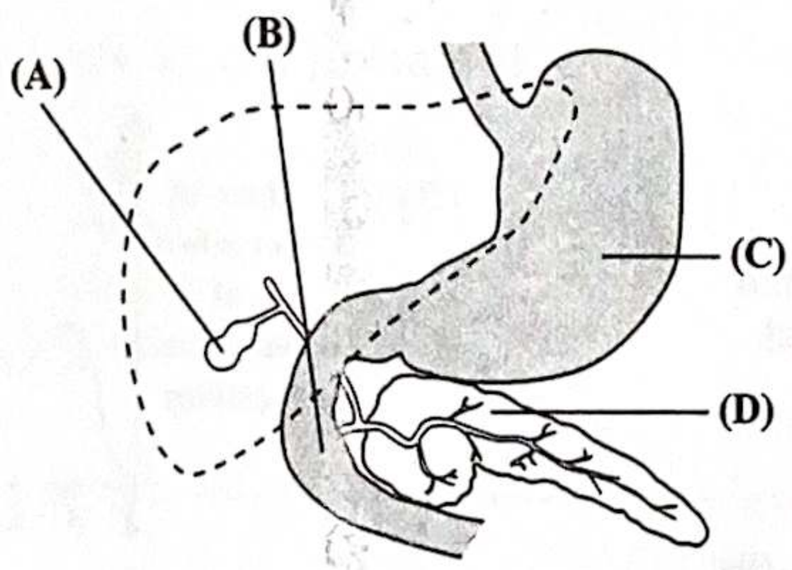
(C)


(D)


12. In digestion, the role of teeth is to

(A) form a bolus
(B) allow peristalsis to occur
(C) break down starch in the mouth
(D) grind food to increase its surface area

Item **13** refers to the following diagram which shows a part of the human digestive tract.

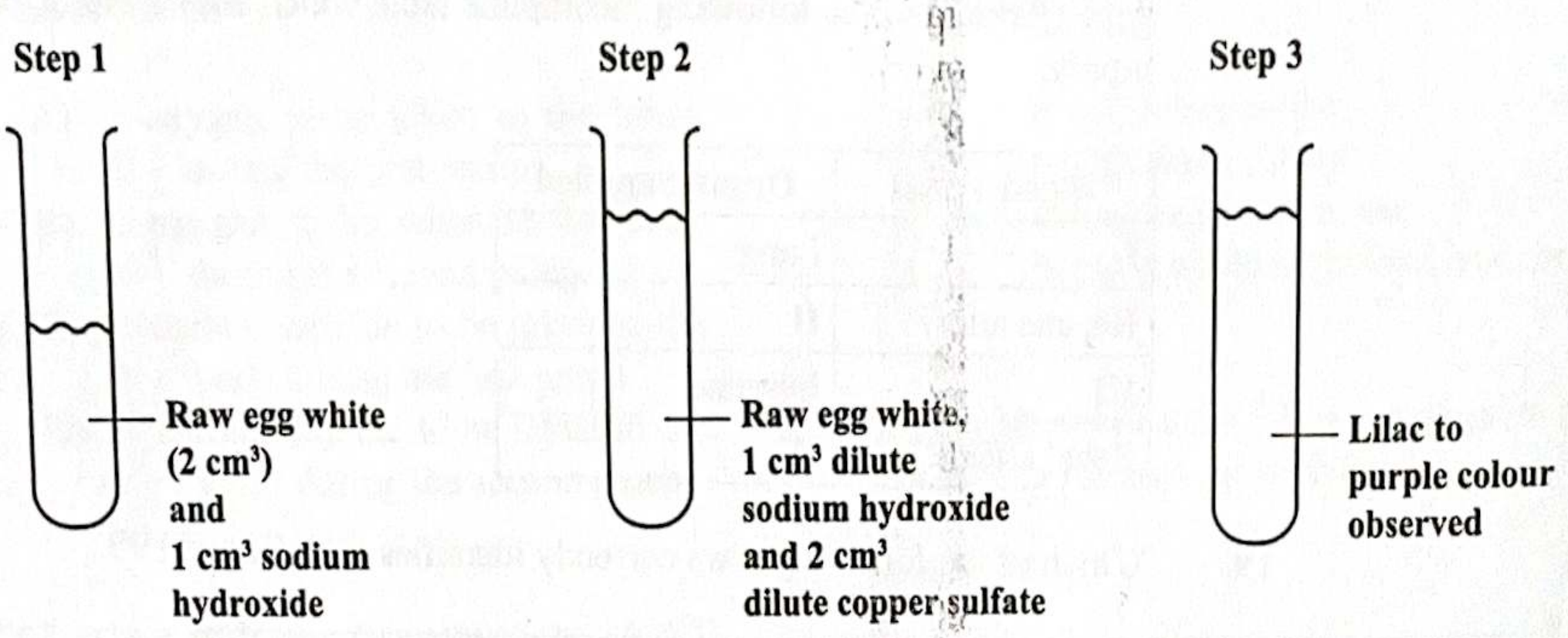


13. Which of the labelled structures above is primarily responsible for the digestion of protein?

14. Which of the following vitamins is NOT fat soluble?

(A) Vitamin A
(B) Vitamin C
(C) Vitamin D
(D) Vitamin E

Item 15 refers to the following steps in a food test.



15. Step 3 indicates the presence of

(A) fat
(B) starch
(C) protein
(D) glucose

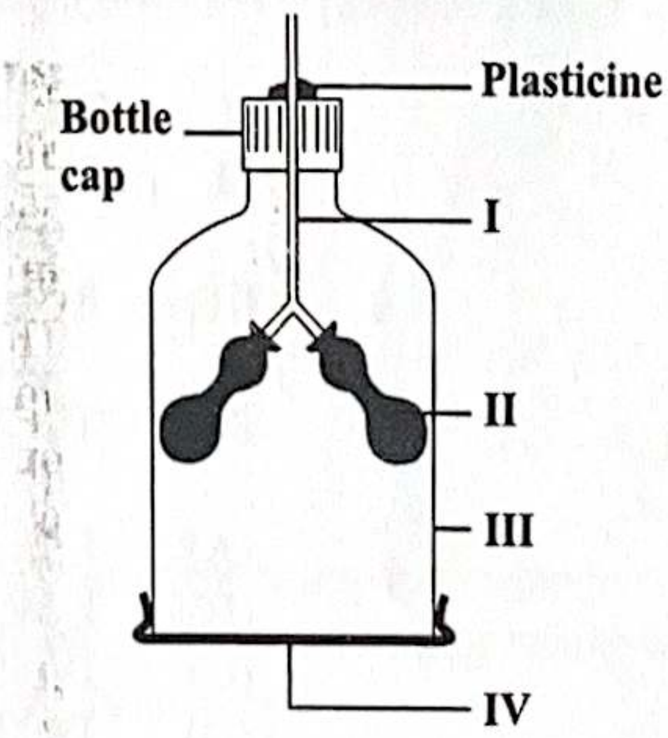
16. Which of the following represents the equation for **anaerobic** respiration?

(A) Glucose → lactic acid + energy
(B) Glucose + oxygen → lactic acid + energy
(C) Glucose + carbon dioxide → lactic acid + energy
(D) Glucose + oxygen → lactic acid + water + energy

17. Which of the following structures is NOT part of the respiratory system?

(A) Oesophagus
(B) Trachea
(C) Nostril
(D) Lung

Item 18 refers to the following drawing of a model used to demonstrate breathing in humans.



18. Which of the labelled parts represents the diaphragm?

(A) I
(B) II
(C) III
(D) IV

Item **19** refers to the following incomplete table which shows blood vessels and the organs they supply.

Blood Vessel	Organ Supplied
I	Lung
Hepatic artery	**II**
III	Intestine
Renal artery	**IV**

19. Which of the following rows correctly identifies I, II, III and IV?

	I	II	III	IV
(A)	Iliac artery	Liver	Carotid artery	Kidney
(B)	Carotid artery	Kidney	Iliac artery	Liver
(C)	Pulmonary artery	Liver	Mesenteric artery	Kidney
(D)	Mesenteric artery	Kidney	Pulmonary artery	Liver

20. Which of the following is the correct sequence of events in mouth-to-mouth resuscitation?

I. Pinch the person's nostrils.
II. Place your mouth over the person's mouth and blow gently.
III. Remove your mouth from the person's mouth.
IV. Tilt the person's head backward.

(A) I, II, III, IV
(B) I, IV, II, III
(C) IV, I, II, III
(D) IV, II, III, I

21. Blood pressure is HIGHEST in the

(A) veins
(B) arteries
(C) arterioles
(D) capillaries

22. Which of the following vitamins assists the process of blood clotting?

(A) Vitamin A
(B) Vitamin B
(C) Vitamin D
(D) Vitamin K

23. Which of the following is NOT transpor in plasma?

(A) Urea from the kidneys out of body
(B) Carbon dioxide from all cells to lungs
(C) Digested foods to the liver and t to body cells
(D) Hormones from the endocr glands to the target organs

24. The double pumping of the heart allows blood rich in

(A) oxygen to be taken to the lungs during the first pump
(B) oxygen to be taken to the body during the second pump
(C) carbon dioxide to be taken to the body during the first pump
(D) carbon dioxide to be taken to the lungs during the second pump

25. The pair of bones that rotates the MOST while manually sharpening a pencil is the

(A) tibia and fibula
(B) radius and ulna
(C) pelvis and femur
(D) humerus and scapula

26. Muscle groups that oppose each other to produce movement are described as

(A) synergistic
(B) contracting
(C) antagonistic
(D) counteracting

27. The function of the marrow in long bones is to

(A) store iron
(B) reduce friction
(C) make blood plasma
(D) make red blood cells

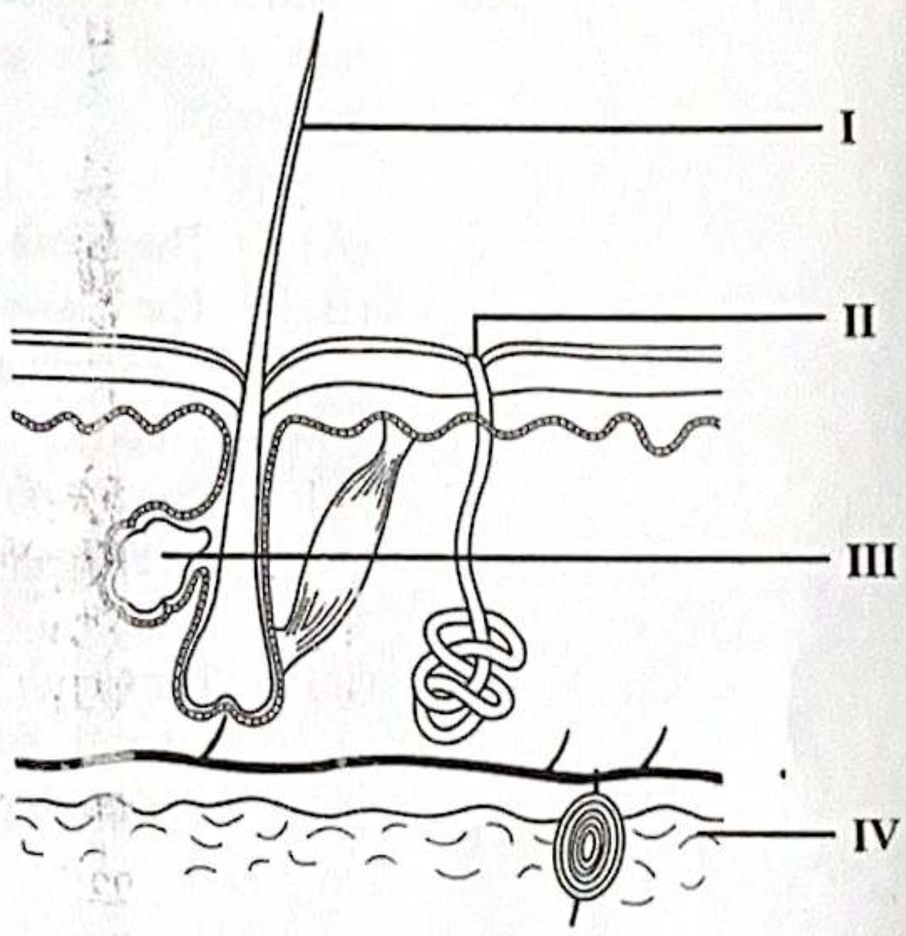
28. Bones act as levers, while cartilage assists with

(A) movement at a joint
(B) holding joints together
(C) connecting muscles to bone
(D) reducing friction at the joints

29. A small volume of urine will MOST likely be produced after

(A) excessive exercise
(B) a high water intake
(C) eating a diet low in salt
(D) being in a cold room for a long time

Item 30 refers to the following diagram of a section through the human skin.



30. Which labelled part represents the sweat pore?

(A) I
(B) II
(C) III
(D) IV

31. Which of the following responses occurs in the body when a marathon runner consumes too little water?

(A) Less ADH secreted, decreases urine concentration
(B) More ADH secreted, increases reabsorption of water
(C) More ADH secreted, decreases reabsorption of water
(D) Less ADH secreted, increases urine concentration

32. Which of the following hormones is responsible for causing the liver to convert excess sugar to glycogen?

(A) Insulin
(B) Glucagon
(C) Adrenalin
(D) Antidiuretic hormone

33. Which of the following statements is NOT true about the endocrine and nervous systems?

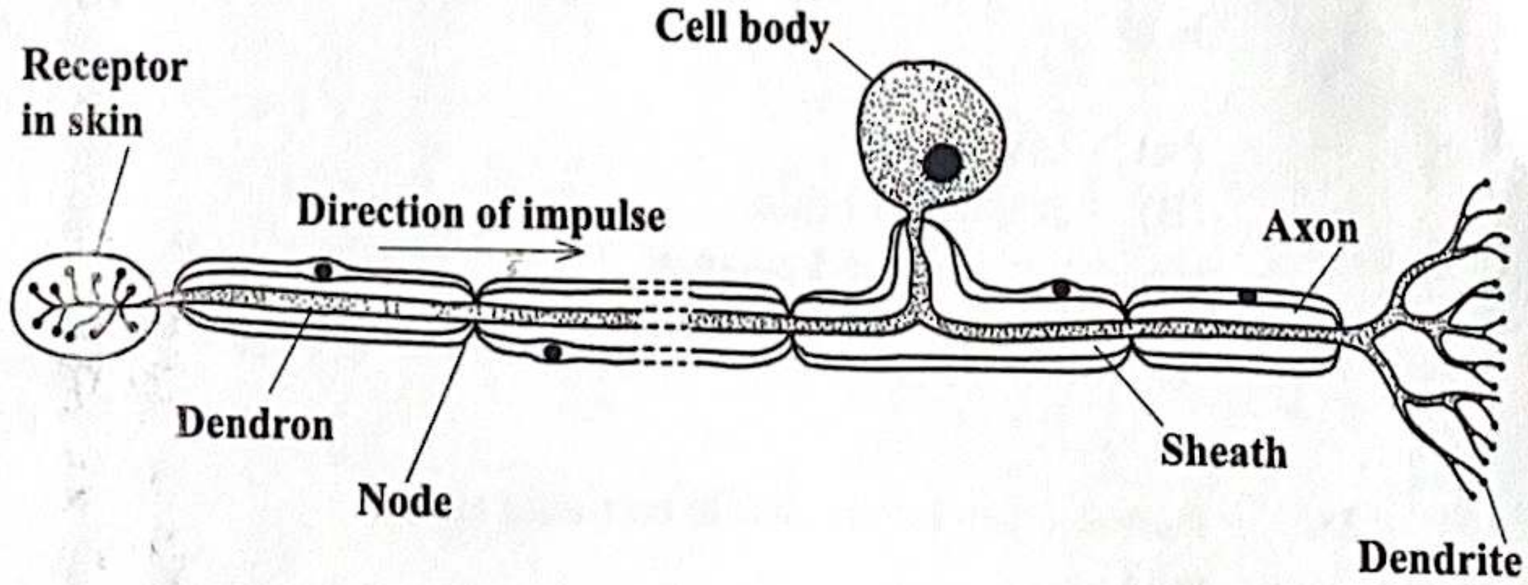
(A) They both respond to stimuli.
(B) They are both responsible for coordination and control of the body.
(C) They both have specialized cells for transmitting and receiving information.
(D) They both have the same response time for transmitting and receiving information.

34. Which of the following actions occurs to bring about accommodation in the eye?

(A) Tightening of suspensory ligaments through relaxation of the ciliary muscles
(B) Loosening of suspensory ligaments through relaxation of the ciliary muscles
(C) Tightening of suspensory ligaments with no change in the ciliary muscles
(D) Loosening of suspensory ligaments with no change in the ciliary muscles

---

Item 35 refers to the following diagram which illustrates a nerve cell conducting an impulse from the sense organs to the central nervous system.



35. The cell above is known as a

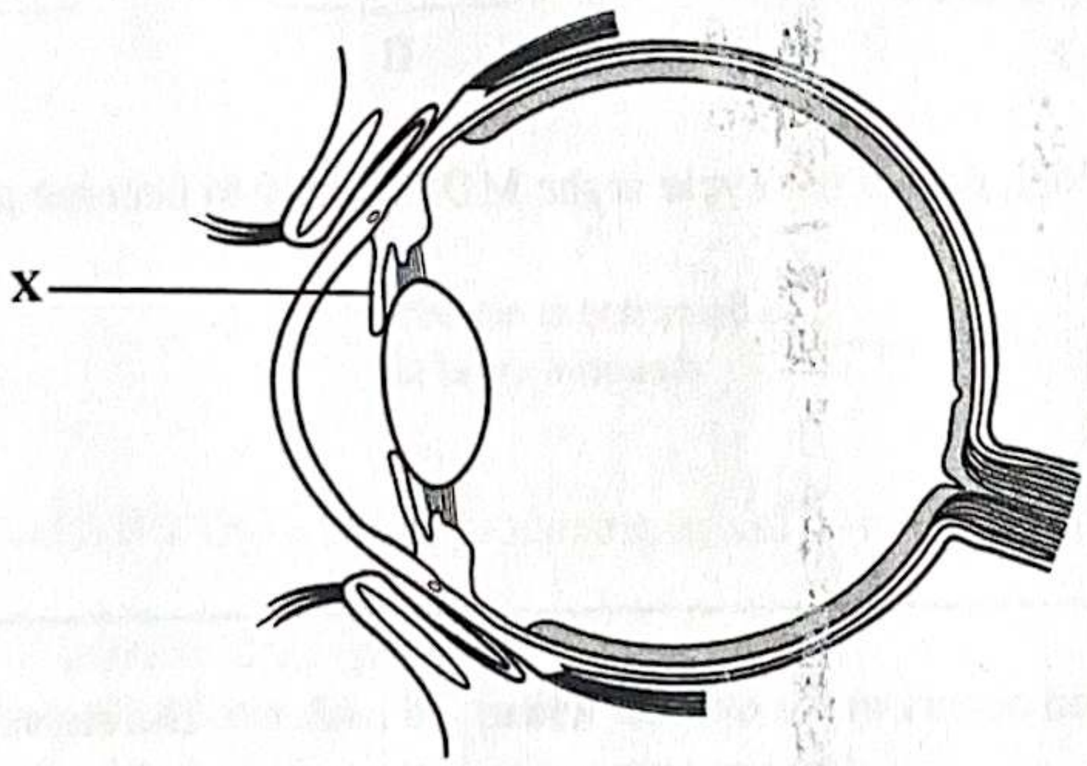
(A) spinal nerve
(B) cranial nerve
(C) motor neurone
(D) sensory neurone

GO ON TO THE NEXT PAG

36. Which of the following statements about astigmatism is correct?

(A) The ciliary muscle is relaxed.
(B) The eyeball is too short so the image is formed behind the retina.
(C) The eyeball is too long so the image is formed in front of the retina.
(D) The cornea is uneven, bending the light so it does not converge on the retina.

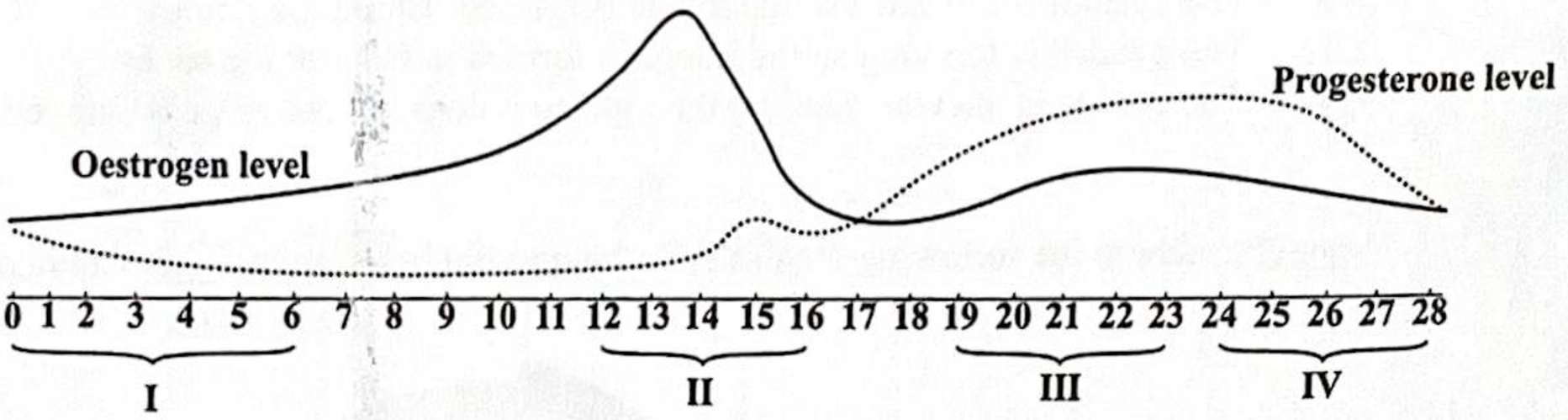
Item 37 refers to the following diagram of a longitudinal section through a human eye.



37. The part labelled X is the

(A) iris
(B) cornea
(C) ciliary muscle
(D) circular muscle

Item **38** refers to the following diagram which represents one month on the calendar Tanya uses to chart her menstrual cycle.



38. During which part of her cycle is she MOST likely to become pregnant?

(A) I
(B) II
(C) III
(D) IV

---

39. Fertilization occurs in the oviduct when

(A) sperms are released
(B) the ovum is released
(C) sexual intercourse takes place
(D) the sperm fuses with the ovum

40. Sexual reproduction is defined as the

(A) fusion of zygotes
(B) fusion of gametes
(C) fission of gametes
(D) production of offspring by mitosis

41. Which of the following methods of birth control is LEAST effective in preventing pregnancy?

(A) Barrier
(B) Natural
(C) Surgical
(D) Hormonal

42. During asexual reproduction, an organism produces new organisms that are identical to the parent by the process of

(A) mitosis
(B) meiosis
(C) parthenogenesis
(D) reduction division

43. In which of the following structures is an allele for eye colour located?

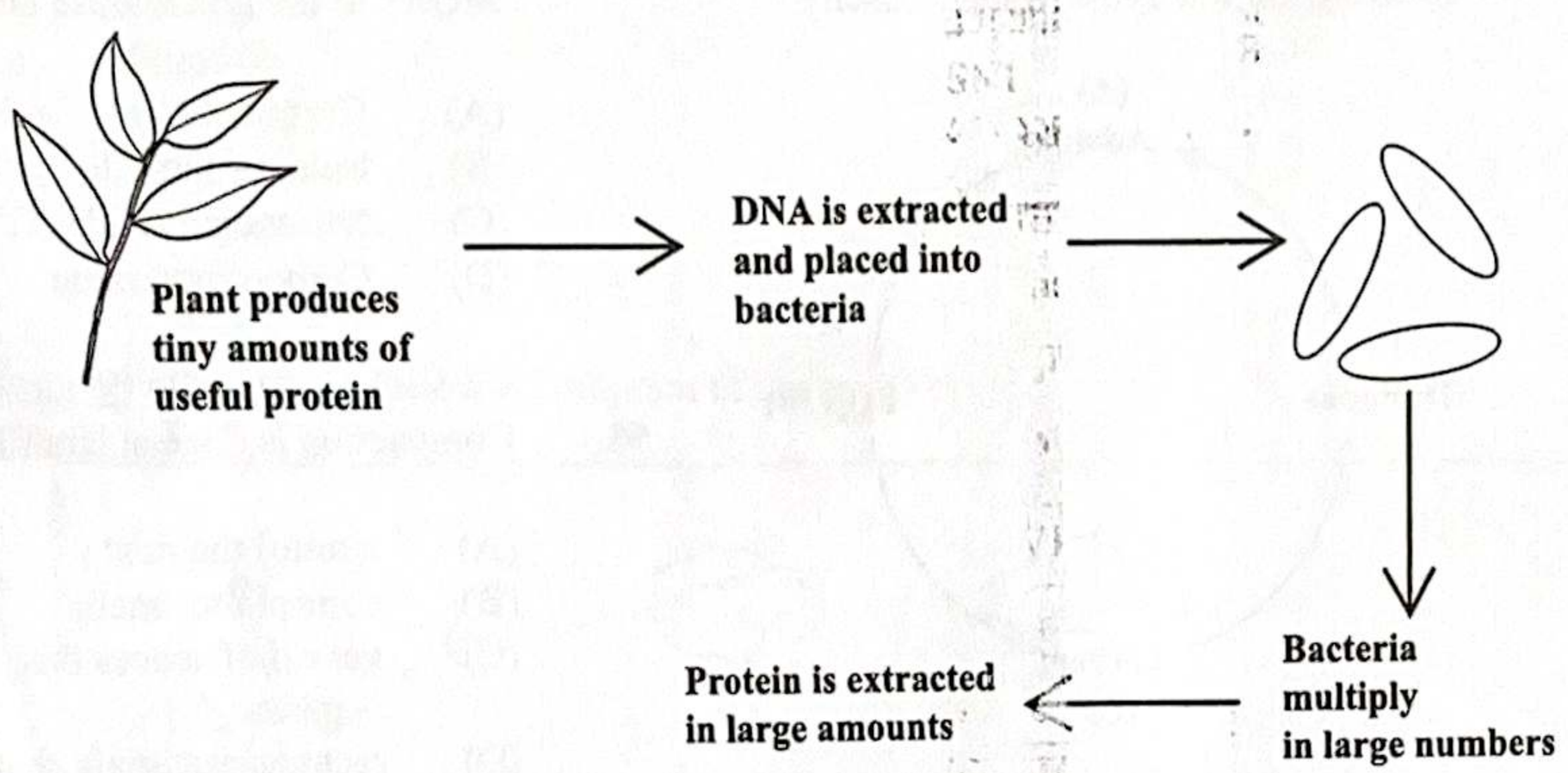
(A) Chromosome
(B) Mitochondrion
(C) Golgi apparatus
(D) Endoplasmic reticulum

44. Which of the following statements about meiosis is true?

(A) It occurs in the uterus.
(B) Four daughter cells are produced.
(C) It produces genetically identical cells.
(D) Daughter cells have the same number of chromosomes as the parent cell.

GO ON TO THE NEXT PAGE

Item 45 refers to the following illustration of genetic engineering that is used to produce a useful protein.



45. What is a possible DISADVANTAGE of producing useful proteins in this way?

(A) Production of protein is inexpensive.
(B) Large amounts of proteins can be made.
(C) Production of protein is very rapid as bacteria multiply.
(D) Use of bacteria in this process can be hazardous to health.

---

46. Which of the following is an example of a nutritional deficiency disease?

(A) Rickets
(B) Diabetes
(C) Hypertension
(D) Gastroenteritis

47. Natural passive immunity involves

(A) a long-lived immunity
(B) exposure to the pathogen
(C) antibodies being passed to a child via the placenta
(D) antibodies being passed to a mother via the placenta

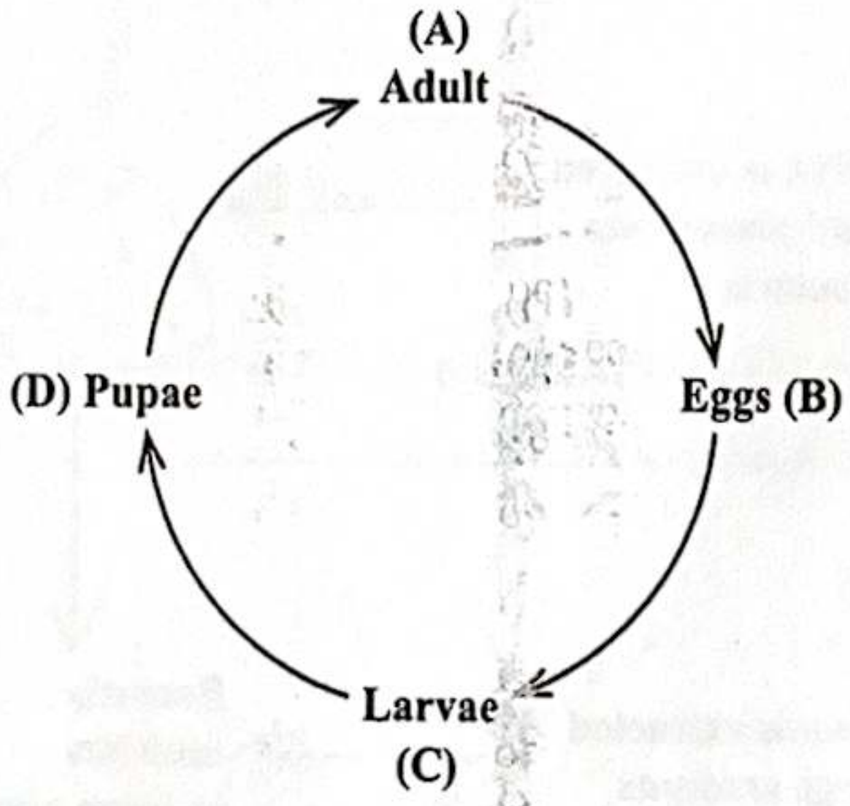
48. Antibiotics are chemicals which can safely be taken into the body. They do not harm human cells but they destroy

(A) fungi
(B) moulds
(C) viruses
(D) bacteria

49. Infected persons display signs and symptoms of diseases. Which of the following signs and symptoms are correctly classified?

	Sign	Symptom
(A)	Headache	Shivering
(B)	Sore throat	Headache
(C)	Shivering	Sore throat
(D)	Headache	Sore throat

Item 50 refers to the following diagram showing the life cycle of the housefly.



50. Which stage is prevented by keeping household refuse properly covered?

51. Which of the following CANNOT be prevented by healthy lifestyle choices?

(A) Influenza
(B) Sickle-cell anaemia
(C) Chronic heart disease
(D) Iron-deficiency anaemia

52. Seema has the following signs and symptoms: constriction of bronchial tubes, coughing and wheezing. She is MOST likely suffering from

(A) asthma
(B) malaria
(C) typhoid
(D) tuberculosis

53. Which of the following diseases is NOT transmitted by the *Aedes aegypti* mosquito?

(A) Zika
(B) Malaria
(C) Yellow fever
(D) Dengue fever

54. Which of the following gases contributes MOST to the greenhouse effect?

(A) Carbon dioxide
(B) Sulphur dioxide
(C) Nitrogen dioxide
(D) Carbon monoxide

55. Compaction is done at landfills in order to

(A) control the dust
(B) control the smells
(C) get rid of spaces that may harbour pests
(D) recover materials that are sent to be recycled

56. Chlorine bleach can be added to drinking water to

(A) improve the taste
(B) prepare it for filtration
(C) destroy microorganisms
(D) remove unpleasant smells

57. Which of the following are effects of releasing untreated sewage into rivers and lakes?

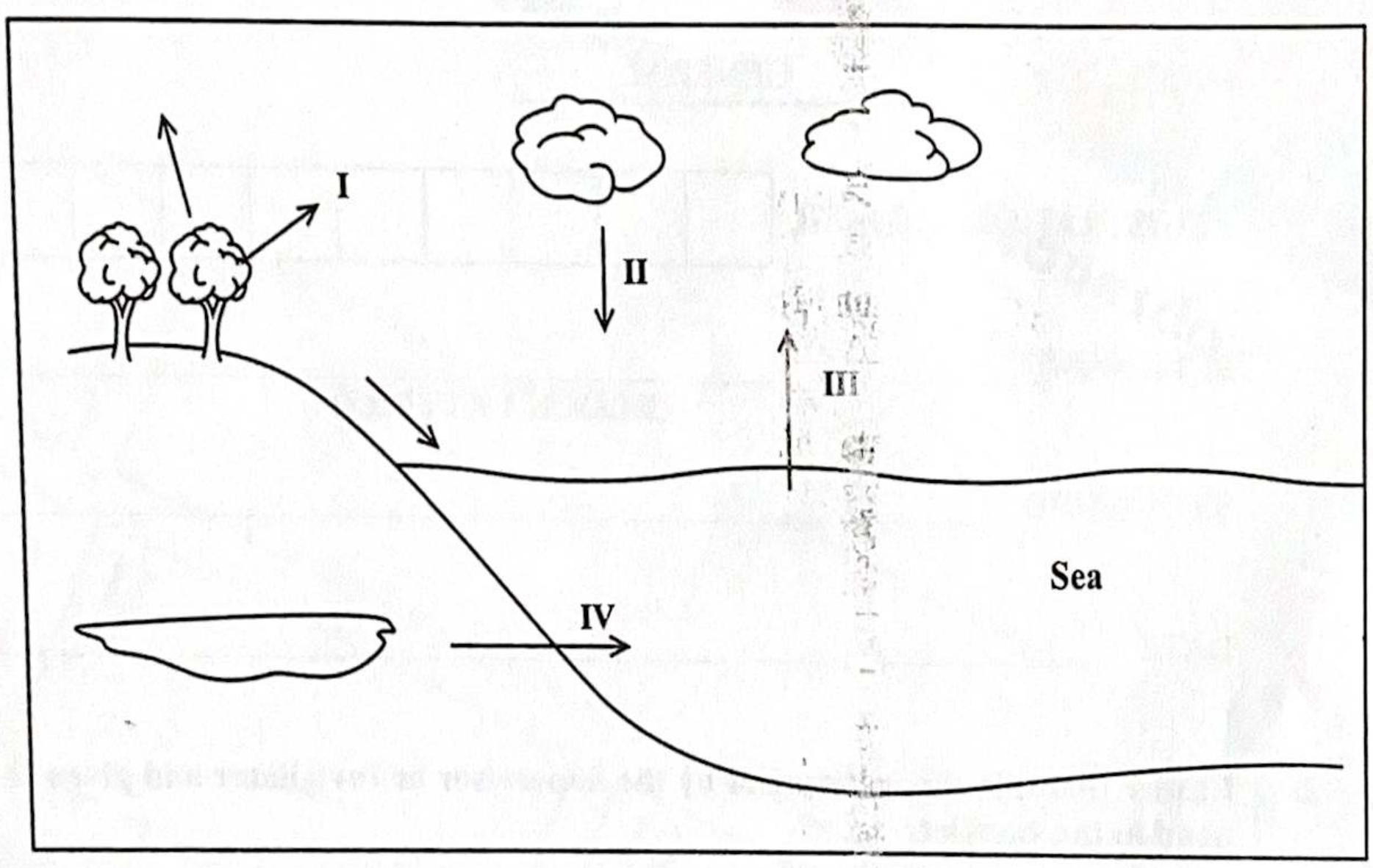
I. Death of fishes
II. Increase in bacteria
III. Decrease in oxygen

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

58. In large-scale water purification, the formation of acid which destroys organisms is achieved by the process of

(A) filtration
(B) screening
(C) chlorination
(D) sedimentation

Item 59 refers to the following diagram of the water cycle.



59. Which of the following labels indicates the process of evaporation?

(A) I
(B) II
(C) III
(D) IV

60. Which of the following substances is biodegradable?

(A) Wood
(B) Plastic
(C) Concrete
(D) Styrofoam

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.