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 **01207010**

MAY–JUNE 2026

FORM TP 2026–053

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

BIOLOGY

Paper 01 – General Proficiency

1 hour 15 minutes

05 JUNE 2026 (p.m.)

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

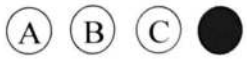
1. This test consists of 60 items. You will have 1 hour and 15 minutes to answer them.
2. In addition to this test booklet, you should have an answer sheet.
3. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice 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

Which of the following diseases is due to a dietary deficiency?

(A) Malaria
(B) Diabetes
(C) Influenza
(D) Anaemia

Sample Answer



The best answer to this item is "Anaemia", so (D) 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.
8. You may use a silent, non-programmable calculator to answer items.

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

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1. Which of the following features is used to classify a group of organisms as Class Insecta?

(A) Size
(B) Shape
(C) Colour
(D) Number of segments

2. Which of the following sampling methods is MOST suitable for estimating the density of mushrooms in a garden?

(A) Quadrat
(B) Line transect
(C) Belt transect
(D) Mark/Release/Recapture

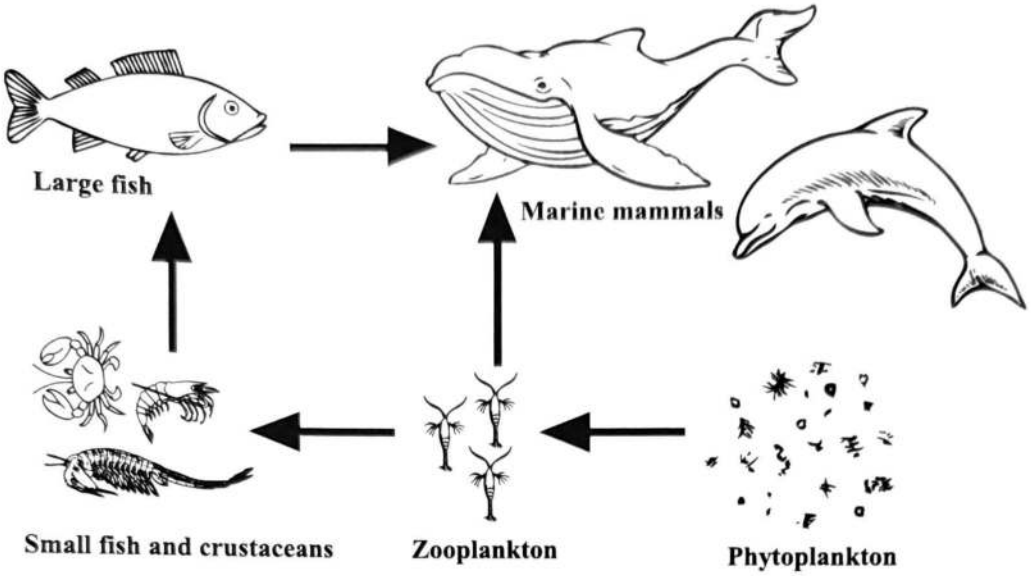
3. Which of the following correctly defines a niche and a habitat?

	Niche	Habitat
(A)	The role that an organism plays in the habitat in which it lives	The place where an organism lives
(B)	The place where an organism lives	The role that an organism plays in the habitat in which it lives
(C)	A community of living organisms that share the environment	The abiotic and biotic factors of the ecosystem in which an organism lives
(D)	The biotic factors of the ecosystem where an organism lives	The abiotic factors of the ecosystem where an organism lives

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Item **4** refers to the following food web.



4. Trophic level 1 is represented by

(A) zooplankton
(B) phytoplankton
(C) marine mammals
(D) small fish and crustaceans

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5. Which of the following organisms are MOST important in biodegradation?

(A) Bacteria
(B) Vultures
(C) Omnivores
(D) Earthworms

6. Which of the following relationships may present harm to one of the organisms involved?

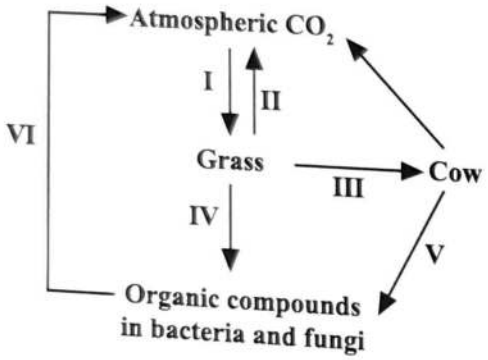
I. Commensalism
II. Parasitism
III. Predation

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

7. Approximately 10% of the energy stored in food is available to the next organism in a food chain because

(A) most of the energy is lost as heat during the process of respiration
(B) most of the energy is lost during the process of excretion
(C) there are fewer consumers than producers in a food chain
(D) many consumers compete for the same food source

Item 8 refers to the following diagram of the carbon cycle.



8. Which of the following processes convert organic matter to inorganic forms?

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

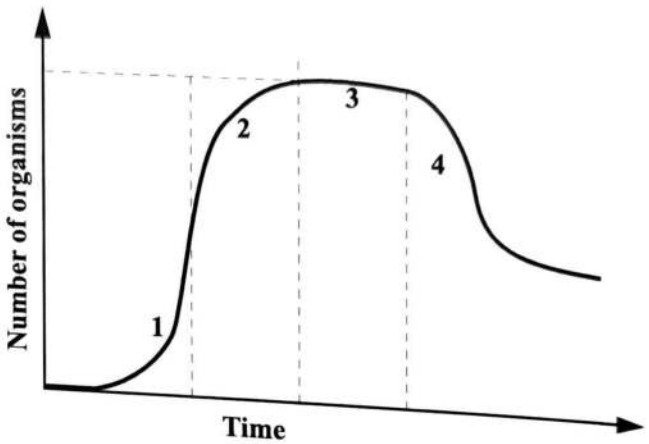
9. Human activities would have the LEAST immediate impact on

(A) eutrophication
(B) overpopulation
(C) coral bleaching
(D) the formation of fossil fuels

10. Replanting trees on a bare hillside is an example of

(A) restoration and preservation
(B) reafforestation and restoration
(C) conservation and afforestation
(D) preservation and conservation

Item 11 refers to the following graph of population growth.



11. Phase 4 of the graph of population growth is MOST likely due to

(A) competition from invasive species
(B) adequate food and space
(C) a high natural birth rate
(D) disease resistance

12. When compared to a cheek cell, a muscle cell contains more

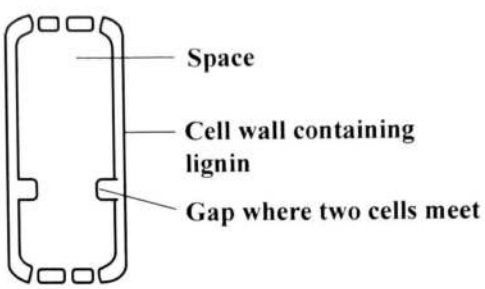
(A) chromosomes
(B) mitochondria
(C) ribosomes
(D) vacuoles

13. Which of the following comparisons between the cell wall and cell membrane is INCORRECT?

	Cell Wall	Cell Membrane
(A)	Found in both plant and animal cells	Found in animal cells only
(B)	Freely permeable	Differentially permeable
(C)	Contains cellulose	Does not contain cellulose
(D)	Found in plant cells only	Found in both plant and animal cells

Item **14** refers to the following diagram which shows a xylem vessel.

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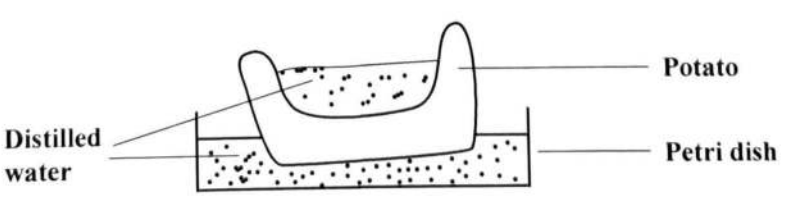


14. The MAJOR feature that is responsible for the rigid structure of the xylem vessel is the

(A) lignin
(B) cell wall
(C) space in the cells
(D) gap where two cells meet

Item **15** refers to the following apparatus set-up.

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15. What can be done to cause the level of the solution in the petri dish to rise after 20 minutes?

(A) Add 5 g of salt to the distilled water in the potato only.
(B) Add 5 g of salt to the distilled water in the petri dish only.
(C) Add 5 g of salt to the distilled water in both the petri dish and the potato.
(D) Add 0 g of salt to the distilled water in both the petri dish and the potato.

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16. Autotrophic organisms derive their nutrition from

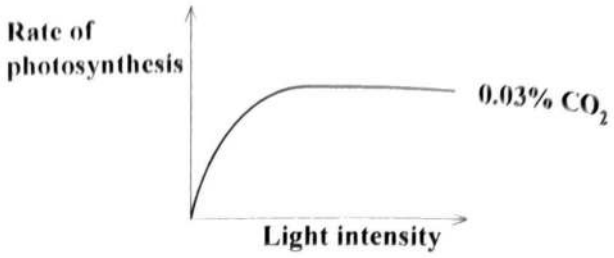
I. water
II. simple inorganic substances
III. complex organic substances

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

17. Which of the following features would NOT enhance a leaf's ability to absorb solar energy?

(A) Large surface area
(B) Transparent cuticle
(C) Presence of a vascular bundle
(D) Numerous chloroplasts in the palisade cells

Item **18** refers to the following graph showing the rate of photosynthesis and light intensity.



18. Which of the following statements BEST accounts for the shape of the graph?

(A) As photosynthesis rates increase, there is a decrease in carbon dioxide levels.
(B) As light intensity increases, there is an increase in photosynthesis until there is no further increase in the rate due to some other limiting factor.
(C) As light intensity increases, the rate of photosynthesis also increases until a stationary phase exists, when denaturation of the enzymes occurs.
(D) As carbon dioxide levels gradually increase, there is a similar increase in the rate of photosynthesis until a plateau phase exists, where no further increase in carbon dioxide results in any further increase in photosynthesis.

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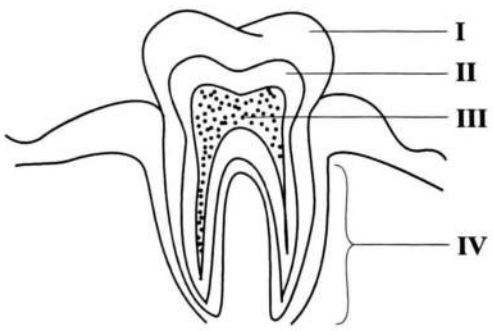
Item **19** refers to the following table which shows the results of food tests performed on three food samples, X, Y and Z.

Food Sample	Test and Observation
X	Violet colour with sodium hydroxide and copper sulphate
Y	Blue/black precipitate with iodine
Z	Orange precipitate when heated with Benedict's reagent after hydrolysis

19. The samples X, Y, and Z MOST likely contain

	X	Y	Z
(A)	non-reducing sugar	starch	protein
(B)	protein	reducing sugar	starch
(C)	starch	protein	reducing sugar
(D)	protein	starch	non-reducing sugar

Item **20** refers to the following longitudinal section of a tooth.



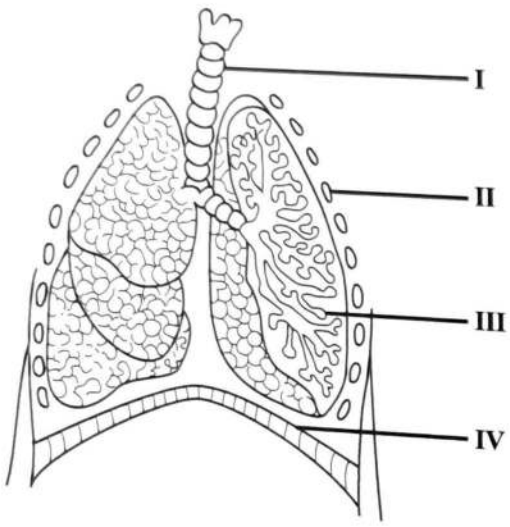
20. Which region of the tooth contains a large number of blood vessels and nerves?

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

21. A 50-year-old male is advised by his doctor to reduce the amount of salt he consumes in his diet. If he ignores his doctor's advice, he has a high chance of developing

(A) obesity
(B) diabetes
(C) hypertension
(D) sickle-cell anaemia

Item **22** refers to the following diagram of the respiratory system.



22. Which of the labelled parts represents the rib?

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

Item **23** refers to the following equation which shows the oxidation of glucose in cells.

$$C_6H_{12}O_6 + O_2 \longrightarrow CO_2 + H_2O$$

Release of energy

23. The energy released from the process above is

(A) converted to ADP
(B) converted to ATP
(C) stored in a high energy bond in ADP
(D) stored in a high energy bond in CDP

24. Which of the following conditions is an effect of the carbon monoxide found in cigarette smoke?

(A) Increased heart rate
(B) Increased beating of cilia
(C) Reduced oxygen transport in the blood
(D) Increased mucus production in the cells lining the respiratory passage

25. An amoeba obtains all the oxygen it needs by diffusion via its cell membrane, while a human needs to have special respiratory surfaces for this purpose. The BEST explanation for this difference is that

(A) the amoeba does not require much oxygen
(B) oxygen cannot pass through the skin of a human
(C) a human requires a larger volume of oxygen
(D) a human's surface area to volume ratio is too small for diffusion to be effective

26. Which of the following features can be found in red blood cells?

I. Nucleus
II. Bi-concave shape
III. Thin membrane

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

27. In which of the following plant tissues are tracheids found?

I. Xylem
II. Phloem
III. Epidermis

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

28. Artificial immunity can BEST be described as immunity

(A) acquired from the body's natural defense against disease
(B) produced by deliberate exposure to a pathogen
(C) that has been passed on from mother to child in the uterus
(D) that has been passed on to a child from a mother's colostrum

29. The activities, I, II, III and IV, listed below are involved in the clotting of blood.

I. Fibrinogen is converted to fibrin.
II. Blood cells are trapped.
III. Platelets are activated.
IV. Blood vessels are damaged.

Which of the following correctly lists the sequence of activities?

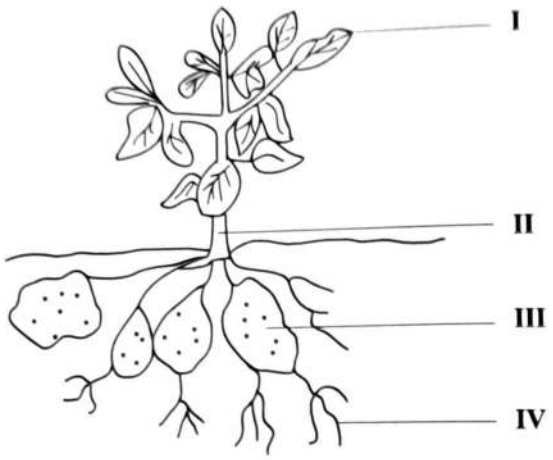
(A) I, II, III, IV
(B) II, III, IV, I
(C) III, IV, I, II
(D) IV, III, I, II

30. In the transport of solutes in the phloem, the source is defined as any area of the plant where

(A) water is loaded into the phloem
(B) sucrose is loaded into the phloem
(C) water is taken out of the phloem
(D) sucrose is taken out of the phloem

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Item **31** refers to the following diagram of a potato plant.



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31. Which part of the plant contains the MOST starch?

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

32. Which of the following substances is removed during egestion?

(A) Urea
(B) Bilirubin
(C) Excess water
(D) Undigested food

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33. Which of the following correctly describes movement in plants?

(A) Irreversible, whole or part movement
(B) Reversible, whole or part movement
(C) Irreversible, growth or part movement
(D) Reversible, growth or part movement

34. Locomotion is an evolutionary adaptation performed by animals. What advantages does this mechanism have over the type of movement that occurs in plants?

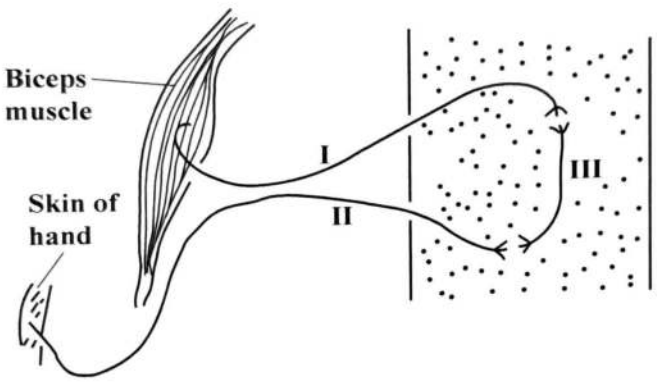
I. The ability to move to favourable conditions
II. The increased chance of predator attacks
III. The ability to find food

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

35. Which of the following options BEST describes the terms 'stimulus' and 'response'?

	Stimulus	Response
(A)	A deliberate provocation of an organism	The movement of an organism
(B)	An organism's exposure to sunlight	The growth of an organism away from light
(C)	A wave of excitement in an organism	Locomotion of an organism
(D)	A detectable change in an organism's environment	An organism's reaction to a change in its environment

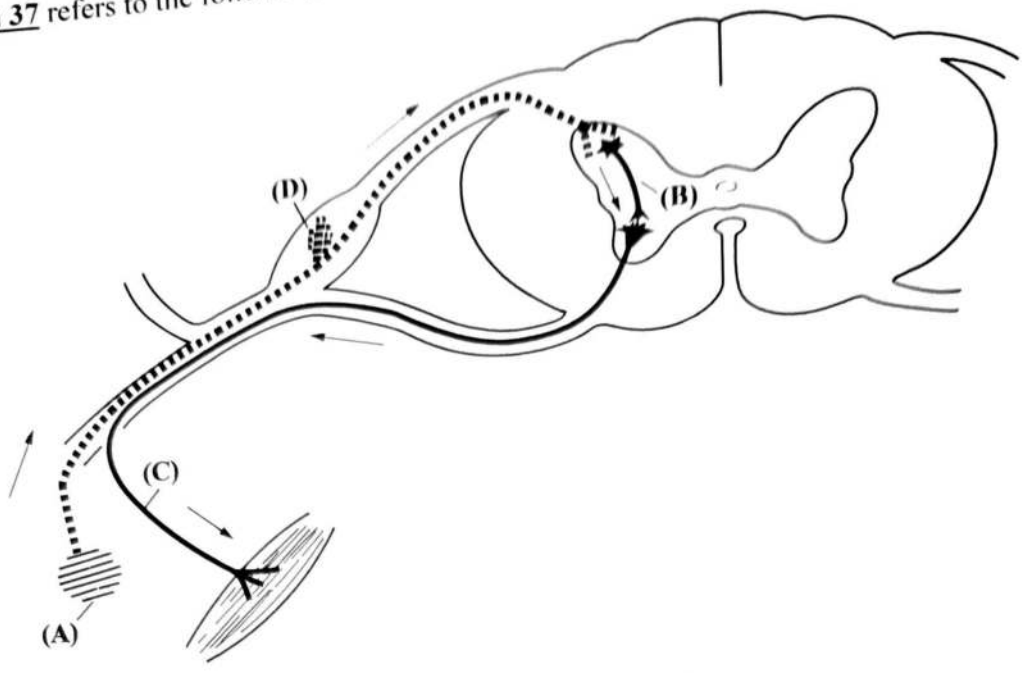
Item **36** refers to the following diagram with structures labelled I, II and III.



36. The numbered structures are

	I	II	III
(A)	sensory neurone	motor neurone	relay neurone
(B)	motor neurone	sensory neurone	relay neurone
(C)	sensory neurone	relay neurone	motor neurone
(D)	motor neurone	relay neurone	sensory neurone

Item 37 refers to the following diagram of a reflex arc.



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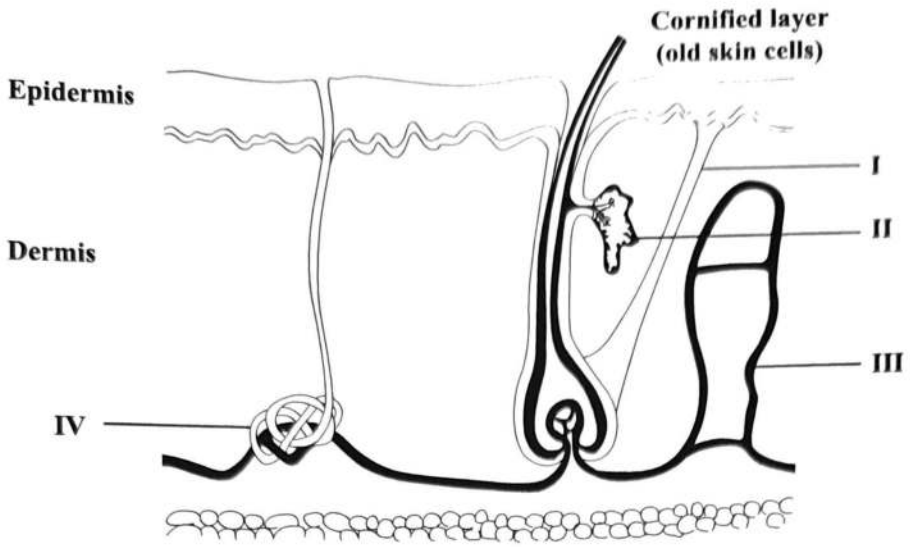
37. Which labelled structure relays the impulse to an effector?

38. The function of the choroid layer in the eye is to

(A) focus most light rays
(B) prevent internal reflection
(C) maintain the shape of the eyeball
(D) control the amount of light entering the eye

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Item **39** refers to the following diagram of a section of human skin with structures labelled I, II, III and IV.



39. Which structure is NOT involved in temperature regulation?

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

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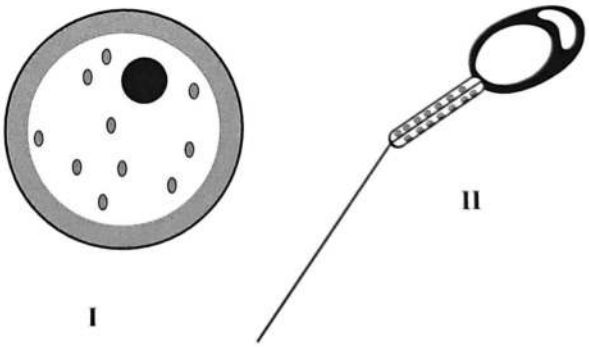
40. The statements below describe the processes taking place within a seed during germination.

I. The embryo uses food to develop the radicle and plumule.
II. Enzymes break down proteins into amino acids.
III. Soluble products move into the embryo.

Which of the following sequences of events occurs during the germination of the seed?

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

Item **41** refers to the following diagrams of specialized cells, labelled I and II.



41. Which of the following structures is common to both cells?

(A) Cilium
(B) Nucleus
(C) Cell wall
(D) Acrosome

42. The production of new organisms from one parent only is known as

(A) mitosis
(B) meiosis
(C) sexual reproduction
(D) asexual reproduction

Item **43** refers to the following activities involved in the menstrual cycle.

I. Repair of the uterine lining
II. Ovulation
III. Shedding of the uterine lining
IV. Development of the Graafian follicle

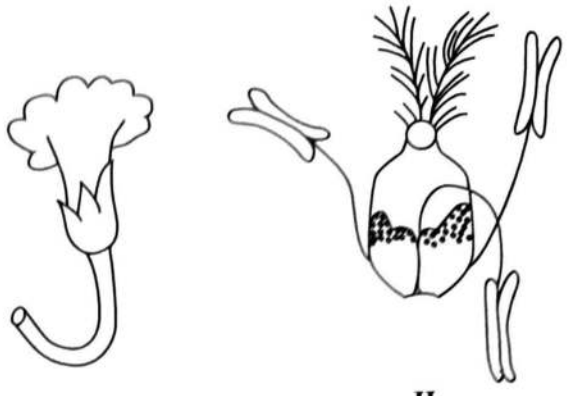
43. Which of the following sequences is the correct order of activities?

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

44. Which of the following forms of birth control is MOST likely 100% effective?

(A) Condom
(B) Diaphragm
(C) Tubal ligation
(D) Birth control pill

Item **45** refers to the following diagrams of flowers from two different types of plants.



I II

45. Which of the following statements is true concerning the flowers?

(A) I is pollinated by a hummingbird; II is pollinated by the wind.
(B) Both are pollinated by hummingbirds.
(C) Petals are absent from both I and II.
(D) Both are wind pollinated.

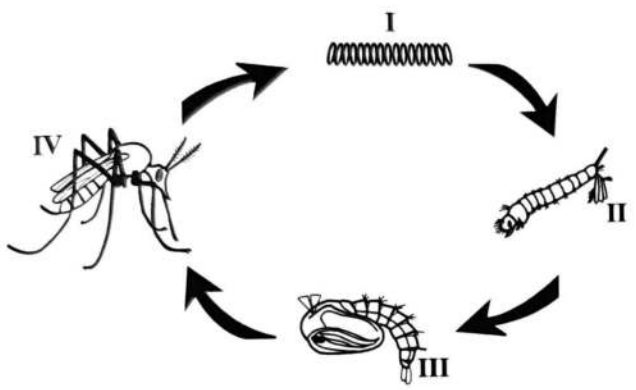
46. Which of the following shows the correct sequence for seed formation after fertilization?

(A) Ovule → zygote → embryo → seed
(B) Ovule → embryo → seed → zygote
(C) Embryo → ovule → zygote → seed
(D) Embryo → zygote → ovule → seed

47. A vector is defined as an organism that

(A) bites humans
(B) causes diseases
(C) lives on other organisms
(D) transmits disease-carrying organisms

Item **48** refers to the following diagram which shows the life cycle of a vector with stages labelled I, II, III and IV.



48. At which stage is this vector easily controlled by the use of aerosol insecticides?

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

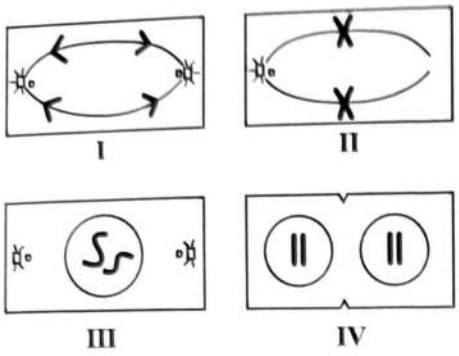
49. A 60-year-old man has been diagnosed with hypertension as well as diabetes. Which of the following treatments would be MOST effective for the diseases?

(A) Exercising and lowering the intake of salt and refined carbohydrates
(B) Spending more time watching television to relax
(C) Starting a rigorous exercise programme
(D) Taking insulin injections

50. Which of the following statements BEST describes a chromosome?

(A) Two forms of the same gene
(B) Structure made up of DNA wrapped around histones
(C) Nucleic acid that contains all genetic information
(D) Part of the DNA which carries genetic information to produce a protein

Item **51** refers to the following diagram which shows four stages of mitosis, labelled I, II, III and IV.



51. The correct order of the stages is

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

52. On a certain Caribbean island where sugar cane is grown, a fungus is accidentally introduced into the island and destroys the entire sugar cane crop. Which of the following BEST explains why the entire crop was destroyed by the fungus?

(A) The plants were old and therefore more susceptible to the fungus.
(B) The plants were not of a hardy enough variety to withstand the fungus.
(C) The plants were planted too close together so the fungus spread easily.
(D) There was no genetic variation among the plants so none could survive the attack.

53. Which of the following statements about meiosis is NOT true?

(A) It allows for genetic variation.
(B) It results in the production of gametes.
(C) It doubles the number of chromosomes in gametes.
(D) It causes haploid cells to form from diploid cells.

54. In pea plants, purple flowers are dominant over white flowers. What percentage of the offspring are likely to have white flowers in the following crosses?

	Homozygous Dominant (PP) with Homozygous Recessive (pp)	Heterozygous (Pp) with Homozygous Recessive (pp)
(A)	0%	50%
(B)	25%	75%
(C)	50%	100%
(D)	100%	0%

55. Albinism is caused by a recessive allele. Two normal parents produce an albino child. This is because

(A) both parents were homozygous recessive
(B) both parents were heterozygous for the gene
(C) one parent was homozygous dominant for the trait and the other heterozygous
(D) one parent was homozygous dominant for the trait and the other homozygous recessive

56. Two goats, heterozygous for fast growth rate, are crossed. What percentage of the **entire** F1 population would be expected to possess homozygous alleles?

(A) 25%
(B) 75%
(C) 50%
(D) 100%

57. Variation in populations is due to

I. mutation
II. crossing over
III. asexual reproduction

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

58. A species consists of members that

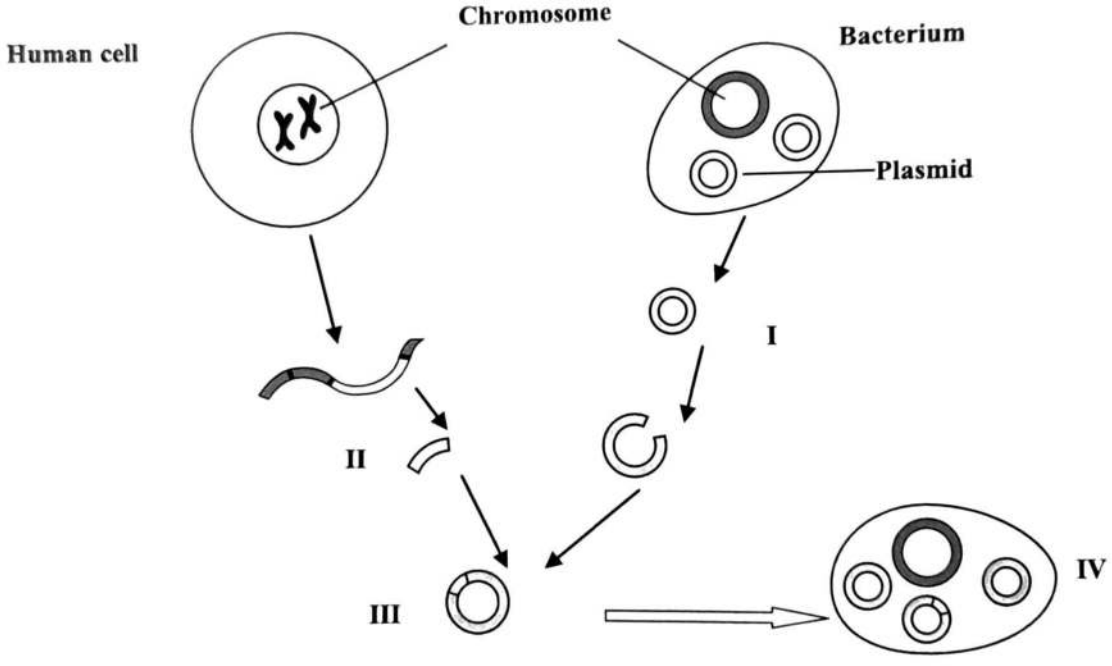
(A) occupy the same habitat
(B) reproduce by asexual means
(C) interbreed under natural conditions
(D) interbreed to produce infertile offspring

59. Which of the following descriptions is true of natural and artificial selection?

	Natural Selection	Artificial Selection
(A)	Produces great biological diversity	Produces very different organisms from natural populations
(B)	Involves genetic modification	Largely controlled by the environment
(C)	Occurs in domestic populations	Occurs in natural populations
(D)	Is a faster process	Is a slower process

Item **60** refers to the following diagram which shows Stages I, II, III and IV in the production of insulin by genetic engineering.

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60. In which of the stages above can insulin be produced by the bacterium?

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

END OF TEST

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