



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

LIFE SCIENCES P1

MAY/JUNE 2024

FINAL MARKING GUIDELINES

24 MAY 2024

RENETTE VAN DER WATT
INTERNAL MODERATOR
24/05/2024

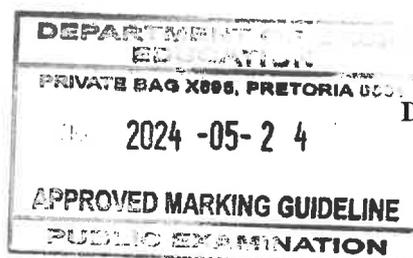
NONTOBEKO MJALI
INTERNAL MODERATOR
24/05/2024

MARKS: 150

These marking guidelines consist of 9 pages.

APPROVED

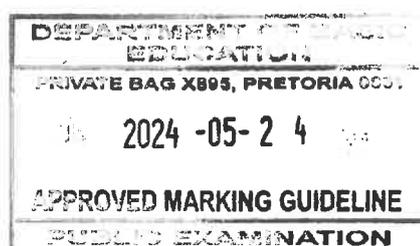
MRS P.B. MAJOZI
UMALUSI
24/05/2024



DR P. PREETHLALL
UMALUSI
24/05/2024

PRINCIPLES RELATED TO MARKING LIFE SCIENCES

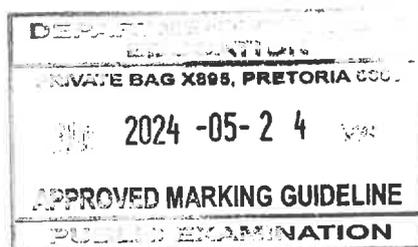
1. **If more information than marks allocated is given**
Stop marking when maximum marks is reached and put a wavy line and 'max' in the right-hand margin.
2. **If, for example, three reasons are required and five are given**
Mark the first three irrespective of whether all or some are correct/ incorrect.
3. **If whole process is given when only a part of it is required**
Read all and credit the relevant part.
4. **If comparisons are asked for but descriptions are given**
Accept if the 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 the 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 recognisable, accept the answer, provided it does not mean something else in Life Sciences or if it is out of context.
13. **If common names are given in terminology**
Accept, provided it was accepted at the national memo discussion meeting.
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. Memorandum 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, 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 memorandum**
No changes must be made to the memoranda without consulting the provincial internal moderator who in turn will consult with the national internal moderator (and the Umalusi moderators where necessary).
20. **Official memoranda**
Only memoranda bearing the signatures of the national internal moderator and the Umalusi moderators and distributed by the National Department of Basic Education via the provinces must be used.

MRS P.B. MAJOZI
UMALUSI
24/05/2024

DR P. PREETHLALL
UMALUSI
24/05/2024



- | | | | |
|-----|-------|---------------------------------|-------------------|
| 1.5 | 1.5.1 | (a) Hypothalamus✓ | (1) |
| | | (b) Pituitary✓ gland/hypophysis | (1) |
| | | (c) ADH✓/antidiuretic hormone | (1) |
| | | (d) Nephron✓/renal tubules | (1) |
| | 1.5.2 | Decrease✓ | (1)
(5) |
| 1.6 | 1.6.1 | (a) Amniotic✓fluid | (1) |
| | | (b) Placenta✓ | (1) |
| | 1.6.2 | (a) Umbilical vein✓ | (1) |
| | | (b) - Chorionic villi✓/chorion | |
| | | - Endometrium✓ | (2) |
| | | (Mark first TWO only) | (5) |

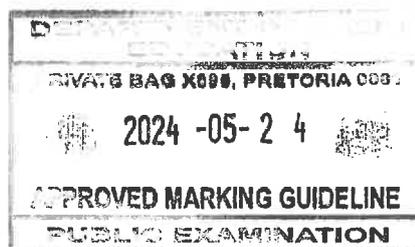
TOTAL SECTION A: 50



MRS P.B. MAJOZI
UMALUSI
24/05/2024



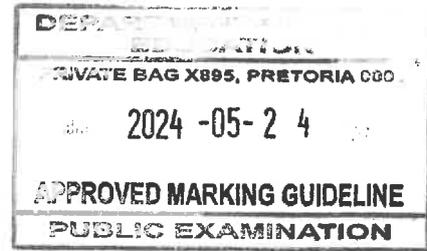
DR P. PREETHLALL
UMALUSI
24/05/2024




SECTION B

QUESTION 2

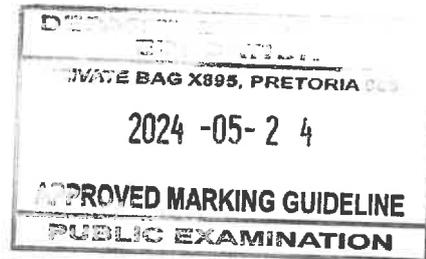
- | | | | |
|-----|-------|---|--------------------|
| 2.1 | 2.1.1 | Oogenesis✓ | (1) |
| | 2.1.2 | Amniotic✓ egg | (1) |
| | 2.1.3 | - It has a shell✓
to prevent drying out✓ of the embryo/amniotic fluid
- It has amniotic fluid✓
to prevent drying out✓ of the embryo | Any (1 x 2)
(2) |
| | | (Mark first ONE only) | |
| | 2.1.4 | - Females can reproduce without males✓
increasing the chances of the species to survive✓/therefore,
less energy is used for reproduction | (2)
(6) |
| | | (Mark first ONE only) | |
| 2.2 | 2.2.1 | - Stimulates ovulation✓
- Stimulates the development of the corpus luteum✓ | (2) |
| | | (Mark first TWO only) | |
| | 2.2.2 | Follicle stimulating hormone✓/FSH | (1) |
| | | (Mark first ONE only) | |
| | 2.2.3 | Progesterone✓ | (1) |
| | 2.2.4 | - The (progesterone) levels will remain low✓
- The LH levels are low✓ therefore
- ovulation will not take place✓ and
- no corpus luteum will develop✓ | (4) |
| | 2.2.5 | Hormone X /progesterone levels remain high✓ | (1)
(9) |
| 2.3 | 2.3.1 | (a) Age✓
(b) Fertility✓ in men | (1)
(1) |
| | 2.3.2 | They determined the:
- sperm count✓/number of normal sperm per ml of semen
- progressive motility✓/ability of sperm to swim effectively in a
straight line
- sperm necrosis✓/immature or dead sperm per fresh semen
sample | (3)
(3) |
| | | (Mark first THREE only) | |
| | 2.3.3 | - The investigation was conducted from 1999 to 2017✓/over 18
years
- 1 294 men✓ were tested | (2) |
| | | (Mark first TWO only) | |
| | 2.3.4 | - So that age will be the only independent variable✓
- since high temperature can affect fertility✓/sperm count /sperm
motility/ sperm necrosis
- therefore, decreasing the validity✓ of the investigation | (3)
(10) |



- 2.4 2.4.1 (a) Mitochondria✓ (1)
- (b) Acrosome✓ (1)
- 2.4.2 Seminiferous tubules✓ (1)
- 2.4.3 (a) - It fuses with the nucleus of the ovum✓
to form the zygote✓
- It carries genetic material✓/DNA/chromosomes
which is transferred to the offspring✓
- Contains haploid number of chromosomes✓
which contributes to the formation of a diploid cell✓
Any (1 x 2) (2)
- (b) - It contains enzymes✓
that digest the outer membrane of the ovum✓ (2)
- 2.4.4 - Organelles in part B release energy✓
which enables movement✓ of part C (2)
- 2.4.5 5 (mm/minute) x 45 (minutes)✓
= 225✓ mm (2)
(11)
- 2.5 2.5.1 (a) Auditory nerve✓ (1)
- (b) Cochlea✓ (1)
- 2.5.2 (a) Absorbs (excess) pressure waves✓ from the inner ear/prevents
echo (1)
- (b) Equalises pressure on either side of the tympanic membrane✓ (1)
- 2.5.3 - The person will suffer from hearing loss✓*/be deaf because
- no/less vibrations will be transmitted to the oval window✓ and
- no/less pressure waves will form in the cochlea✓/inner ear
- Therefore, there will be less/no stimulation of the organ of Corti✓/
hair cells
- Less/no impulses will reach the cerebrum✓
Compulsory mark✓* + Any 3 (4)
(8)
- 2.6 - Cristae✓
- are stimulated by a change in speed/direction of (movement) of the head✓
- Maculae✓
- are stimulated by a change in the position of the head✓
- to generate an impulse✓
- which is transmitted by the auditory nerve✓
- to the cerebellum✓ for interpretation
Any (6)
[50]

QUESTION 3

- 3.1 3.1.1 (a) Blind spot✓ (1)
- (b) Cornea✓ (1)
- (c) Sclera✓ (1)
- 3.1.2 - Radial muscles contract✓ and
- circular muscles relax✓
- The pupil widens✓/dilates
- More light enters the eye✓ (4)
- 3.1.3 Accommodation✓ (1)
- 3.1.4 - It is more convex✓
- so that light rays are refracted (bent) more✓
- to focus on the retina✓ /to form a clear image on the retina (3)
(11)
- 3.2 3.2.1 - The pathway along which impulses are transmitted✓
- to bring about a reflex action✓ (2)
- 3.2.2 (a) Guillain-Barre syndrome✓ (1)
(Mark first ONE only)
- (b) Damage to the motor neurons✓ (1)
(Mark first ONE only)
- (c) The skeletal muscles have a decreased reflex response✓ (1)
(Mark first ONE only)
- 3.2.3 - In hyporeflexia damage is between the spinal cord and the
skeletal muscles✓ while
- in hyperreflexia damage is between the brain and the spinal
cord✓ (2)
(Mark first ONE only)
- 3.2.4 Myelin sheath✓ (1)
- 3.2.5 - Axon is no longer insulated✓
- This causes the speed of transmission of nerve impulses to
decrease✓
- which can lead to a delayed response✓ and
- therefore, loss of muscle control✓ (3)
Any (11)



MRS P.B. MAJOZI
UMALUSI

DR P. PREETHLALL
UMALUSI

3.3	3.3.1	(a) - Insulin✓ - Glucagon✓ (Mark first TWO only)	(2)
		(b) Pancreas✓	(1)
	3.3.2	08:00 and 09:00✓	(1)
	3.3.3	- Blood glucose levels increased✓ - to above 7,1✓mmol/L/ to 8,4 mmol/L	(2)
	3.3.4	- Blood glucose levels decreased to below 3,9✓ mmol/L at 14:00 - stimulating the Islets of Langerhans✓ /pancreas - to secrete glucagon✓ - which stimulates the conversion of glycogen to glucose✓ - therefore, increasing blood glucose levels✓ at 15:00	Any (4)
	3.3.5	- Levels would have remained high✓ - for a longer period✓	(2) (12)
3.4	3.4.1	Adrenal✓ gland	(1)
	3.4.2	On top of the kidneys✓	(1)
	3.4.3	- It stimulates the breathing muscles✓ - and this increase the rate/depth of breathing✓ so that - more oxygen is inhaled✓ - It stimulates the heart✓ muscle - causing an increase in heart rate✓/blood pressure so that - oxygen and glucose are transported faster✓	Any (5) (7)
3.5	3.5.1	(a) Geotropism✓/Gravitropism	(1)
		(b) Auxins✓	(1)
	3.5.2	- Due to gravity✓ - there is a higher concentration of auxins on the lower side✓ of the root - which inhibits growth✓ - Therefore, growth will occur mainly on the upper side✓ - causing the root to bend/grow downwards✓	(5)
	3.5.3	- The seedling must be rotated constantly✓ - to remove the effect of gravity✓	(2) (9) [50]

TOTAL SECTION B: 100
TOTAL: 150

