

L3 Lead Examiner Report 2001

January 2020

L3 Qualification in Animal Management: Animal Biology





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Grade Boundaries

What is a grade boundary?

A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade, at Distinction, Merit and Pass.

Setting grade boundaries

When we set grade boundaries, we look at the performance of every learner who took the external assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark is for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments

Each external assessment we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each assessment, because then it would not take accessibility into account.

Grade boundaries for this, and all other papers, are on the website via this link:

http://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html

Animal Biology: 31645H

Grade	Unclassified	Level 3				
Grade	Officiassifica	N	Р	М	D	
Boundary Mark	0	11	23	39	55	



Introduction

January 2020 was the sixth series of the new specification for Animal Management, when this mandatory unit has been assessed via an external assessment rather than via centre based internal assessment.

The question paper followed the format identified in the additional sample assessment materials published on the Pearson website.

The paper had seven questions. Each question was based on an area of the specification. Learners were required to demonstrate knowledge and understanding of a range of specification topics and to apply this knowledge to the specific question scenarios. The intention was to offer as broad coverage as possible for all areas of the unit content. Questions had varying weightings attached to them, with 1 to 3 marks for the lower demand questions and 4 to 8 marks for questions where an extended response was required.

The extended response, eight mark, questions were marked using a 'levels based' approach to assessment. The overall quality of the response was considered rather than the specific number of points gained.

There was also a focus on the use of suitable technical and vocational language and terminology within each response. The remainder of the questions on the paper were assessed using a range of indicative content and on the quality and clarity of the explanation provided.





Individual Questions

The following section considers each question on the paper, providing examples of popular learner responses and a brief commentary of why the responses gained the marks they did. This section should be considered with the live external assessment and corresponding mark scheme.





Question 1

Q1 (a)

34% of learners scored two marks for question 1a through being able to recall the two missing types of animal tissue as per section B4.4 & 4.5 in the unit content.

1 There are four basic types of animal tissue.

(a) Complete the table below with the two missing tissue types.

(2)

Epithelial tiss	sue
Connective	tissue
Muscle tissue	•
Nervous	tissue

2 marks

The two correct tissue types have been included in the table.

1 There are four basic types of animal tissue.

(a) Complete the table below with the **two** missing tissue types.

(2)



Muscle tissue

Epithelial tissue

0 marks

All answers written here are incorrect - no rewardable marks.



Q1 (b)

47% of learners were able to recall the name of the small 'hair like' projections found on some epithelial tissue from section B4.3ii in the unit content.

(b) Give the name of the small "hair-like" projections found on some epithelial tissue	t. (1)
Cillia	ahaaaaississ
1 mark Cilia correctly stated- 1 mark awarded.	
(b) Give the name of the small "hair-like" projections found on some epithelial tissue.	1)

0 mark

'Villi' is an incorrect answer and there were many similar incorrect responses seen- no rewardable mark.





Q1 (c)

This was a three mark question from section B1.1 of the unit content i.e. identifying three cell organelles which performed well, with 61% of learners scoring three marks by demonstrating memory recall of the names of the organelles.

(c) Give the names of the structures labelled A, B and C.	(3)
A Nucledus	
B Mitachondria	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Cytoplasm	
3 marks All correct names of the organelles identified – 3 marks awarded.	
(c) Give the names of the structures labelled A, B and C.	(3)
DNA material	
Ribosomes	
° Plasma membrane.	

0 marks

All answers are incorrect- no rewardable marks.





Q1 (d)

This was a one mark question from section B1.1of the unit content i.e. 'function of one organelle, the cytoskeleton' which performed well with 59% of learners scoring 1 mark.

(d) State one function of the cytoskeleton.	
	(1)
The Cytoskeleton helps maintain	the
cell's shape and skruckure.	***************************************
(Total for Question 1 = 7 ma	rks)
1 mark	
A complete and accurate answer – 1 mark awarded	
(d) State one function of the cytoskeleton.	
(d) State one function of the cytoskeleton.	(1)
to protect the cell, nelps actuate functions with	un
me coll.	

0 mark

An incorrect response, the cytoskeleton does not protect the cell – no mark awarded.





Question 2

Q2 (a)

This was a memory recall question from section A1.2i of the unit content with 52% of learners scoring one mark.



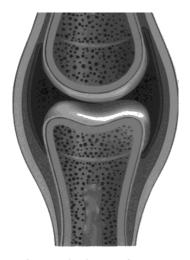
(a) Give the name of the type of joint in the diagram above.

(1)

Synovial joint

1 mark

A correct name for the type of joint – 1 mark awarded



(a) Give the name of the type of joint in the diagram above.

Ball and Socket Soint

(1)

0 mark

An incorrect response – no mark awarded





Q2 (b)

This was a four mark question from section A1.2i in the unit content with only 37% of learners scoring four marks. The functions were often confused between the ligaments and tendons and, although explained correctly, resulted in no rewardable marks.

(b) Explain the function of ligaments and tendons.	(4)
Ligaments	ý
Ligaments connect bone to bone of point of attachments for bones novement of points	providing enabling
Tendons connect muscle to bone bone movement during muscle con	

4 marks

The correct function has been identified for each with accurate explanations provided – 4 marks awarded



(b) Explain the function of ligaments and tendons.	(4)
Ligaments	
Ligamets connect muscle tissues together	
this is used so that the muscles in	444411115555555555555555555555555555555
the body can move efficiently.	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Tendons	
Tendons connect Vervous tissues togeth	rer
this is used for the nerves in the bo	dy
to be able to contract and work	*

0 marks

An incorrect response demonstrating no understanding of ligaments and tendons - no rewardable marks.





Q2 (c)

This was a two mark question on a disorder from section A1.4iii of the unit content and was answered well with 73% of learners scoring two marks.

(c) Give two symptoms of hip dysplasia in dogs.	(2)	
1 Dijjiculy walking	()	
2 Loss of function is his legs		
2 marks Two correct symptoms stated – 2 marks awarded.		
(c) Give two symptoms of hip dysplasia in dogs.	(2)	
1 Sweating	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
2 bleeding from the nose		

0 marks

Two incorrect answers demonstrating no understanding of the disorder – no rewardable marks.



Q2 (d)

This four mark question from section A1.2ii of the unit content was answered well with 61% scoring four marks. Most learners were able to describe the bird's internal bone structure accurately but not always that of a mammal.

(d) Describe the ii	Remar Structure	or pones in n	патипать аг	ia piras.	0	(4)
Mammals Mammals	bones	have	a	bone	Meurrow	which
produces	blood	cells	and	baids	tle	
impure	system.	The	bones	are	stron	q So
they we	unlikel	y to	1 1	M		,
Birds Birds	heue	bones	thet	have	ø	hongycoml
Structure.	This	. 1	Ы.	1.)1	So	tleu
are able	to	fly (and	Strength	50	they
1 don't	break	ecesily.		····		

4 marks

This response accurately describes both the mammal and birds' internal bone structures to be awarded four marks



(d) Describe the internal structure of bones in mammals and birds. (4)	
Mammals	
mammals have 4 limbs with bones for each, their	
internal organs are covered by 'ribs' for protection	Ω
They have a verterbrae which often leads down to	oa.
caudal vertebrae (tail). They have a mandible and no	bea.k.
Birds	
Birds have a beak instead of a mouth like a man	nmals.
They have a verterbrae but not caudal so no bail.	
however they have boner that grow to form	414166666666
mings for Aight.	*****************
(Total for Question 2 = 11 marks)	

0 marks

This response does not answer the question - no rewardable marks available.





Question 3

Q3 (a)

This was a two mark memory recall question from section A3.1 of the unit content and 60% of learners scored two marks. There were responses where 'spine' was stated which is incorrect and no marks could be awarded.

3 (a) State the name of the two parts of the central nervous system (CNS).	(2)
1 Brain 2 Spinol-cord	
2 marks The two correct parts of the CNS have been stated for two marks	
3 (a) State the name of the two parts of the central nervous system (CNS). 1 Respiratory System 2 Circulatory system	(2)

0 marks

No understanding of the question demonstrated – no marks awarded.





Q3 (b)

This was the first of three consecutive questions on the Nervous System.

The first four mark question on the function of the parasympathetic nervous system is from section A3.1 of the unit content and only 14% of learners scored four marks. Many learners confused the functions with the sympathetic nervous system.

(b) Explain two functions of the parasympathetic nervous system.

1 It returns the body back to normal rest.

ofter a posympathetic of fight or flight
response. It does this by decreasing the
heart rate and stimulating disestion.

2 It keeps the homeostasis in the body
by allowing keeping it at a state life
processes can carry out such as digistion.

4 marks

This response demonstrates a complete understanding of the functions of the parasympathetic nervous system to be awarded 4 marks.

(b) Explain two functions of the parasympathetic nervous system.

1 H gres acriticals It deat detects if and when the animal is in danger and suggests the fight or flight, as wetter the animal should fight or run away out of danger

1 H sends herve impulses all around the abb body apart from the Centre of it

0 marks

This response has confused the parasympathetic with the sympathetic nervous system. No rewardable marks available.





Q3 (c)

This next four mark question from section B4.5iv in the unit content was aimed at 1 pass, 2 merit and 1 distinction marks. It did not discriminated well with 49% of learners scoring 0 marks and only 23% demonstrating a complete understanding of the transmission of a nerve impulse between neurons to achieve four marks. Many responses incorrectly described receptors reacting to a stimulus.

(c) Describe how a <u>nerve impulse</u> is transmitted between <u>neurons</u> .
The selection sympose is a gap between 2 neutrones
where neurotions mitters (dienicous) diffuse. The name
impulse reaches he end or ourseless presynaptic
neuron releasing occerycholine neurotransmitter from
the vasicle. This enters the sunapric clart and
receptors on the postsynaptic nouron are stimulated
austorbing the impulse.

4 marks

An accurate response with four available marks i.e. 'synapse', 'neurotransmitter', end of presynaptic neuron', 'receptors stimulated absorbing the impulse' as per the mark scheme.

(c) Describe how a nerve impulse is transmitted between neurons.	(4)
Through the synapse	
If someone touched something hot the impulse travel to the relay neurons and motor a	Will
travel to the relay neurons and motor a	wn
where a impulse is sent to the motor	
neuron to move away.	
'	

1 mark

'Synapse' has been awarded one mark, albeit the description incorrectly describes receptors reacting to a stimulus.





Q3 (d)

61.4% of learners scored 0 for this two mark question regarding two symptom of listeriosis in ruminants from section A3.9 of the unit content which clearly demonstrated a lack of understanding of this neurological disorder. Generic symptoms such as 'lethargy' / 'weakness' were stated as well as guesses at ruminant bloat.

(d) State two symptoms of listeriosis in ruminants.	(2)
1 disorientation.	
2 facial paralysis.	
2 marks Two accurate symptoms stated to be awarded 2 marks.	
(d) State two symptoms of listeriosis in ruminants. (2))
1 Chargy	
2 increased vocalisation	(1111)

0 marks

Two incorrect answers stated – no marks awarded.





Question 4

Q4 (a)

The average mark for this four mark question was 0.98 with only 25% of learners able to demonstrate a complete understanding of structures in the eye from section A3.4 of the unit content to score four marks.

The eye is a complex organ vital to a species' survival.

(a) Complete the table below to show the names and functions of structures in the eye.

(4)

Name of structure	Function
łris	Aring of muscles surrounding the pupils unich provide eye colour and control the amount of light which can enter the eye
Lens	Helps focus light rays and focus on objects as light passes through the pupil
foeva	Provides sharp, central vision
Scelera	Provides strength, structure and protection

4 marks

All parts of the table completed as per the mark scheme to be awarded 4 marks





- 4 The eye is a complex organ vital to a species' survival.
 - (a) Complete the table below to show the names and functions of structures in the eye.

(4)

Name of structure	Function
Iris	To send message to the brain to let it know what you are seeing.
Lens	contract light into the
Pupil	Provides sharp, central vision
eye IId	Provides strength, structure and protection

0 marks

All answers are incorrect- no marks awarded





Q4 (b)

This two mark, pass targeted, question from section A3.7 of the unit content performed well with 64% of learners scoring 2 marks.

(b) Explain eye positioning in owls.

(2)

Owls have eyes at the front of their face

(binocular vision) This allows a more facesed view

and for the end to have better 3D depth

perception.

2 Marks

A complete response as per the mark scheme – 2 marks awarded

(b) Explain eye positioning in owls.

[2]

To all their eyes a positioned for apart SO they can see from angles to union helps to hunt prey. They are near enough at both Sides of their head.

0 marks

An incorrect response with no rewardable marks available.





Q4 (c)

This two mark, pass targeted question required memory recall regarding the photoreceptors in the eye from section A3.4 in the unit content. Majority of the learners scored 0 marks.

(c) State the photoreceptors in the eye.	
(c) State the photoreceptors in the eye.	(2)
1 Rods	***************************************
2 Cones	
2 marks	
Two correct answers stated.	
(c) State the photoreceptors in the eye.	(2)
1 corred	
2 reting	

0 marks

Two incorrect answers stated – no rewardable marks.





Q4 (d)

This four mark question required learners to demonstrate an understanding of adaptations to allow animals to see in the dark which is from section A3.6 in the unit content.

(a) Explain two adaptations that nelp animals to see in the dark.	(4)
nammarian eye which replects light of	
the eye making the arimous able to	500
in Low light/dark conditions.	111111111111111111111111111111111111111
2 Suit pupus - easier to control (movo) th	تن
adaption means animals like reptile 5 of	re
better suited to seeing in the & dark i	Ω
comparasin to humans.	

4 marks

Two correct adaptations have been identified and explained to gain four marks

(d) Explain two adaptations that help animals to see in the dark.	4)
(4	+1
1 instead of being while to see colours a	nol
features, some animals like frogs was moone	af
see shapes when they move	
2 Some animals See in the dark by he	a.t
so they can see when something is pre	y
or just a rock	1

0 marks

This response is incorrect demonstrating no understanding of the question – no rewardable marks.





Question 5

Q5 (a)

This four mark question on birds' beaks was well answered with majority of learners achieving four marks and a mean mark of 2.64.

5 (a) Explain two ways birds' beaks are adapted to feed.	(4)
1 Some burds have thick, strong beaks, this allows burds to be strong enough to Crack open Nuts and Seeds.	
2 Some birds have thin, land beaks to	
2 Some burds have thun, Long beaks to auau their (beaks) fit into Smau Crevices	
to couect insects and juices (such as honey)	

4 marks

Two adaptations explained as per the mark scheme to be awarded four marks.

5 (a) Explain two ways birds' beaks are adapted to feed.

(4)

1 Birds don't have teeth, they have a lower cand up por mandable which means they can't chew but they can pick up and break the food so they can eat it.

2 lipper mandable group to food and lower breaks it into managable pieces to smallow as blicky don't they have a lower when they can pick up and they are allower breaks it into managable pieces to smallow as blicky don't they have a lower hards.

0 marks

This response does not answer the question.





Q5 (b)

This was a one mark memory recall question aimed at pass from section A2.3 in the unit content and did not perform as expected with majority of learners scoring 0 marks.

(b) State the name of the enzyme found in saliva.	ne found in saliva. (1)
amylase	
1 mark The correct enzyme has been stated to be awarded 1 mark	
(b) State the name of the enzyme found in saliva.	(1)
Lactic acid	

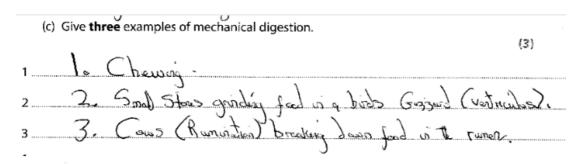
0 mark

An incorrect response.



Q5 (c)

This three mark question was aimed at one pass and two merit on mechanical digestion from section A2.3 in the unit content. Only 38% of learners scored 3 marks with a mean mark of 1.13.



3 marks

Three accurate examples given as per the mark scheme – 3 marks awarded

	(c) Give three examples of mechanical digestion.	(3)
1	konque	
2	Small intestine	
3	large intestine.	

0 marks

The examples provided do not answer the question – 0 marks awarded.





Q5 (d)

This was the first of two competency based questions with marks awarded for the response being at Level 1, Level 2 or Level 3. If no rewardable material was evident the learner scored 0 marks. There was a tendency to confuse food groups with food types, learners must be clear about the difference i.e. 'food groups' include the nutrients while 'food types' are sources of the nutrients.

The mean mark for this question was 3.74 which is almost a mid-Level 2 answer and demonstrated that 83.2% of learners provided a partially developed discussion with some accurate knowledge, understanding and consideration of the importance of different food groups from section A2.1 of the unit content.

A Level 3 response required mostly accurate and detailed knowledge of all the nutrients with clear links relevant to the context of an animal's diet as follows:

cours, fats, protten, haver, fibre, vicamins, minerals (d) Animals get the nutrients they need from different food groups. They get these from eating plants or prey animals. Discuss the importance of the different food groups needed in an animal's diet. Proveins an important part of an arimals deit especially counivous animals. Proveins can be broken down unto amono acids which assist with cell grown and repair. Provein can also be broken down unto towne which is an essential amino acid reeded in cots in order for even to mountain enembers larger, muscular arumals, mostyphediators need thus to assust with muscle growth. Calbohydrates provide are a long chain of guicose molecules. This provides arumals with a short term burst of energy. for but also can be provide them with long term energy when stored as fat within the booky the glucose malecules and is used by the muscles along with oxygen to respire and oneate energy. Lipids or fats provide a sort of energy for an animal, however too much can cause obesity and Stain on the body Fat also provides protection and warmen to the body when not being utilised for energy. Fats are broken down into fatty aciois, and again provides sugars for energy use. Memoriumes can recieve promens for food sources such as leafly greens these foods also assist in the breaking of their teeth and recleany fibre which aids in





digestion. In small amounts, fibre helps with bowl
movement allowing an animal to deficate Vitamins.
and minuals open work egether to perform functions
within the body vitamins and minerals provide many
functions such as growth and bone development, *0
vivamins such as vivamin C can cause deficiences
with the animal such as guinea pigs. Grunea pigs are
unable to systems & outainen con C and must receive
the correct amount woun there deit as a concause
scurrey with Causes these bones to be misformed.
This can also occur in reptiles and is known as
metabolic home disease. In abundance of vitamins
can also cause the some syptems as a lock of them
hater au altrough not a food going group is
essiental to an animal orit as it flushes texins from
one body and hydrate cells. Many bodily furtions.
some need water in order mountain function water.
is essiental to every animal
🗱 aid in digestion, keep skin and coat in good health
etc.

8 marks

This response demonstrates mostly accurate knowledge of the different food groups through a well-developed, logical discussion which includes relevant points and examples of why they are important in an animal's diet. This is a Level 3 answer which was awarded 8 marks.





5d
 (d) Animals get the nutrients they need from different food groups. They get these from eating plants or prey animals.
Discuss the importance of the different food groups needed in an animal's diet. (8)
It is important for an enimal to have
different food groups in their cliek because:
This way they have a bouenced dies which
should stop the animal from becoming overweight or underweight.
The animal manages to get all the correct nutrients stopping them from becoming deficient
in something which could cause Kealth
beagens gony we live.
Plants: Are good for the animous to
eat so they get their nutrients and vitamins, they cuso contain water which is useful
for Keeping the animal hydrated.

2 marks

This learner has attempted the question demonstrating isolated knowledge and understanding of the subject and only mentioned the importance of water with generic assertions regarding 'correct nutrients'. There is no development of a discussion and only a few points relevant to the context in the question.

This is a Level 1 answer and was awarded 2 marks.

Q5 (e)

This question from section A2.4 of the unit content was targeted at pass and involved memory recall but did not perform as expected with 67.1% of learners scoring 0 marks.

(e) Give the name of one digestive enzyme secreted from the pancreas.	
,	(1)
Protesse.	

1 mark





The correct name of an enzyme secreted by the pancreas has been given to gain 1 mark.

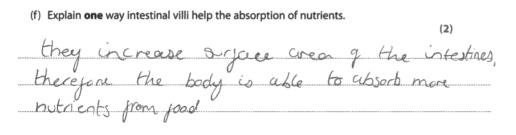
(e) Give the name of one digestive enzyme secreted from the pancreas.	(1)
Insulis	

0 marks

This is an incorrect response – no mark awarded.

Q5 (f)

This two mark question is from section A2.7 of the unit content regarding intestinal villi. 45% of learners scored the full two marks. The mean mark of 0.9 was reflective of learners identifying that villi increase the surface area but not explaining that this allows the absorption of **more** nutrients.



2 marks

A complete accurate response as per the mark scheme to achieve 2 marks

(f) Explain one way intestinal villi help the absorption of nutrients.			(2)
Intestinal Villi	helps	breck	down
all the Foo	d and r	nutrients	which
makes it ea	sier to	be ab	sorbed.

0 marks

An incorrect response demonstrating confusion about the function of villi - no rewardable marks.





Question 6

Q6 (a)

Learners had to 'compare' the roles of two hormones for this four mark, distinction targeted question from section A2.5 of the unit content. 40% of learners scored the full four marks and the mean mark was 1.58. The roles were frequently confused between the two hormones but marks were gained from knowing they were released from the pancreas.

(4)

Insulin and glucagon.

Insulin and glucagon.

(4)

Insulin and glucagon.

4 marks

This response demonstrates an accurate understanding of the roles of both hormones allowing 4 marks to be awarded.





6 (a) Compare the roles of the hormones insulin and glucagon. (4)		
insulin is released when food		
is eaten , and is then stored		
as quicose used for energy,		
where as glucagon is released		
during strarbation and is		
turned who glycogen used		
ra energy Ital.		
O see a vilag		
0 marks		
No understanding of the hormones or their roles demon rewardable marks.	strated i	n this response- no
rewardable marks.		
Q6 (b)		
This one mark question required an element of understa	nding of	the effects of hormones
from section A5.1ii of the unit content. It was a distinction	_	
learners providing the correct response.		
(b) Charthannan of a harmon value of a large and a lar		
(b) Give the name of a hormone released when an animal is stressed.	(1)	
adrenalihe	***************************************	Addition 1
1 mark		
A correct response to score 1 mark		
(b) Give the name of a hormone released when an animal is stressed.		
n	(1)	
Progesterone.		
•		

0 marks

An incorrect response - no rewardable mark.





Q6 (c)

This four mark question from the same section of the unit content as the previous question was about changing levels of hormones and resulted in 50% of learners scoring the full four marks with a mean mark of 1.99.

(c)	State how the levels of the following hormones change when an animal is giving birth.	
		(4)
	Oestrogen	
140001000000000000000000000000000000000	Levels increase:	
	Oxytocin	
	levels the increase	
	Progesterone	
***********	Levels docrease.	
	Prostaglandins	
	Levels increase.	

4 marks

A complete accurate response a per the mark scheme to achieve the full four marks.

(c) State how the levels of the following hormones change when an animal is giving birth.	
	(4)
Oestrogen	
Making of the uterus lining.	
Oxytocin	
Making of contractions during labour.	
Progesterone	
Maintains the lining of the uterus lini	ng
Prostaglandins	

0 marks

This response does not answer the question – no rewardable marks

Q6 (d)

This two mark question from section A5.2v of the unit content regarding the role of extraembryonic membranes in a bird's egg did not perform well with only 29% of learners achieving the two available marks.





(d) Explain one role of extraembryonic membranes in an egg.	(2)
The york sac in and agg acre as a source of food for on	<u>e</u>
entry.	

2 marks

An accurate response as per the mark scheme achieving the full two marks.

(d) Explain one role of extraembryonic membranes in an egg.	(2)
To protect the egg:	

0 marks

This response is incorrect as the membranes protect the embryo not the egg – no marks awarded.

Question 7

Q7

This was the second competency based question and the last question on the paper which had eight available marks awardable for the overall accuracy, detailed knowledge and understanding plus a well-developed discussion with relevant points about the both the structure of DNA and how it codes for amino acids. It is from section B3.2 of the unit content. It did not perform as expected with only 29% of learners scoring the full eight marks for his question and 22.2% scoring 0 from having no knowledge of DNA.





7 DNA is present in cells and is the genetic information that is the blueprint for life. Discuss the structure of DNA and how it codes for amino acids. (8) ONA is formed by nucleotides. It is made up of bases attached to a sugar-prosphate backbone. Each base contains mitrogen and is represented by a letter: A, T, C, of G. These bases pair together to nelp form the double helix shape. A, adenine pairs with T, thymine. C, cytosine pairs with G, quanine. theres one contains genes, which are strands of DNA. They contain the genetic information for a particular characteristic or cell activity. The bases form triplets. Each triplet codes for a particular amino acid. Therefore, the base-pairing sequence in a genetic code ONA codes for the amino acid sequence in a polypeptide chain (which is made of proteins).

8 marks

This response demonstrates accurate and detailed knowledge of the structure of DNA and how it codes for amino acids with a well-developed and logical discussion. It includes all relevant points about DNA and how they link and interrelate. This is a Level 3 answer which was credited with 8 marks.



(8)



7 DNA is present in cells and is the genetic information that is the blueprint for life.
Discuss the structure of DNA and how it codes for amino acids.

The DNA collects information from both of the purents.
There are 46 chromosomes in teotal, 23 from each parent. It
outvious in half and replicates itsay. The DNA needs to be
replicated income some of the information is lost. It offer is the
eye colour, how and hair along from the mostly the
obminant parent. The information collected is then proposed
into occors in a rear to

1 mark

This response does not answer the question regarding 'structure' and 'coding for amino acids' although, there is an isolated element of knowledge regarding 'replication' to allow one mark to be awarded.

Unit Summary

Based on the performance on this paper learners should:

- Be familiar with disorders / conditions / terms from the unit content such as 'cilia',
 'hip dysplasia', 'listeriosis', 'villi'
- Be able to differentiate between cell organelles and their functions.
- Know basic tissue types and joints plus the difference between ligaments and tendons.
- Know the internal bone structure of mammals as well as birds.
- Be able to differentiate between the sympathetic and parasympathetic nervous systems plus the other nervous systems stated in the unit content.
- Develop an understanding of nerve impulses and neurons, separate to receptors and sense organs.
- Know all the structures in the eye and their functions.
- Know names of hormones and their functions.
- Read the question to ensure the answer given reflects what has been asked i.e. 'food groups' not 'food types' and 'DNA structure and coding for amino acids'
- Practice the levels-based, extended response questions to ensure a Level 3
 answer includes a well-developed and logical discussion with accurate
 knowledge relevant to the context of the question, plus clear links which
 consider a range of different aspects and inter-relationships with body





- systems. This will then gain the 6-8 marks for each of the two levels-based questions included in the paper.
- Responses should be based on the command verb in the question i.e. 'state' / 'give' do not require expansion of a point but 'explain' / 'describe' do.
- Identify the marks allocated to the question and the space available to guide the extent of the response required and ensure the answer is included in the appropriate point / label.
- Practise papers from previous series to become familiar with the content and style of questions asked.







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