7. Human nutrition

7.2 Digestive system

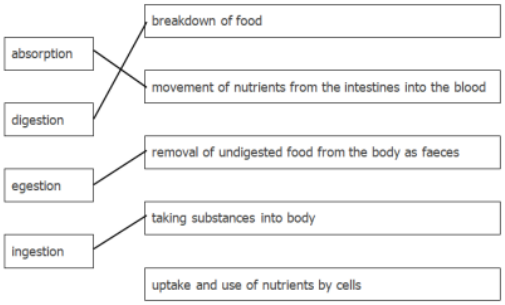
Paper 3 and 4

Marking Scheme

Q1.

(a)(i)	**A** ; **C** ; **G** ; **E** ;	**4**	
(a)(ii)	*any one from:* kill / destroy, (harmful) microorganisms ; to provide an, optimum / acidic / correct / low, pH / AW ;	**1**	

Q2.

(a)	**C** ; **C** ; **A** and **C** ;	**4**	either order
(b)	colon ; rectum ; anus ;	**3**	
(c)		**4**	**R** each additional line

Q3.

(a)	**H** ; **A** ; **F** ; **G** ; **C** ; **C** ;	**6**	

Q4.

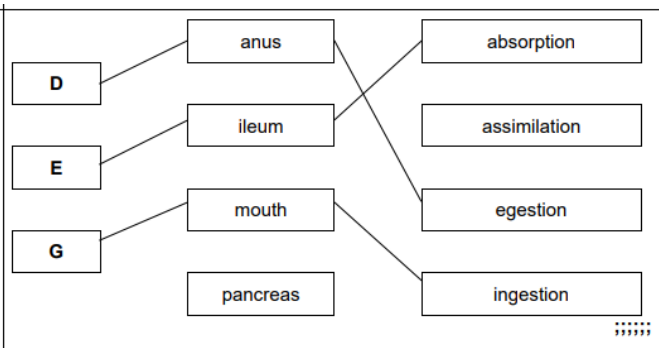
(a)		**6**	

name	letter	function
lungs ;	**E** ;	excretes carbon dioxide from the body
heart	**B**	pumps blood ;
(urinary) bladder ;	**F**	stores urine
kidney ;	**A** ;	excretes urea, excess water and ions

Q5.

(d)(i)	**D** ;	**1**	
(d)(ii)	**C** ; **E** ;	**2**	either order

Q6.

(a)(i)		**6**	one mark for each correct line **R** each additional line
(a)(ii)	**F** ; breaks down amino acids / formation of urea / AVP ;	**2**	

Q7.

(a)	<table><tr><th>function</th><th>letter</th></tr><tr><td>egestion</td><td>**K** ;</td></tr><tr><td>lipase made</td><td>**G** ;</td></tr><tr><td>mechanical digestion</td><td>**A / F** ;</td></tr><tr><td>most water absorption</td><td>**J** ;</td></tr></table>	**4**	

Q8.

(a)	<table><tr><th>structure</th><th>function</th></tr><tr><td>anus ;</td><td>where egestion occurs</td></tr><tr><td>gall bladder</td><td>stores bile ;</td></tr><tr><td>mouth ;</td><td>where ingestion occurs</td></tr><tr><td>salivary glands</td><td>produce / secrete, saliva / amylase ;</td></tr><tr><td>small intestine ;</td><td>where most absorption occurs</td></tr></table>	**5**	

Q9.

(a)(i)	**H** – oesophagus ; **J** – pancreas ;	**2**	
(a)(ii)	**N** line ending on the rectum ; **P** line ending on the small intestine ; **R** line ending on the small intestine ;	**3**	
(b)(i)	assimilation ;	**1**	
(b)(ii)	egestion ;	**1**	

Q10.

(a)	**K** ; **C** ; **K** ; **H** ; **H** ;	**5**	

Q11.

(c)	(re)absorbs, water / ions / vitamins ; AVP ; e.g. fermentation of indigestible (food) matter by bacteria	**1**	**A** solidifying undigested waste

Q12.

(a)	**J** – liver ; **K** – gall bladder ; **L** – duodenum / small intestine ;	**3**	

Q13.

(a)	duodenum ;	**1**	

(c)(i)	mucus ;	**1**	
(c)(ii)	*any two from:* *(to protect the intestine from)* bacteria / viruses / microorganisms / parasites / pathogens ; (named) toxin(s) ; (named) enzymes / prevents self digestion ; (hydrochloric) acid / alkali / base / extreme pH ; physical damage by food passing through intestine / AW ;	**2**	

Q14.

(b)	*any two from:* salivary glands ; stomach ; pancreas ; small intestine / named part of small intestine ;	**2**	

Q15.

(b)	movement of digested food molecules <u>into cells</u> ; food molecules become part of cells ;	**2**	

Q16.

(c)

function	letter from Fig. 2.1	name of structure
site of starch digestion	**A** **J / E**	mouth / buccal cavity small intestine
reabsorption of water	**J / E** **H** **F**	small intestine colon / large intestine rectum
secretion of pepsin	**C**	stomach
site of maltose digestion	**J / E**	small intestine
secretion of bile	**K** **L**	liver gall bladder
storage of faeces	**F**	rectum
secretion of lipase and trypsin	**D**	pancreas

;;;;;;;

6

one mark per row
the letter must agree with the name
if more than one letter or name mark first one only

A J/E small intestine