SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A to D) next to the question numbers (1.1.1 to 1.1.10) in the ANSWER BOOK, e.g. 1.1.11 D.

1.1.1 Which part controls the amount of light entering the eye?

A Cornea
B Iris
C Choroid
D Lens

1.1.2 Which ONE of the following refers to an aquifer?

A An increase in the temperature of water bodies as a result of water from industries
B Planting of the same crop on the same area repeatedly
C An underground permeable rock saturated with water
D The release of water with chemicals from mines

1.1.3 The structure in the amniotic egg that removes waste products:

A Yolk sac
B Chorion
C Amnion
D Allantois

1.1.4 Which ONE of the following is CORRECT with regard to astigmatism?

A Light cannot pass through the cornea
B Light cannot pass through the lens
C Refraction of light rays by the cornea is uneven
D The lens cannot become more rounded

1.1.5 Which structures secrete progesterone during pregnancy?

A Adrenal gland and corpus luteum
B Corpus luteum and placenta
C Thyroid gland and Graafian follicle
D Pituitary gland and Graafian follicle

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1.1.6 Which ONE of the following shows the correct sequence of an impulse from the receptor in a simple reflex arc?

A Sensory neuron through the dorsal root → motor neuron through the ventral root → effector
B Motor neuron through the dorsal root → sensory neuron through the ventral root → effector
C Sensory neuron through the dorsal root → effector → motor neuron through the ventral root
D Effector → interneuron through the dorsal root → motor neuron through the ventral root

1.1.7 Which ONE of the following would be a disadvantage when a biological method is used to control alien plant invasion?

A Able to control alien plants without the use of harmful chemicals
B Some part of the alien plant may be left to regrow when mechanically removed
C The species introduced might be alien in the area and outcompete the indigenous species
D Chemicals might affect the indigenous plants in the area

1.1.8 Which ONE of the following is a consequence of the destruction of wetlands?

A Increased biodiversity
B Decreased water availability
C Decreased global warming
D Increased water quality

1.1.9 Nocturnal animals have the ability to see clearly in the dark. They have ...

A bigger eyes.
B more rods in the retina.
C more cones in the retina.
D no blind spot.

1.1.10 Which ONE of the following is CORRECT regarding the homeostatic control of glucose in the human body?

	GLAND	HORMONE SECRETED	EFFECT ON BLOOD GLUCOSE LEVEL
A	Pancreas	Insulin	Increase
B	Pituitary	Glucagon	Increase
C	Pancreas	Insulin	Decrease
D	Pancreas	Glucagon	Decrease

(10 x 2) **(20)**

1.2 Give the correct **biological term** for each of the following descriptions.

1.2.1 The layer in the atmosphere that protects living organisms from the ultraviolet rays of the sun

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1.2.2 The illegal hunting and killing of animals

1.2.3 A condition of the cell where there is only one set of chromosomes

1.2.4 The response of a part of a plant to a light stimulus

1.2.5 A hormone that stimulates ovulation in humans

1.2.6 The part of the brain that connects the left and right hemispheres

1.2.7 The blood vessel that transports deoxygenated blood from the foetus towards the placenta

1.2.8 A small device that is inserted in the ear to drain fluids caused by a middle-ear infection

1.2.9 The branch of the autonomic nervous system that restores an increased heart rate back to normal

1.2.10 A structure in the eye that absorbs light to prevent internal reflection (10 x 1) **(10)**

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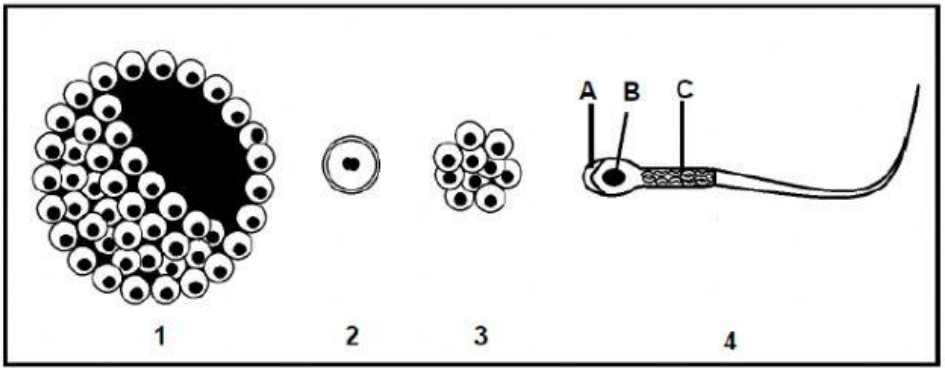
1.3

	COLUMN I	COLUMN II
1.3.1	The functional connection between two consecutive neurons	A: Receptor B: Synapse
1.3.2	The young develops and is nourished in an amniotic egg that is retained in the mother's body	A: Ovipary B: Vivipary
1.3.3	A reproductive strategy in vertebrates where internal fertilisation occurs	A: Altricial development B: Precocial development

(3 x 2) **(6)**

1.4 The diagrams below show structures formed during human reproduction.



1.4.1 Identify part **A**. (1)

1.4.2 Name the organelle found in large numbers in part **C**. (1)

1.4.3 Give the NUMBER (**1**, **2**, **3** or **4**) only of the diagram that represents the following:

(a) Morula (1)

(b) Structure that will implant in the uterus (1)

(c) Blastula/Blastocyst (1)

1.4.4 Give the LETTER and NAME of the part that will enter the ovum during fertilisation. (2)

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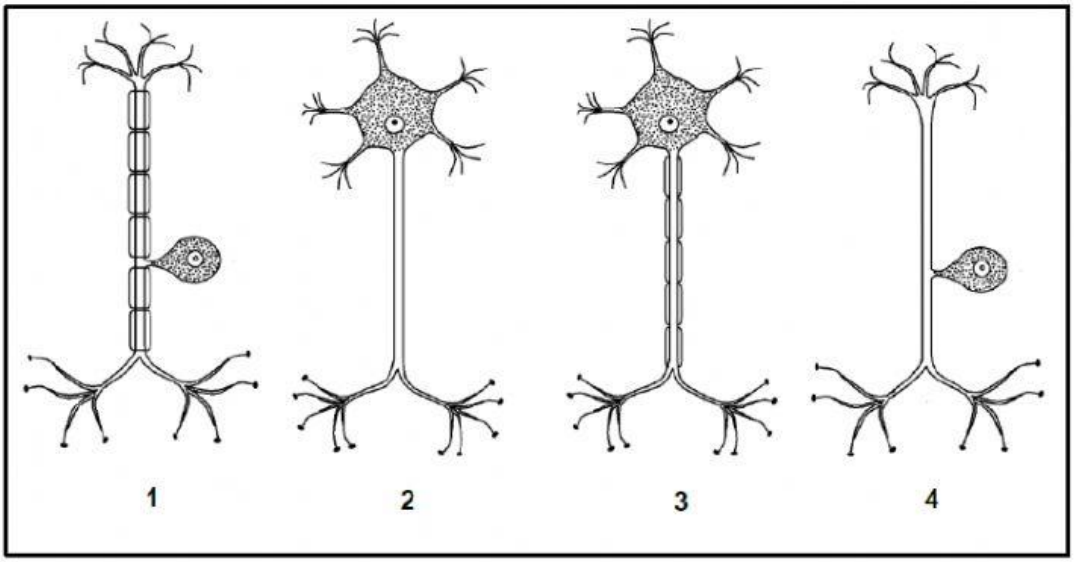
1.4.5 Name the type of cell division that occurred to produce the structure in diagram **3**. (1)
(8)

1.5 The diagrams below show different neurons.



Give only the NUMBERS (**1**, **2**, **3** or **4**) of TWO neurons that:

1.5.1 Transport impulses from the receptor to the central nervous system (2)

1.5.2 Will have a faster transmission of impulses (2)

1.5.3 Are damaged if a person can feel the stimulus but is unable to react (2)
(6)

TOTAL SECTION A: 50

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