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education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

LIFE SCIENCES P1

SEPTEMBER 2025

MARKS: 150

TIME: 2½ hours

This question paper consists of 14 pages.

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INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. Answer ALL the questions.
2. Write ALL the answers in the ANSWER BOOK.
3. Start the answer to EACH question at the top of a NEW page.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Present your answers according to the instructions of each question.
6. Do ALL drawings in pencil and label them in blue or black ink.
7. Draw diagrams, tables or flow charts only when asked to do so.
8. The diagrams in this question paper are NOT necessarily all drawn to scale.
9. Do NOT use graph paper.
10. You must use a non-programmable calculator, protractor and compass, where necessary.
11. Write neatly and legibly.

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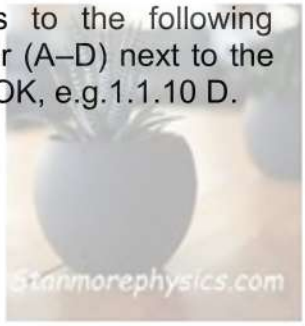
SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1.1 to 1.1.9.) in the ANSWER BOOK, e.g.1.1.10 D.



1.1.1 In bright light …

A the pupil constricts.
B the pupil dilates.
C circular muscles of the iris relax.
D radial muscles of the iris contract.

1.1.2 The nerve cells that transmit impulses to the brain and spinal cord, are called …

A neurons.
B connector neuron.
C sensory neuron.
D motor neuron.

1.1.3 The part of the ear in which the pressure waves are converted into nerve impulses, is the …

A ossicles.
B organ of Corti.
C semi-circular canal.
D middle ear.

1.1.4 Which part of the brain processes visual impulses?

A Hypothalamus
B Medulla oblongata
C Cerebellum
D Cerebrum

1.1.5 A disease caused by the damage of the myelin sheath of neurons and characterised by physical and mental disabilities is called …

A Alzheimer's disease.
B Parkinson's disease.
C Multiple sclerosis.
D Multiple diagnosis.

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1.1.6 The production of secondary metabolites, such as alkaloids and terpenoids, in plants serves primarily to …

A promote photosynthesis.
B attract pollinators.
C deter herbivores and reduce pathogen attacks.
D enhance water retention.

1.1.7 Which ONE of the following structures in an amniotic egg protects the developing embryo from physical injury?

A Allantois
B Shell
C Chorion
D Yolk sac

1.1.8 Internal fertilisation is the fusion of haploid nuclei of …

A male and female gametes in the female reproductive system.
B male and female gametes outside female reproductive system.
C a haploid male and a diploid female gamete in the female reproductive system.
D a diploid male and a diploid female gamete in the female reproductive system.

1.1.9 A reproductive strategy that leads to the loss of many sperm:

A Internal fertilisation
B External fertilisation
C Precocial development
D Altricial development (9 x 2) **(18)**

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1.2 Give the correct **biological term** for EACH of the following descriptions. Write only the term next to the question numbers (1.2.1 to 1.2.8) in the ANSWER BOOK.

1.2.1 Inhibition of the growth of lateral buds by auxins present in apical buds

1.2.2 A layer inside the eye that absorbs light, thus reducing reflection

1.2.3 The physiological connection between the axon of one neuron and the dendrite of another

1.2.4 The nervous system which consists of cranial and spinal nerves

1.2.5 The plant growth hormone that stimulates seed germination

1.2.6 The visual defect caused by the uneven curvature of the cornea

1.2.7 A disease characterised by the degeneration of brain cells and loss of memory

1.2.8 Corrective lenses for short-sightedness (8 x 1) **(8)**

1.3 Indicate whether each of the descriptions in COLUMN I apply to **A ONLY, B ONLY, BOTH A AND B** or **NONE** of the items in COLUMN II. Write **A only, B only, both A and B** or **none** next to the question numbers (1.3.1 to 1.3.3) in the ANSWER BOOK.

	COLUMN I	COLUMN II
1.3.1	The protective membranes that cover the brain and the spinal cord	A: Meninges B: Germinal epithelial
1.3.2	Eggs incubated in nests	A: Ovovivipary B: Viviparous
1.3.3	A plant hormone that helps plant seeds to survive unfavourable conditions	A: Auxins B: Abscisic acid

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

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1.4 Plant hormones play major roles in plants.

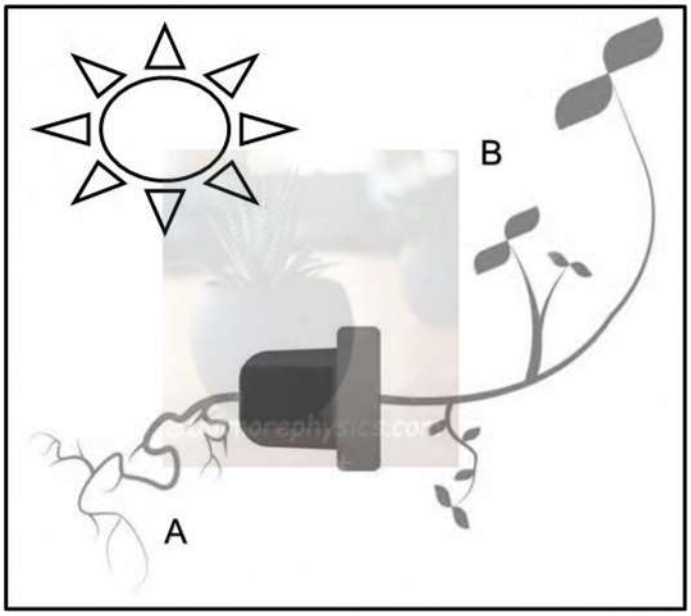
1.4.1 Give the NAME of the plant hormone that:

(a) Is responsible for bringing dormancy in seeds (1)

(b) Causes bending reactions in plant stems and roots (1)

(c) Is responsible for the elongation of internodes in plants (1)

QUESTIONS 1.4.2 AND 1.4.3 ARE BASED ON THE DIAGRAM BELOW.



1.4.2 NAME the type of tropism in:

(a) **A** (1)

(b) **B** (1)

1.4.3 Identify the stimuli which causes bending in:

(a) Part **A** (1)

(b) Part **B** (1)
(7)

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1.5 The diagrams below represents the male and female reproductive systems.

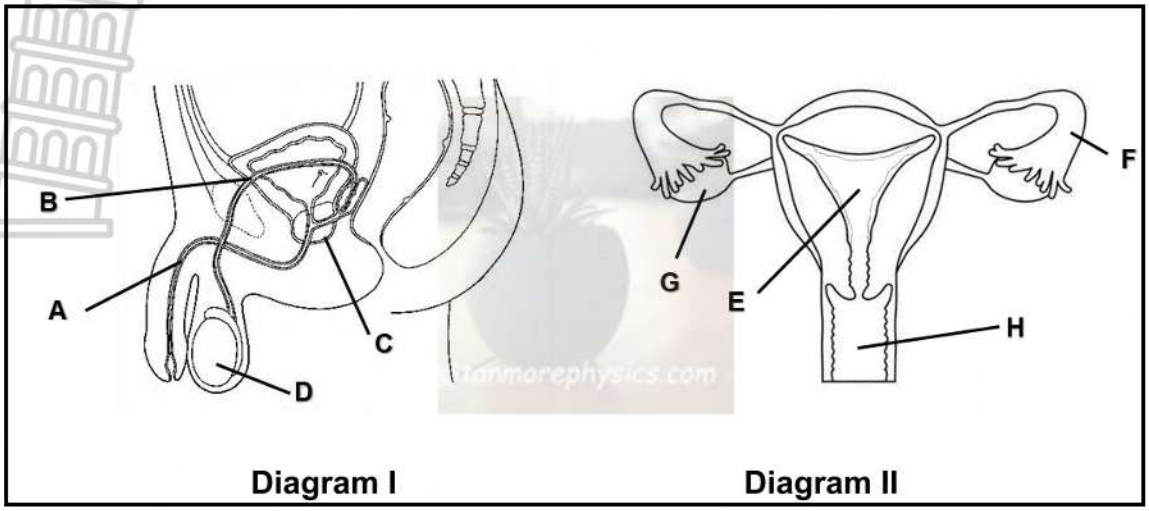

Diagram I **Diagram II**

1.5.1 Identify structure **A**. (1)

1.5.2 List TWO adaptations of part **E**. (2)

1.5.3 Write down the LETTER and NAME of parts where meiosis takes place:

(a) Diagram **I** (2)

(b) Diagram **II** (2)

1.5.4 Give the NAME of a part where:

(a) Sperms are stored to mature before release (1)

(b) Fertilisation takes place (1)

(c) Oestrogen is produced (1)

(d) A fluid is secreted for movement and nutrition of a sperm cell (1)
(11)

TOTAL SECTION A: 50

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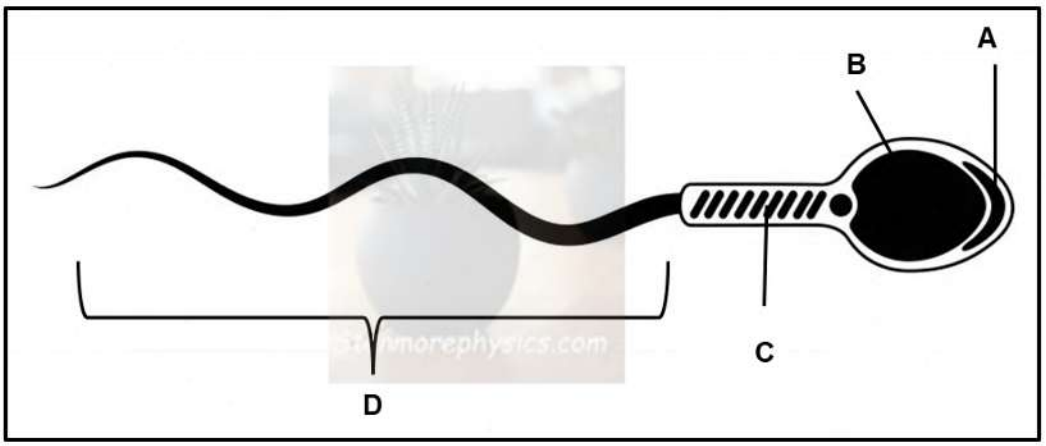
SECTION B

QUESTION 2

2.1 The diagram below shows a sperm.



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

2.1.2 Is a sperm cell haploid or diploid? (1)

2.1.3 Give a reason for your answer to QUESTION 2.1.2. (2)

2.1.4 State the function of part **D**. (1)

2.1.5 Describe spermatogenesis. (5)
(10)

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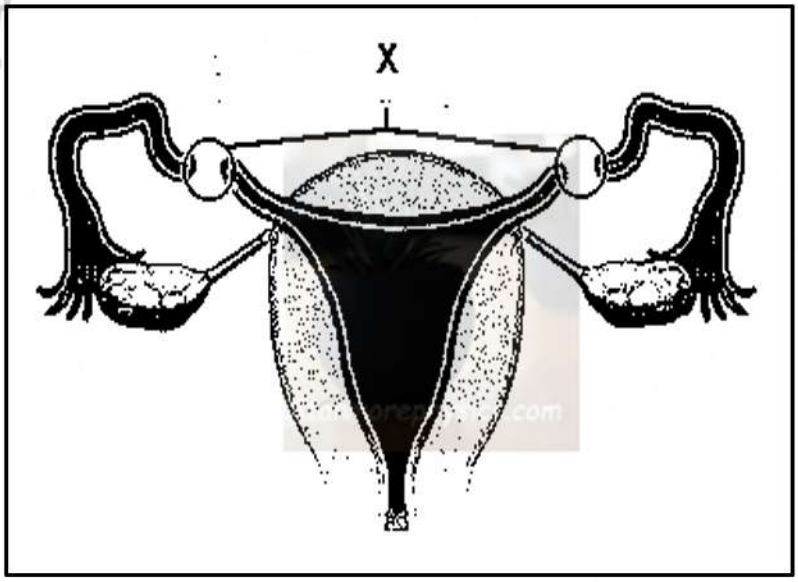
2.2 The diagram below shows tubal ligation.



2.2.1 Name the procedure labelled **X.** (1)

2.2.2 Explain the effect of the procedure named in QUESTION 2.2.1 on fertility. (3)
(4)

2.3 Describe the thermoregulation process during low environmental temperatures by the following parts of the human body:

(a) Blood vessels in the skin (3)

(b) Sweat glands (3)
(6)

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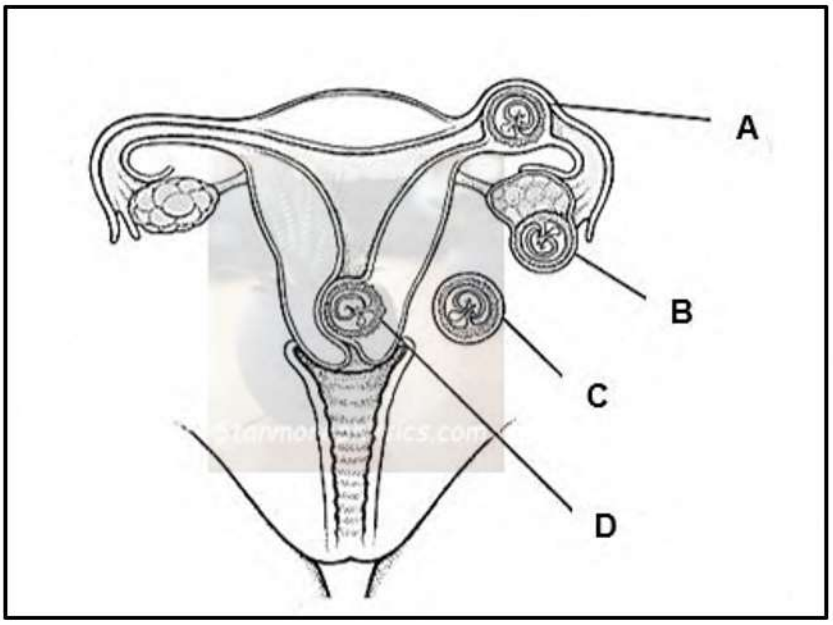
2.4 A fertilised egg is the beginning of a pregnancy. Normally, the fertilised egg attaches to the uterine lining. When a fertilised egg implants and grows outside of the uterus' main cavity, it is called an ectopic pregnancy.

Fallopian tubes carry eggs from the ovaries to the uterus, which is where ectopic pregnancy occurs most often. This type of ectopic pregnancy is called a tubal pregnancy. Ectopic pregnancy may also occur in other parts of the body, such as the ovary, the abdominal cavity, or the lower part of the uterus (cervix).



2.4.1 What is an *ectopic pregnancy*? (1)

2.4.2 Name TWO areas in the female reproductive system where an ectopic pregnancy can occur. (2)

2.4.3 Explain ONE consequence of the foetus growing in the fallopian tube. (2)

2.4.4 (a) Identify the structure **D**. (1)

(b) Name TWO structures that leads to the formation of structure **D**. (2)

2.4.5 Explain TWO reasons why the amniotic fluid is important during pregnancy. (4)

2.4.6 Describe the developmental steps during gestation of the foetus. (4)
(16)

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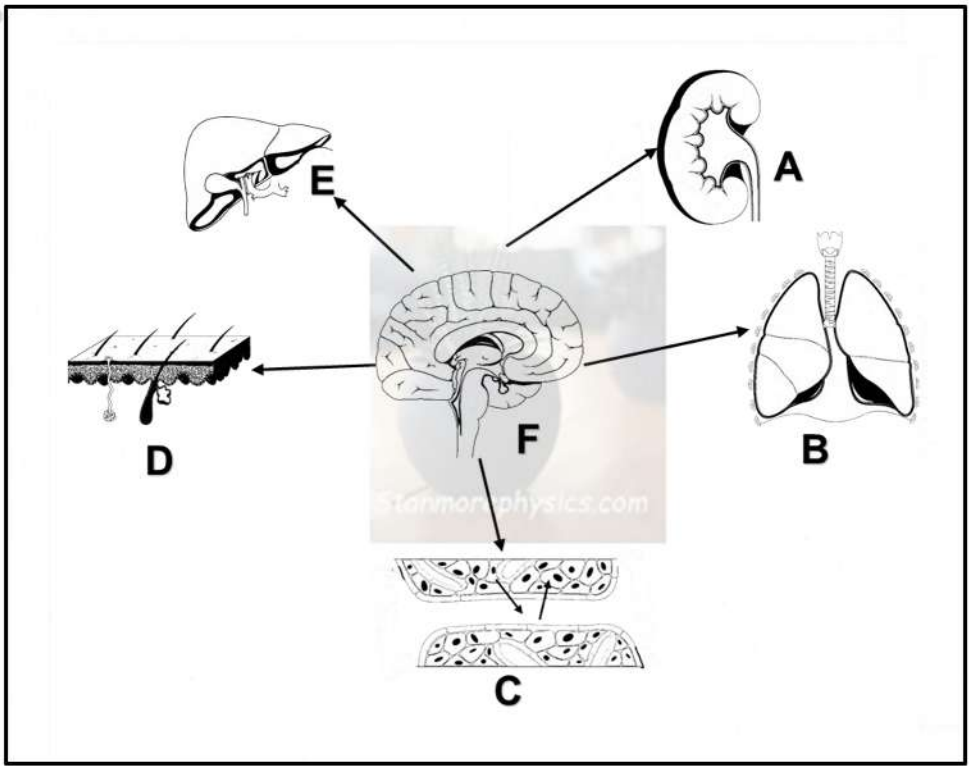
2.5 The diagram below shows the organs involved in the endocrine system and homeostasis.



2.5.1 Define the term *homeostasis*. (2)

2.5.2 Identify organ **E**. (1)

2.5.3 Name the:

(a) Gland in **F** that secretes prolactin (1)

(b) Organ that plays a role in thermoregulation (1)

(c) Cells where glycogen is converted to glucose (1)

2.5.4 Describe the role of organ **A** to perform its osmoregulation function. (3)

2.5.5 Explain how organ **B** and a part in organ **F** maintain the carbon dioxide levels in the blood. (5)
(14)
[50]

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QUESTION 3

3.1 The researchers reported that hearing ability often changes with age, particularly affecting the ability to perceive high-frequency sounds. They aimed to explore how different age groups vary in their ability to hear various frequencies of sound, focusing on the impact of aging on high-frequency hearing.

The investigation aimed to examine the effect of age on the ability to hear higher frequencies of sound.

The procedure was as follows:

- The study involved 64 participants.
- Participants were divided into four groups of 16 participants according to the following age groups: 18–30 years, 31–50 years, 51–70 years, and 71+ years.
- The researchers ensured an equal number of males and females in each age group.
- The testing was conducted in a quiet, soundproof environment.
- The researchers calibrated the hearing equipment before each test.
- They maintained a consistent hearing test protocol for all participants.
- Each participant underwent the hearing test three times.
- Participants were tested using an audiometer to measure their hearing ability at various frequencies (250 Hz, 500 Hz, 1 000 Hz, 2 000 Hz, 4 000 Hz).

The researchers recorded results for each frequency and analysed them.

PERCENTAGE HEARING IN DIFFERENT AGE GROUPS	FREQUENCY (Hz)				
	250	500	1 000	2 000	4 000
18–30	95	94	92	91	90
31–50	93	92	89	85	75
51–70	90	88	80	74	65
71+	65	62	55	52	50

3.1.1 Identify:

(a) The aim of the investigation (2)

(b) The independent variables (2)

(c) ONE controlled variable (1)

3.1.2 Describe how investigators measured hearing ability. (3)

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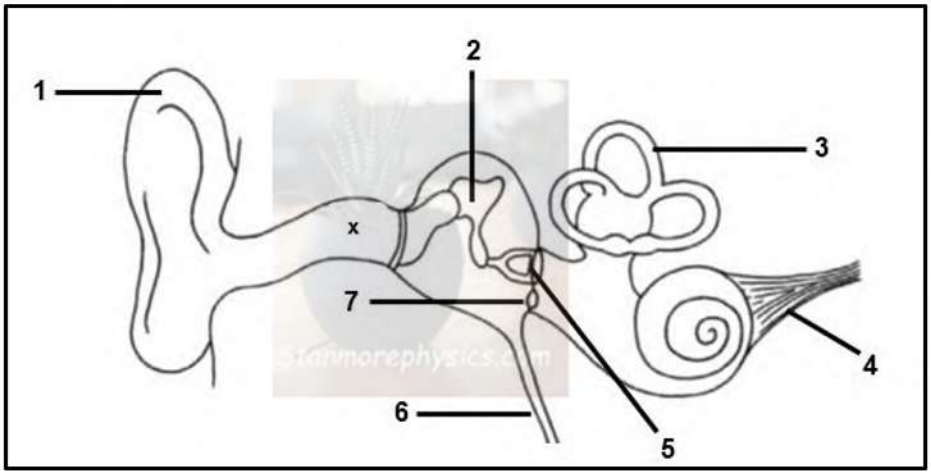
3.1.3 Describe the relationship between age and hearing ability. (2)

3.1.4 List TWO ways how reliable results were obtained in this investigation. (2)

3.1.5 Draw a line graph to show the effect of increasing sound frequencies on hearing, of the age group 51–70 years. (6)
(18)

3.2. The diagram below represents the human ear.



3.2.1 Identify part **6**. (1)

3.2.2 Give ONE function of part **7** in hearing. (1)

3.2.3 Write down the correct number sequence of the transfer of sound in the human ear. (2)

3.2.4 Describe the process of balance when there is a change in speed and direction of the head. (5)

3.2.5 Explain what would happen to the ability to hear if part **X** is blocked. (4)
(13)

3.3 A person stepped on a thorn with his foot and immediately withdrew it.

Describe the path of the reflex action from the moment he stepped on the thorn until he moved his foot away. (5)
(5)

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3.4 Read the extract below on the endocrine system and homeostasis.

THE ENDOCRINE SYSTEM AND HOMEOSTASIS

The endocrine system is a network of glands that produce hormones essential for maintaining homeostasis, or balance, in the body. Two key glands include the thyroid and pituitary glands. Located in the neck, the thyroid gland releases Thyroxin (T4) and Triiodothyronine (T3), which control metabolism, growth, and development. The pituitary gland (hypothalamus), often called the "master gland," regulates other glands by sending signals to activate or deactivate hormone production.

Thyroxin, produced by the thyroid and converted to T3 in cells, helps regulate metabolism, energy production, growth, and nervous system function. To maintain homeostasis, the pituitary gland monitors thyroid hormone levels and adjusts them by releasing Thyroid-Stimulating Hormone (TSH) to increase hormone production or thyroid-inhibiting hormones to decrease it. This feedback system ensures the body has balanced thyroid hormone levels. When imbalances occur, they can lead to conditions such as hypothyroidism, causing fatigue and weight gain, or hyperthyroidism, causing weight loss and anxiety.

3.4.1 What is the *endocrine system*? (1)

3.4.2 Name TWO disorders caused by imbalances in the thyroid gland. (2)

3.4.3 Give TWO functions of thyroxin in the human body. (2)

3.4.4 Describe the homeostatic control when the level of thyroxin in the blood is higher than normal. (5)

3.4.5 Explain TWO consequences for a person if their thyroxin level remains abnormally low for too long. (4)
(14)
[50]

TOTAL SECTION B: 100
GRAND TOTAL: 150

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NATIONAL SENIOR CERTIFICATE

GRADE 12

LIFE SCIENCES P1

SEPTEMBER 2025

MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 11 pages.

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PRINCIPLES RELATED TO MARKING LIFE SCIENCES

1. **If more information than marks allocated is given**
   Stop marking when maximum marks are reached and put a wavy line and 'max' in the right-hand margin.

2. **If, for example, three reasons are required and five are given**
   Mark the first three irrespective of whether all or some are correct/ incorrect.

3. **If whole process is given when only a part of it is required**
   Read all and credit relevant part.

4. **If comparisons are asked for but descriptions are given**
   Accept if differences/similarities are clear.

5. **If tabulation is required but paragraphs are given**
   Candidates will lose marks for not tabulating.

6. **If diagrams are given with annotations when descriptions are required**
   Candidates will lose marks.

7. **If flow charts are given instead of descriptions**
   Candidates will lose marks.

8. **If sequence is muddled and links do not make sense**
   Where sequence and links are correct, credit. Where sequence and links are incorrect, do not credit. If sequence and links become correct again, resume credit.

9. **Non-recognised abbreviations**
   Accept if first defined in answer. If not defined, do not credit the unrecognised abbreviation but credit the rest of answer if correct.

10. **Wrong numbering**
    If answer fits into the correct sequence of questions but the wrong number is given, it is acceptable.

11. **If language used changes the intended meaning**
    Do not accept.

12. **Spelling errors**
    If recognizable, accept the answer, provided it does not mean something else in Life Sciences or if it is out of context.

13. **If common names given in terminology**
    Accept, provided it was accepted at the Provincial memo discussion meeting.

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14. **If only the letter is asked for but only the name is given (and vice versa)**
Do not credit.

15. **If units are not given in measurements**
Candidates will lose marks. Marking guidelines will allocate marks for units separately.

16. **Be sensitive to the sense of an answer, which may be stated in a different way.**

17. **Caption**
All illustrations (diagrams, graphs, drawings, tables, etc.) must have a caption.

18. **Code-switching of official languages (terms and concepts)**
A single word or two that appear(s) in any official language other than the learners' assessment language used to the greatest extent in his/her answers should be credited if it is correct. A marker that is proficient in the relevant official language should be consulted. This is applicable to all official languages.

19. **Changes to the marking guidelines**
No changes must be made to the marking guidelines without consulting the Provincial Chief Marker who in turn will consult with the Provincial Internal Moderator.

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SECTION A

QUESTION 1

1.1	1.1.1	A✓✓			
	1.1.2	C✓✓			
	1.1.3	B✓✓			
	1.1.4	D✓✓			
	1.1.5	C✓✓			
	1.1.6	C✓✓			
	1.1.7	B✓✓			
	1.1.8	A✓✓			
	1.1.9	B✓✓		(9 x 2)	**(18)**
1.2	1.2.1	Apical dominance✓			
	1.2.2	Choroid✓			
	1.2.3	Synapse✓			
	1.2.4	Peripheral nervous system			
	1.2.5	Gibberellin✓			
	1.2.6	Astigmatism✓			
	1.2.7	Alzheimer's✓disease			
	1.2.8	Concave lense✓		(8 x 1)	**(8)**
1.3	1.3.1	A only✓✓			
	1.3.2	None✓✓			
	1.3.3	B only✓✓		(3 x 2)	**(6)**
1.4	1.4.1	(a)	Abscisic acid✓		(1)
		(b)	Auxin✓		(1)
		(c)	Gibberellin✓		(1)
	1.4.2	(a)	Geotropism✓		(1)
		(b)	Phototropism✓		(1)
	1.4.3	(a)	Gravity✓		(1)
		(b)	Light✓		(1) **(7)**

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1.5	1.5.1	Urethra✓		(1)
	1.5.2	- The uterus has (thick) muscular✓ walls - The uterus can change shape✓/size - The inner lining (endometrium) thickens✓/becomes more vascular/glandular **(Mark first TWO only)**	Any	(2)
	1.5.3	(a) D✓ - testis✓		(2)
		(b) G✓ - ovary✓		(2)
	1.5.4	(a) Epididymis✓		(1)
		(b) Fallopian tube✓		(1)
		(c) (Graafian) follicle✓		(1)
		(d) Prostate gland✓/seminal vesicle/Cowper's gland		(1)
				(11)

TOTAL SECTION A: 50

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SECTION B

QUESTION 2

2.1 2.1.1 Acrosome✓ (1)

2.1.2 Haploid✓ (1)

2.1.3 **The haploid nucleus of the sperm:**
- It is formed through meiosis✓
- to half the chromosome number✓
- to prevent doubling of chromosome number during fertilisation✓ Any (2)

2.1.4 For movement✓/swimming of the sperm (1)

2.1.5
- Under the influence of testosterone✓
- Diploid (germinal epithelium) cells✓ in the seminiferous tubules of the testis✓
- Undergo meiosis✓
- To form four haploid sperm cells✓ (5)

(10)

2.2 2.2.1 Tubal ligation✓ (1)

2.2.2
- No passage of a sperm cell to the ovum✓/no passage of an ovum into uterus
- therefore, no fusion of gametes✓/no fertilisation
- causing no formation of an embryo✓/infertility/sterility Any (3)

(4)

2.3 (a)
- The blood vessels on the skin constrict✓
- Less blood flows to the skin✓
- resulting in less heat being lost✓ (3)

(b)
- The sweat glands become less active✓
- and produce less sweat✓
- resulting in less heat being lost✓ (3)

(6)

2.4 2.4.1 When a fertilised egg implants and grows outside of the uterus' main cavity✓ (1)

2.4.2
- On the ovary✓
- In the fallopian tube✓
- In the cervix ✓
- In the abdominal cavity✓ Any (2)

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2.4.3 - The fallopian tube is too narrow✓/small space
- It is not flexible✓
- Cannot accommodate the growing foetus✓
- which can cause miscarriage✓*/death of the embryo
Any 1 + compulsory mark (2)

2.4.4 (a) Placenta✓ (1)

(b) Chorionic villi✓
Endometrium✓ (2)

2.4.5 - It acts as protection✓
- against shock absorption✓/mechanical injury

- It keeps the foetus hydrated✓
- to promote movement✓/swallowing

- It allows free movement of the foetus✓
- to help muscle development✓

- Keeps the temperature in a narrow range✓
- to protect against extreme temperature fluctuations✓
Any 2 x 2 (4)

2.4.6 - Gestation is the period from fertilisation to birth✓
- the zygote develops into an embryo✓/morula and blastocyst
- The embryo develops into a foetus✓
- this takes approximately 40 weeks✓/9 months (4)
(16)

2.5 2.5.1 The process of maintaining a constant, internal environment✓(within narrow limits) despite changes that take place internally and externally✓ (2)

2.5.2 Liver✓ (1)

2.5.3 (a) Pituitary gland✓/hypophysis (1)

(b) The skin✓ (1)

(c) Muscle✓cells/Liver cells (1)

2.5.4 - Secretes aldosterone✓
- which works with ADH✓
- to bring about water balance✓ (3)

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2.5.5
- The medulla oblongata/part in organ F is stimulated✓
- and sends impulses to the breathing muscles✓/part in organ B
- the rate of breathing increases✓
- the depth of breathing increases✓
- More carbon dioxide is exhaled✓/removed from the blood
- decreasing the blood carbon dioxide levels✓ (5)

(14)
[50]

QUESTION 3

3.1 3.1.1 (a) To examine the effect of age on the ability to hear higher frequencies of sound✓✓ (2)

(b) Age group✓
Frequency of sound✓ (2)

(c)
- The same testing environment✓
- The same equipment calibration✓
- The same number of males and females from each group✓
- The same test procedure✓ Any (1)

3.1.2
- Hearing ability was measured using an audiometer✓
- which emitted sound frequencies at varying pitches✓
- Participants responded to each frequency✓
- the percentage of correctly heard frequencies was recorded for analysis✓ Any (3)

3.1.3 As age increases, the ability to hear higher frequencies decreases✓✓ (2)

3.1.4
- four groups of 16 participants were used✓
- the measurements for each participant was done three times✓ (2)

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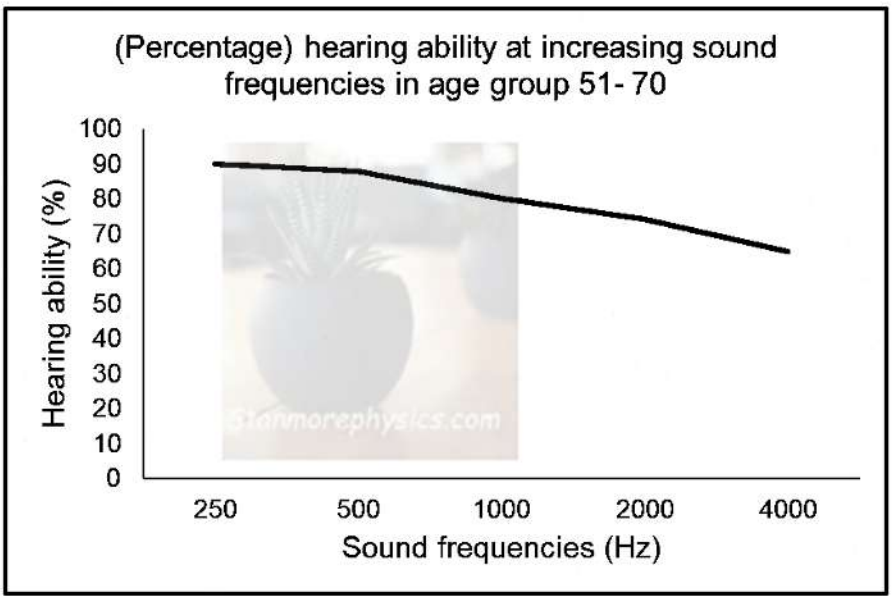
3.1.5



Guideline for assesssing the graph

CRITERIA	ELABORATION	MARK
Correct type of graph (T)	**Line graph drawn**	1
Caption of graph (C)	**Both variables, percentage and sound frequencies**	1
Axes labels (L)	**X- and Y axis correctly labelled with units**	1
Scale for X- and Y-axis (S)	**Correct scale for X and Y axis**	1
Plotting of co-ordinates (P)	**1 to 3 points plotted correctly** **4 to 5 points plotted correctly**	1 2

(6)
(18)

3.2 3.2.1 Eustachian tube✓ (1)

3.2.2 Absorbs excess pressure waves✓/prevent echoes/ prevent sound distortion (1)

3.2.3 1 ⇨2 ⇨5 ⇨4✓✓ (2)

3.2.4 **Change in speed and direction the head:**
- causes the endolymph to move✓
- the cristae✓ in the ampulla is stimulated✓
- and convert the stimuli to impulse✓
- which is transmitted by auditory nerve✓
- to the cerebellum✓
- cerebellum sends the impulses to the skeletal muscle✓/effector (5)

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3.2.5
- No/less sound waves will be transmitted to the tympanic membrane✓
- The tympanic membrane/ossicles/oval window will not vibrate✓/have less vibrations
- No/less pressure waves are formed in the inner ear/cochlea/on the organ of Corti✓
- resulting in no hearing✓*/distorted hearing

Any 3 + compulsory mark (4)
(13)

3.3
- The receptor of the skin receives the stimulus✓
- converts it to an impulse✓
- the sensory neuron transmits the impulse✓
- to the interneuron in the spinal cord✓
- which transmits the impulse to the motor neuron✓
- which transmits it to the skeletal muscles✓/effectors (5)

(5)

3.4 3.4.1 A network of glands that produce hormones essential for maintaining homeostasis✓ (1)

3.4.2
- Hypothyroidism✓
- Hyperthyroidism✓ (2)

3.4.3
- Controls metabolic rate✓
- Regulates energy production✓
- Controls growth and development✓
- Maintain nervous system function✓

Any (2)

3.4.4 **If thyroxin level is higher than normal**:
- Pituitary gland/hypophysis is stimulated✓
- to secrete less TSH✓
- which stimulates the thyroid gland✓
- to secretes less thyroxin✓
- Thyroxin level decreases✓ (5)

3.4.5 **If thyroxin levels remain low for too long:**

- It causes a lower metabolic rate✓/cellular respiration
- which leads to lower energy production✓/chronic fatigue/can cause the body temperature to drop

OR

- It causes a slower metabolism✓
- that leads to more energy being stored as fat✓/causing weight gain

OR

- It causes the body temperature to drop✓
- causing individuals to feel cold more often✓

OR

- It causes less growth hormone secretion✓
- which stunts growth✓/slow mental/sexual development

Any 2 x 2 (4)

(14)

[50]

TOTAL SECTION B: 100

GRAND TOTAL: 150

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2025 PREPARATORY EXAMINATION ERRATA/ADDITIONS & ADJUSTMENTS TO MARKING GUIDELINES

SUBJECT	**Life Sciences**	**PAPER**	**1**
DATE	**19 September 2025**	**TIME OF ERRATA**	**16H50 – 18H50**
QUESTION	**1.2.4(ENG) & 3.2.4 (AFR)**	**MARKS**	
QUESTION	**2.4.3**	**MARKS**	
QUESTION	**2.4.6**	**MARKS**	
QUESTION	**2.5.4**	**MARKS**	
QUESTION	**3.1.5**	**MARKS**	
	TOTAL MARKS FOR THE PAPER AFTER ADJUSTMENT		**0**
NO ADJUSTMENTS TO MARKS – MARKS ARE NOT AFFECTED IN ANY QUESTION.			

REPLACE THE ANSWERS OR WRITE ADDITIONS OR ADJUSTMENTS ON THE TABLE BELOW:

NUMBER	SUB QUESTION	CORRECTIONS/ADDITIONS/ADJUSTMENTS	MARKS
		Indicate tick mark on:	
1.2.	1.2.4	Peripheral✓ **(English)**	(1)
3.2	3.2.4	Krista✓ **(Afrikaans)**	(1)
2.4.	2.4.3	- The fallopian tube is too narrow✓/small space - It is not flexible✓/cannot stretch - Cannot accomodate the growing foetus✓ **- No placenta✓/endometrium/blood vessels** **- to provide nutrients✓/oxygen** - which can cause miscarrige✓*/death of the embryo Any 1 + compulsory mark	(2)
		- Die fallopiusbuise is te smal✓/klein spasie - Dit is nie rekbaar nie✓ - Kan nie die groeiende fetus akkomodeer nie✓ **- Geen plasenta✓/endometrium/bloedvate** **- om voedingstowwe/suurstof te voorsien nie✓** - Kan 'n miskraam✓*/dood van embrio veroorsaak Enige 1 + verpligte punt	(2)

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2.4	2.4.6	- Gestation is the period from fertilistion to birth✓ - The zygote develops into an embryo✓ **- the zygote develops into a morula✓ and** **- a morula develops into a blastocyst which is implanted✓** - The embryo then develops into a foetus✓ **- foetus becomes a baby✓** - This takes approximately 40 weeks✓/9 months Any 4 - Gestasie is die periode vanaf bevrugting tot geboorte✓ - Die sigoot ontwikkel in 'n embrio✓ **- die sigoot ontwikkel in 'n morula✓ en** **- die morula ontwikkel in 'n blastula/blastosist wat geimplanteer✓ word** - Die embrio ontwikkel dan in 'n fetus ✓ **- die fetus word dan 'n baba✓** - Dit neem ongeveer 40 weke✓/9 maande Enige 4	(4) (4)
2.5	2.5.4	- Uses ADH - to regulate the water content - and aldosterone✓ **- which regulates salt content✓** **- by changing permeability of the renal tubules✓ Any 3** - Gebruik ADH - om die hoeveelheid water te reguleer - En aldosteroon✓ **- wat die hoeveelheid soute reguleer✓** **- deurdat dit die deurlaatbaarheid van die nierbuisies verander✓** **Enige 3**	(3) (3)
3.1	3.1.5	If a histogram or bar graph is drawn instead of a line graph, marks will be lost for: • Type of graph • Scale If axes are transposed: • Can get all marks if labels are swopped and points are correct • If labels are not corresponding, then: ➢ marks will be lost for labels and scale ➢ Plotting can get credit if coordinates are correct for given labels As 'n histogram of staafgrafiek getrek is, sal punte verloor word vir: • Tipe grafiek • Skaal As asse omgeruil is: • Kry al die punte as byskrifte ook omgeruil is • As die byskrifte nie ooreenstem nie dan: ➢ sal punte verloor word vir byskrifte en skaal ➢ Plot van punte kry punte as die koördinate korrek is vir gegewe byskrifte	(6) (6)
		TOTAL MARKS AFFECTED	0

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