



Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Departement van Onderwys
Porafensie Ya Kapa Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

IBANGA 12

SEPTEMBER 2024

**LIFE SCIENCES P1
ISIKHOKELO SOKUMAKISHA**

AMANQAKU: 150

Eli phepha lemibuzo linamaphepha ali10.

IMIYALELO YOKUKOREKISHA ILIFE SCIENCES

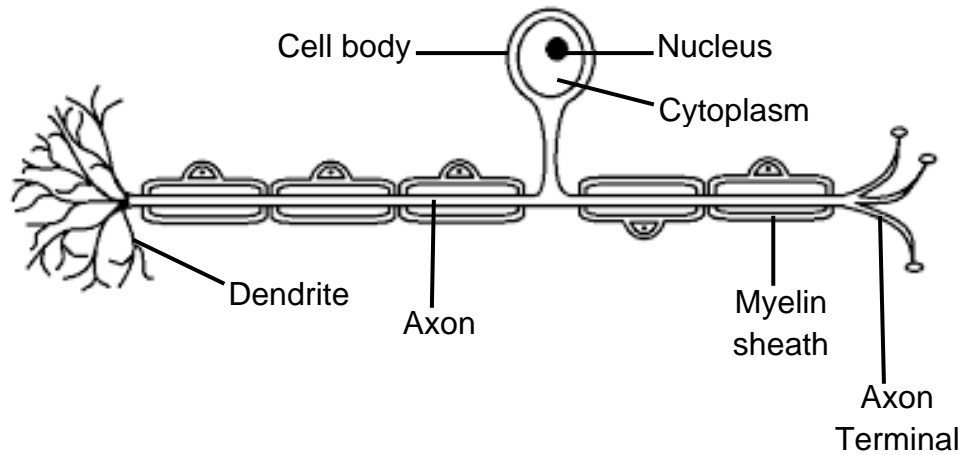
1. **Ukuba iimpendulo zingaphezu kwamanqaku anikiweyo.**
Yeka ukukorekisha xa ufikelele kumanqaku aphezulu ubonise ngomgca ogoso no 'max' kwi majini esekunene
2. **Ukuba, umzekelo, kufunwa izizathu ezithathu ze kunikwe ezihlanu**
Korekisha isithathu sokuqala kuphela nokuba ezilandelayo zamkelekile okanye azamkelekanga.
3. **Ukuba yonke inkqubo inikwe nakubeni bekufuneka inxalenye yayo**
Yifunde yonke uze unike amaqaku kuloo ndawo ifanelekileyo.
4. **Ukuba kubuzwe uthelekiso ze kunikwe iinkcazelo**
Zamkele xa zibekwe wacaca umahluko nezinto ezifana ngazo.
5. **Ukuba kufunwe impendulo ngetheyibhuli ze anike imihlathi**
Abafundi baya kuphulukana namanqaku ngoko.
6. **Ukuba imizobo inikwe yaneeannotation endaweni yeenkcazelo ezifunwayo**
Abafundi baya kuphulukana namanqaku.
7. **Ukuba imizobo inikwe yaneeannotation endaweni yeenkcazelo ezifunwayo**
Abafundi baya kuphulukana namanqaku.
8. **Ukuba ulandelelwano lwezinto ngendlela efanelekileyo alwenzekanga**
Abafumani manqaku. Apho lwenzekileyo ngokwamkelekileyo nika amaqaku
9. **Ushunqulelo olungamkelekanga**
Lwamkeleke ukuba luye lwachazwa kwimpendulo kuqala. Ukuba aluchazangwa kuqala ungalwamkeli kodwa uzamkele iimpendulo ezilandelayo
10. **Ukunombola ngokungafanelekanga**
Ukuba iimpendulo zihamba ngendlela elindlelekileyo kodwa inombolo azibhalwanga ngokukuko, makafumane amaqaku.
11. **Ukuba ulwimi olusetyenzisiweyo luyayitshintsha intsingiselo**
Impendulo ayamkelekanga
12. **Upelo olugwenxa**
Ukuba lusondele, yamkela ukuba ayinalo elinye igama elinaloo ntsingiselo kwiLife Sciences okanye ngaphandle komxholo.
13. **Ukuba izithetha ntonye zinikiwe**
Zamkele ukuba zamkelekile ngokweengxoxo zememo kwa national
14. **Ukuba impendulo ifuna unobumba kwaze kwanikwa igama endaweni yoko**
Makangafumani manqaku.

15. **Ukuba iiyunithi azinikwanga kumenta**
Abaviwa bayakuphulukana namanqaku. Isikhokelo sokukorekisha sabela iiyunithi amanqaku ecaleni.
16. **Qaphela iimpendulo ezinokunikwa ngenye indlela zibe zamkelekile**
17. **Isihloko**
Yonke imibuzo (iidayagram, iigrafu, theyibhile, njalonjalo) mazibenesihloko.
18. **Ukutshintshatshintsha iilwimi (iiterm neeconcept)**
Ukuba umviwa usebenzise igama elinye okanye amabini kwiimpendulo zakhe asuka kwezinye iilwimi ezisemthethweni kodwa ingelulo olu avavanywa ngalo, makafumane amanqaku ukuba iimpendulo zamkelekile. Makucelwe umkorekishi olwaziyo ncakasana olo lwimi ancede.

ICANDELO A**UMBUZO 1**

1.1	1.1.1	A ✓✓		
	1.1.2	B ✓✓		
	1.1.3	C ✓✓		
	1.1.4	A ✓✓		
	1.1.5	C ✓✓		
	1.1.6	B ✓✓		
	1.1.7	D ✓✓		
	1.1.8	A ✓✓		
	1.1.9	C ✓✓	(9 x 2)	(18)
1.2	1.2.1	Receptor ✓		
	1.2.2	Chorion ✓		
	1.2.3	Effector ✓		
	1.2.4	Vasodilation ✓		
	1.2.5	Concave ✓		
	1.2.6	Mammary ✓		
	1.2.7	Retina ✓		
	1.2.8	Hypothalamus ✓		
	1.2.9	Synapse ✓/ synaptic cleft	(9 x 1)	(9)
1.3	1.3.1	A kuphela ✓✓		
	1.3.2	Akukho nanye ✓✓		
	1.3.3	Zombini A no B ✓✓		
	1.3.4	A kuphela ✓✓	(4 x 2)	(8)
	1.4.1	(a) D ✓ – cerebellum ✓		(2)
		(b) A ✓ – cerebrum ✓		(2)
		(c) B ✓ – medulla Oblongata ✓		(2)
	1.4.2	- Vertebrae ✓ Ezithintela imechanical injury ✓		
		- Cerebral spinal fluid ✓ Yenza ukuba i-spinal cord sibesendaweni entofontofo ✓/ Singakhuhleki		
		- Meninges ✓ iimembrane ezigcina i-spinal cord sisendaweni yaso ✓/ezikhupha i-cerebral spinal fluid.		
		(Makisha ezokuqala eziMBINI kuphela)	(Naziphi ezi2 x 2)	(4)

1.5 Idayagram yesensory neuron

**Umgqo wokumakisha:**

- ✓ (T) isihloko esifanelekileyo
- ✓✓✓ (L) iileyibheli (naziphi ezi3)
- ✓ (D) umzobo owamkelekileyo (wesensory neuron) (5)

EWONKE AMANQAKU A: 50

ICANDELO B

UMBUZO 2

2.1 2.1.1 $\frac{10}{100} \checkmark \times 84\,000 \checkmark = 8\,400$ yabantwana \checkmark (3)

2.1.2 (a) - Ingxowa yeplastic ethick \checkmark
 Evalela (ekhusela) intshontsho elidevelophayo de lizalwe \checkmark
(Makisha eyokuqala ibeNYE kuphela) (2)

(b) - loxygenator \checkmark
 Evumela igaseous exchange \checkmark

OKANYE

- I-intravenous bag \checkmark
 Inikezela ngekhamzimba \checkmark
(Makisha eyokuqala ibeNYE kuphela) (Nayiphi e1 x 2) (2)

2.1.3 - Intshontsho elidevelophayo (amalungu) liyakwazi ukuqhubeka
 - lidevelopha \checkmark /amalungu omzimba afumana ixesha elaneleyo
 - Ukudevelopha okuqhelekileyo \checkmark / ukudevelopha ngokupheleleyo/
 ukudevelopha okugqibeleleyo
 - Iiscientist ziyakwazi ukubona xa ixesha lokumitha liphelile \checkmark /xa
 ilixesha lokuzala (3)

2.1.4 - Ifoetus yomntu ingalahleka lula / itshabalale \checkmark
 - Kufuneka imvume kwibhodi eyongameleyo \checkmark /ebazalini
 - Abazali azaziidonor mabafumane ulwazi olwaneleyo ngobungozi \checkmark
 - Ichasene nenkolo. \checkmark
(Makisha ezokuqala eziMBINI kuphela) (Naziphi ezi2 x 1) (2)

2.2 2.2.1 I-internal \checkmark fertilisation (1)

2.2.2 Inkunzi ithululela isemen emzimbeni wethokazi \checkmark (1)

2.2.3 Vivipary \checkmark (1)

2.2.4 - Itakane lekangaroo lidevelopha kwisingxobo sikamama ixesha
 elongezelelweyo \checkmark / de kuphele iintsuku ezinga235
 - Inika ukhuseleko olwaneleyo \checkmark kwimicelimingeni ye-
 environment (yamkela nawuphi umzekelo womcelimngenini)

OKANYE

- Itakane lekangaroo liyancanca kwingono kamama \checkmark
 - Lifumane izakhamzimba \checkmark
(Makisha eyokuqala eNYE kuphela) (Nayiphi e1 x 2) (2)

2.2.5 Itakane lekangaroo ...
 - aliboni \checkmark
 - lize \checkmark
 - lixhomekeke emzalini ngokutya \checkmark (Naziphi ezi2 x 1) (2)

- 2.3 2.3.1 (a) Vitreous humour ✓* / ichamber
 - inezakhamzimba zeinner eye ✓
 - Igcina ishape ye-eyeball ✓
 - Itransparent ukulungiselela ukuba ukukhanya kuye kwiretina ✓
 (✓* enyanzelekileyo + ✓ umsebenzi) (2)
- (b) Icornea ✓*
 - igoba imitha yelanga ✓
 - ikhusela ✓ imehlo
 - ivumela ukukhanya ukuba kungene kwimehlo. ✓
 (✓* enyanzelekileyo + ✓ umsebenzi) (2)
- 2.3.2 - Ukukhanya okungena kwimehlo akusayi kuredyuleyithwa ngokufanelekileyo ✓ /khontrolwa
 - Ukukhanya okugqithisileyo / okuncinci kungangena kwimehlo ✓
 - I-image ezingacacanga zingawa kwiretina ✓ /yenze angaboni kakuhle (3)
- 2.3.3 - Iiciliary muscle ziyaccontracta ✓
 - Iisuspensory ligament slacken ✓
 - Itension kwilens iyehla ✓
 - Ilens ibaconvex ngakumbi ✓ / iyabulga
 - Irefractive power yelens iyanyuka ✓ / imitha yelanga igotywa ngakumbi
 (i-image ecacileyo iya kwiretina) (5)
- 2.4 2.4.1 (a) D ✓ – oval window ✓ (2)
- (b) B ✓ – cochlea ✓ (2)
- 2.4.2 - ukutshintsha kwespeed/ idirection yentloko ✓
 - kustimuleyitha iicristae ✓
 - Istimulus sijikwa sibeyi-impulse ✓
 - I-impulse iya kwicerebellum ✓
 - Ihamba ngeauditory nerve ✓
 - Icerebellum ithumela ii-impulse kwivoluntary / skeletal muscle ✓
 ukugcina ibalance (Any 4 x 1) (4)
- 2.4.3 - Isitrakhitsha eside esisongeneyo ✓
 Ukwandisa umhlaba wokudetecta iipressure vibration ze-endolymph ✓
 / ukwandisa ubunako bokudetecta ilow frequency sound

OKANYE

- Ubukho beemechanoreceptor / iorgan of Corti ✓
 butshintsha iipressure vibration zibeyinerve impulse ✓

OKANYE

- Inefluid ✓ / ipeilymph ne-endolymph
 eyimedium ekuphuma kuyo iipressure vibration ziphinde zihambe kuyo ✓

(Nayiphi e1 x 2) (2)

- 2.5 2.5.1 Geotropism ✓ (1)
- 2.5.2 Ngenxa yeclinostat ejikelezayo
- igravity iyakulingana kuwo onke amacala ✓ / ayizubanagalelo
 - liauxin zikho ngokulinganayo ✓ kwitip yengcambu
 - Yenze icell elongation ngokulinganayo ✓ /ukukhula
 - Lo nto yenza ingcambu ikhule horizontally ✓ / ingagobi
- (Naziphi e3 x 1) (3)
- 2.5.3
- lauxin iya kwicala elimnyama/elisemthunzini ✓ lestem
 - liauxin ezininzi zikhulisa ngakumbi ✓
 - Ikhokelele ekukhuleni ngakumbi ✓ kweli cala
 - Istem sigobele elangenil ✓
- (Naziphi e3 x 1) (3)
- 2.5.4
- Mechanical ✓ /ameva
 - Chemical ✓
- (2)
- [50]**

UMBUZO 3

- 3.1 3.1.1 - Iimpuku ezingama20 zabekwa kwiqela ngalinye ✓
Ukuqinisekisa ukuba isampling size inkulu ✓

OKANYE

- Itesting yenziwa amatyeli ama3 kwiintsuku ezingama90 ✓
Lilonke iexperiment yaphindwa ✓

OKANYE

- Imilinganiselo yegazi yathathwa ngokungenamkhethe ✓
Ukuze kufunyanwe iavareji ✓

(Makisha eyokuqala eNYE) (Nayiphi e1 x 2) (2)

- 3.1.2 - Ngokusebenzisa iimpuku ezifike ebudaleni obulinganayo bokuzala ✓

- Ngokunika iimpuku amanzi alinganayo ✓

(Makisha eyokuqala eNYE) (Nayiphi e1 x 1) (1)

- 3.1.3 - Amaqondo etestosterone ✓ / umlinganiselo wetestosterone (1)

- 3.1.4 - Yicontrol / iyasivumela ukuba sifanise iziphumo ✓

- Ukubonisa ukuba itestosterone yehla ✓

- ngenxa yeemicroplastic ✓

- hayi ngenxa yamanzi ✓ (Naziphi ezi3 x 1) (3)

- 3.1.5 Ngokuya zisanda iimicroplastic emzimbeni weorganism (weempuku), ifertility rate ziyehla ✓✓

OKANYE

Xa zincinci iimicroplastic emzimbeni weorganism (wempuku) iyakubaphezulu ifertility rate ✓✓ (2)

- 3.1.6 - Phantsi kweempembelelo zetestosterone ✓

- iidiploid cell kwiiseminiferous tubule ✓ zetestes

- zenza imeiosis ✓

- ukukhupha iihaploid sperm cell ✓ (4)

- 3.1.7 - Amaqondo aphantsi etestosterone ✓ akhokelela

- kwispermatozoa esiphantsi ✓ / zimbalwa iisperm ezenziwayo / ezimatshorishayo (2)

- 3.2 3.2.1 (a) Adrenal gland ✓ (1)

- (b) Pancreas ✓ (1)

- 3.2.2 Ukugcina amaqondo ethyroxin ✓ amkelekile ✓ emzimbeni (2)

- 3.2.3 Exocrine

- Ngenxa yesecretion ✓ / pancreatic juice

- engena kwiduct ✓

Endocrine

- Ikhupha ihormone ✓ / i-glucagon / i-insulin

- ingene ngqo egazini ✓ (4)

- 3.2.4 - Idlala uC lisecreta ihormone iadrenalin ✓
 - enyusa ukutshintshwa kweglycogen ibeyiglucose ✓
 - anyuke amaqondo eglucose egazini ✓
 - inyuke ibreathing rate ✓
 - ibeninzi ioxxygen engena egazini ✓
 - iyanyuka iheart rate ✓
 - ivuleke imithambo yegazi eliya kwiiskeletal muscle ✓
 - libelininzi igazi elifika kwiskeletal muscle ✓ (Naziphi ezi5 x 1) (5)
- 3.2.5 (a) Pituitary gland ✓ / hypophysis / indawo uA (1)
 (b) Acromegaly ✓ (1)
- 3.3.1 (a) Ovary ✓ / graafian follicle / iifollicle ezidevelophayo (1)
 (b) Corpus luteum ✓ (1)
- 3.3.2 - Ngosuku lwe14 ✓ (1)
- 3.3.3 - Amaqondo eLH anyuka ngokukhawuleza ✓ / abaphezulu (1)
- 3.3.4 - I-implantation/ ifertilisation iyenzeka ✓
 - Icorpus luteum ayipheli ✓ / iyaqhubeka ikhupha iprogesterone (2)
- 3.3.5 - Amaqondo aphezulu eprogesterone ✓
 - Athintela ipituitary gland ✓
 - ekusecretheni iFSH ✓
 - kungabikho zifollicle zidevelophayo ✓ (4)
- 3.4 3.4.1 - Ichemoreceptor ezikwicarotid artery zistimuleyithwa ✓ yipH ephantsi
 - I-impulse ithunyelwa kwimedulla oblongata ✓ / imedulla oblongata iyastimuleyithwa
 - Imedulla oblongata istimuleyitha intliziyo ✓
 - Ukuze ibethe ngamandla ✓ nto leyo yenza
 - icarbon dioxide eninzi ingene emaphaphini ✓
 - iibreathing muscle ✓ / ii-intercostal muscle nediaphragm
 - zicontracta actively ngakumbi ✓ ne
 - rate/depth yokuphefumla iyanyuka ✓
 - ibeninzi icarbon dioxide ephefumlelwa ngaphandle ✓
 - Amaqondo ecarbon dioxide egazini ehle ✓ / abuyele kwisiqhelo.
 (Naziphi ezisi7 x 1) (7)
- 3.4.2 - Imbaleki iyakubane hyperthermia ✓
 - liprotein/iienzyme zinokudenature ✓
 - Angangabikho zingqondweni ✓
 - Nto leyo inokumonzakalisa okokoko ✓ / afe (Naziphi ezi3 x 1) (3)

[50]

EWONKE AMANQAKU ECANDELO B: 50
EWONKE AMANQAKU: 150