# S.3 BIOLOGY ASSESSMENT TEST 1

### TIME: 90 MINUTES

### **TOPIC: EXCRETION & HOMEOSTASIS**

### **SECTION A**

1.	The main value	of sweating in man is that durin	g the process			
	A. Excess water is removed from the body					
	B. Latent heat	of vaporization of water helps to	cool the body			
	C. Excess min	eral salts are removed from the b	ody			
	D. The body g	ets rid of excess nitrogenous was	tes			
2.	Possession of a	long loop of Henle is a character	ristic of;			
	A. Desert anim	als B. Amphibians C	C. Fresh water animals	D. Mammals		
3.	Which of the fe	ollowing organs is responsible fo	r removing excess glucose	from blood?		
	A. Spleen	B. Liver	C. Kidney D. Gal	ll bladder		
4.	Reptiles are we	ell adapted to living on land due t	o presence of			
	A. Dry epiderr	nal scales and egg membranes	C. Shelled eggs and lu	ings		
	B. Lungs and e	egg membranes	D. Dry epidermal scal	es and gular crest		
5.	In the body ten	nperature regulation, vasodilatation	on			
	A. Allows	more blood to enter the skin capi	llary network			
	B. Allows	more urine to be secreted into the	e bladder			
	C. Allows	less sweat to be secreted by swea	t glands			
	D. Decreas	es heat loss by radiation				
6.	The waste proc	luct urea is formed from				
	A. Cellulose	B. Protein	C. Glucose	D. Fat		
7.	Figure 2 shows	changes in the body temperature	e with environmental temp	erature in an animal.		
		<b>↑</b>	Which one of the follo	wing could be the		
	Ť		animal represented?	whig could be the		
	Le .		A. Bird			
	atu		B. Dog			
	ly iper		C. Human			
	Bod		D. Frog			
	Enviromental temperature					
8.	In which part of	of the kidney nephron does reabso	orption of glucose occur?			
	A. Proxima	al convoluted tubule.	C. Descending loop of	of Henle.		
	B. Distal c	onvoluted tubule.	D. Ascending loop of	Henle.		
9.	Which one of t	he following stimulates the re-ab	osorption of the water in the	e kidney?		
	A. Adrenaline B. Antidiuretic hormone. C. Thyroxine D. Insulin					
10	What is the fun	ction of contractile vacuole in th	e amoeba?			
	A. Storage of	solid particles	C. Control of water cor	ntent in the body		
	B. Storage of	unwanted gaseous compounds	D. Digestion of food			

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**11.** The group of organs performing excretory functions is

II. me group o	i organs periorn				
A. Kidne	eys, lungs and sl	kin.	C. Skin, kidne	eys and pancreas	
B. Liver	, kidneys and pa	ancreas	D. Lungs, sple	een and gall bladder.	
<b>12.</b> Excretory pr	oducts of plants	include			
A. Oxygen and starch			C. Oxygen and c	arbon dioxide	
B. Oxygen a	and urea		D. Urea and carb	oon dioxide	
<b>13.</b> Which one of	of the following	; responses is lil	kely to occur in the h	numan body when environ	mei
temperature	increases?				
A. Vasoo	lilation		C. Contraction of the	ne erector pili muscle	
B. Shive	ring		D. Increased metabo	olism	
14. In which par	t of the nephron	ı does ultrafiltrat	tion take place?		
A. Renal	tubule	B. Collecting tub	oule C. Glome	erulus D. Renal vein	
15. In which par	t of the nephron	ı does reabsorpti	on of sugars take pla	ce?	
A. Dista	l convoluted tub	oule	C. Proximal co	onvoluted tubule	
B. Loop	of Henle		D. Collecting d	luct	
16. Which one of	of the following	is the source, tar	rget and effect of insu	ulin on the human body?	
	Source	Target	Effects		
Α	Liver	Liver	Decrease amount of	of glucose in blood	Г
В	Pancreas	Pancreas	Increase amount o	f glucose in blood	
С	Liver	Pancreas	Decrease amount of	of glucose in blood	
	Pancreas	Liver	Decrease amount of	of glucose in blood	~
17. Which of the	e following orga	ans are used for e	excretion in insects ar	nd mammals respectively	?
A. Flame	e cells and Kidn	ey	C. Malphigian t	ubule and Kidney	
B. Neph	ridia and Kidney	У	D. Trachioles an	d Kidneys	
<b>18.</b> Which of the	e following glon	nerular compone	ents increases in conc	entration along the rest of	f pa
of the nephro	on?				
A. Water	D	D			
	r В.	. Protein	C. Glucose	D. Urea	
<b>19.</b> Which one of	r B. of the following	. Protein is the role of eff	C. Glucose Ferent vessel of the ne	D. Urea phron?	
<b>19.</b> Which one of A. Drain	r B. of the following s the glomerulu	. Protein is the role of eff s	C. Glucose Ferent vessel of the ne C. Filter	D. Urea phron? s the blood	
<b>19.</b> Which one of A. Drain B. Suppl	r B. of the following is the glomerulu ies the glomeru	. Protein is the role of eff s lus	C. Glucose Ferent vessel of the ne C. Filter D. Purif	D. Urea phron? rs the blood ies the blood	
<ul><li>19. Which one of A. Drain</li><li>B. Suppl</li><li>20. The following</li></ul>	r B. of the following is the glomerulu ies the glomeru ig are physiolog	. Protein is the role of eff s lus gical processes th	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body	D. Urea phron? rs the blood ries the blood of a mammal.	
<ul><li>19. Which one of A. Drain</li><li>B. Suppl</li><li>20. The followin (i) elimin</li></ul>	r B. of the following is the glomerulu ies the glomeru ig are physiolog <i>nation of urea</i> .	. Protein is the role of eff s ilus gical processes th	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). <i>regulation of wa</i>	D. Urea phron? rs the blood fies the blood of a mammal. <i>uter in the body</i>	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followin (i) elimin (ii) regul</li> </ul>	r B of the following is the glomerulu ies the glomeru ing are physiolog mation of urea. ation of salts in	. Protein is the role of eff s ilus gical processes th <i>the body</i>	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of e	D. Urea phron? rs the blood ries the blood of a mammal. <i>ter in the body</i> <i>excess amino acids</i> .	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followir (i) elimin (ii) regul</li> <li>Which of the following (ii) which of the following (iii) which of the following (ii) which of the</li></ul>	r B of the following is the glomerulu ies the glomeru ies the glomeru ig are physiolog <i>nation of urea</i> . <i>ation of salts in</i> em are carried o	. Protein is the role of eff s dus gical processes th <i>the body</i> ut by the kidney	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of e	D. Urea phron? rs the blood ries the blood of a mammal. <i>tter in the body</i> <i>excess amino acids</i> .	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followin (i) elimin (ii) regul</li> <li>Which of the A. (i), (ii)</li> </ul>	r B. of the following is the glomerulu ies the glomeru ng are physiolog <i>mation of urea</i> . <i>ation of salts in</i> em are carried o i) and (iv)	. Protein is the role of eff s ilus gical processes th <i>the body</i> ut by the kidney	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of e ? C. (i), (ii) and ( <i>iii</i> )	D. Urea phron? rs the blood ries the blood of a mammal. <i>ter in the body</i> <i>excess amino acids</i> .	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followir (i) elimin (ii) regul</li> <li>Which of the A. (i), (ii B. (ii), (ii)</li> </ul>	r B. of the following is the glomerulu ies the glomeru ing are physiolog <i>nation of urea</i> . <i>Cation of salts in</i> em are carried o i) and (iv) iii) and (iv)	. Protein is the role of eff s lus gical processes th <i>the body</i> ut by the kidney	C. Glucose Ferent vessel of the ne C. Filter D. Purifinat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of e ? C. (i), (ii) and ( <i>iii</i> ) D. ( <i>ii</i> ) and ( <i>iii</i> ) on	D. Urea phron? rs the blood ries the blood of a mammal. <i>ter in the body</i> <i>excess amino acids</i> .	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followir (i) elimin (ii) regul</li> <li>Which of the A. (i), (ii B. (ii), (ii)</li> </ul>	r B. of the following is the glomerulu ies the glomeru ing are physiolog <i>nation of urea</i> . <i>Tation of salts in</i> em are carried o i) and (iv) iii) and (iv)	. Protein is the role of eff s ilus gical processes th <i>the body</i> ut by the kidney SECT	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of e ? C. (i), (ii) and ( <i>iii</i> ) of C. (ii) and ( <i>iii</i> ) of CION B	D. Urea phron? rs the blood ries the blood of a mammal. <i>tter in the body</i> <i>excess amino acids</i> .	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followir (i) elimin (ii) regul</li> <li>Which of the A. (i), (ii B. (ii), (ii)</li> </ul>	r B. of the following as the glomerulu ies the glomerulu ies the glomeru ng are physiolog <i>mation of urea</i> . <i>fation of salts in</i> em are carried o i) and (iv) iii) and (iv)	Protein is the role of eff s ilus gical processes th <i>the body</i> ut by the kidney <b>SECT</b>	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of wa ( <i>iii</i> ). ( <i>ii</i> ) and ( <i>iii</i> ) of C. ( <i>i</i> ), ( <i>ii</i> ) and ( <i>iii</i> ) of <b>CION B</b>	D. Urea phron? rs the blood fies the blood of a mammal. <i>ater in the body</i> <i>excess amino acids</i> .	
<ul> <li>19. Which one of A. Drain B. Suppl</li> <li>20. The followir (<i>i</i>) elimit (<i>ii</i>) regul</li> <li>Which of the A. (<i>i</i>), (<i>ii</i> B. (<i>ii</i>), (<i>ii</i></li> <li>1. (<i>a</i>) (<i>i</i>) Give (an dathermalic</li> </ul>	r B. of the following is the glomerulu ies the glomerulu ig are physiolog <i>nation of urea</i> . <i>fation of salts in</i> em are carried o i) and (iv) iii) and (iv) the main differe	. Protein is the role of eff s ilus gical processes th <i>the body</i> out by the kidney <b>SECT</b> ence between col	C. Glucose Ferent vessel of the ne C. Filter D. Purif nat occur in the body ( <i>iii</i> ). regulation of wa ( <i>iv</i> ). deamination of e ? C. (i), (ii) and ( <i>iii</i> ) of C. (ii) and ( <i>iii</i> ) of CION B	D. Urea phron? rs the blood ries the blood of a mammal. <i>ter in the body</i> <i>excess amino acids</i> . i) nly.	

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(ii) Give one advantage that an endothermic animal has over an ectothermic animal. (02marks)

<ul> <li>(b) Give four ways in which an ectotherm reacts to the lowering of external temperature. (04 mar (04</li></ul>	(iii)	Why are ectothermic animals said to be cold blooded?	(02 mark
Figure 4 below shows a mammalian urinary system. VENACAVA $\rightarrow$ AORTA A $A$ $B$ $CD$ $D$ $D$ $DF$ $F$ $F$ $F$ $F$ $F$ $F$ $F$ $F$ $F$	( <b>b</b> )	Give four ways in which an ectotherm reacts to the lowering of ex	ternal temperature. (04 mark)
Figure 4 below shows a mammalian urinary system.         VENACAVA         VENACAVA         ABC         D         Fig 4         (a) Name the parts labeled $A - F$ (03 mar         B			
Figure 4 below shows a mammalian urinary system. VENACAVA AORTA AORTA A B C F F F F F F F F	••••••		
<ul> <li>(a) Name the parts labeled A - F</li> <li>A D</li> <li>B E</li> <li>C F</li> <li>(b) Briefly explain why the concentration of urea in B is less than that in C.</li> <li>(03 mar</li> <li>(03 mar</li> </ul>		A B C D E F F F F F F F F F F F F F F F F F F	
ADBECF(b)Briefly explain why the concentration of urea in B is less than that in C.(03 mar	(a)	Name the parts labeled $A - F$	(03 mark
<ul> <li>B</li> <li>C</li> <li>(b) Briefly explain why the concentration of urea in B is less than that in C. (03 mar</li> </ul>		A D	•••••
(b) Briefly explain why the concentration of urea in B is less than that in C. (03 mar		В Е	
(b) Brieny explain why the concentration of thea in B is less than that in C. (05 mar	<i>(</i> <b>b</b> <i>)</i>	Rriafly avalain why the concentration of uras in R is less than that	- in C (03 mar

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(*d*) A sample of urine was found to contain sugar.

	( <i>i</i> )	Suggest the types of sugar likely to be contained in the urine sample.	(01 mark)
	(ii)	What hormone is likely to be deficient in the person from whom the uri was taken?	ne sample (01 mark)
	(iii)	Name the disease that the person is likely to be suffering from.	(01 mark)
(c)	Anoth compl	er individual was found to be passing out lot of urine but without sugar a laining of thirst most of the time.	and
	( <i>i</i> )	Suggest a hormone that is deficient in this individual.	(01 mark)
	( <i>ii</i> ). N	ame the organ which produces the hormone referred to in (e) (i) above.	(01 mark)
<b>3.</b> (a) V	What is ( <i>i</i> ) in	the excretory organ for nitrogenous wastes? insects	(02 marks)
<b>(b)</b>	Where	e is the organ located in the insect body?	(01 mark)
(c) (i	) What	nitrogenous compound is excreted by the organ in (b) above?	(03 marks)
(ii)	). Give a	a reason for the form of the excretory product you have mentioned in (c)	(ii) above.
(iii)	). Name	any other excretory products in insects.	(01mark)
( <i>d</i> )	What	other function does the excretory organ in the amoeba perform?	(01 mark)

### SECTION C

<i>1</i> .	(a) Distinguish between Excretion and Osmoregulation.	(02 marks)
	(b) Give reasons why plants do not require special excretory organs as Man.	(04 marks)
	(c) Describe how water balance is maintained in Man.	( <b>09 mark</b> s)

## END!!!

"Don't ask what the world needs. Ask what makes you come alive, and go do it."