END OF YEAR MOCK EXAMINATION
SECONDARY THREE
PURE BIOLOGY (ANSWER KEY)

Paper 1

1	A	B	**C**	D
2	A	B	**C**	D
3	**A**	B	C	D
4	**A**	B	C	D
5	A	**B**	C	D
6	A	**B**	C	D
7	A	B	**C**	D
8	A	B	C	**D**
9	A	B	C	**D**
10	A	B	C	**D**
11	A	**B**	C	D
12	A	B	**C**	D
13	**A**	B	C	D
14	A	**B**	C	D
15	A	B	C	**D**
16	A	**B**	C	D
17	A	B	C	**D**
18	A	B	**C**	D
19	**A**	B	C	D
20	A	B	C	**D**

Paper 2

Question 21

(a) P: 1, Q:2, R:4, S:3

(b)(i) Curve 4 [1]

(b)(ii) Salivary amylase optimum pH is around 7 while hydrochloric acid pH is 2. [1]
Salivary amylase denatured; loses specific 3D shape of active site. [1]
No longer complementary to starch = cannot catalyse the digestion of starch = no change in starch conc. throughout the expt. [1]

Question 22

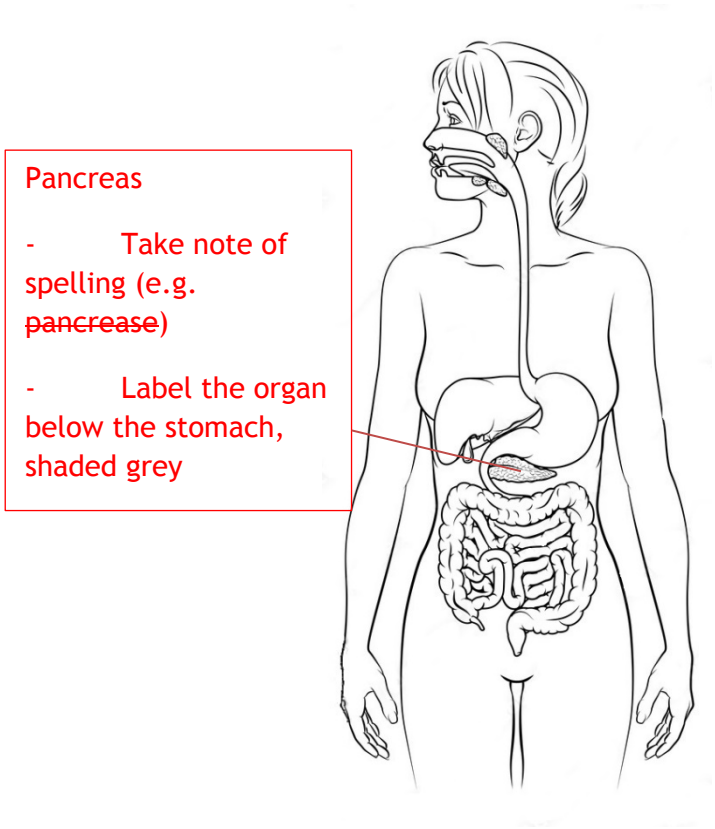
(a)(i) Enzyme/lipase [1]

(a)(ii) Disagree
Enzyme/lipase will denature above their optimum temp.
lose unique shape of active site = no longer complementary to lipids in oil
cannot catalyse the break down of lipids = cannot remove stains

(b) Conduct Biuret's test for proteins since enzymes are proteins. [1]
Add 2 cm^3 of aqueous washing sol^n to 2 cm^3 of biuret's reagent. [1]
If blue to purple, proteins present; if remains blue, proteins absent. [1]

Question 23

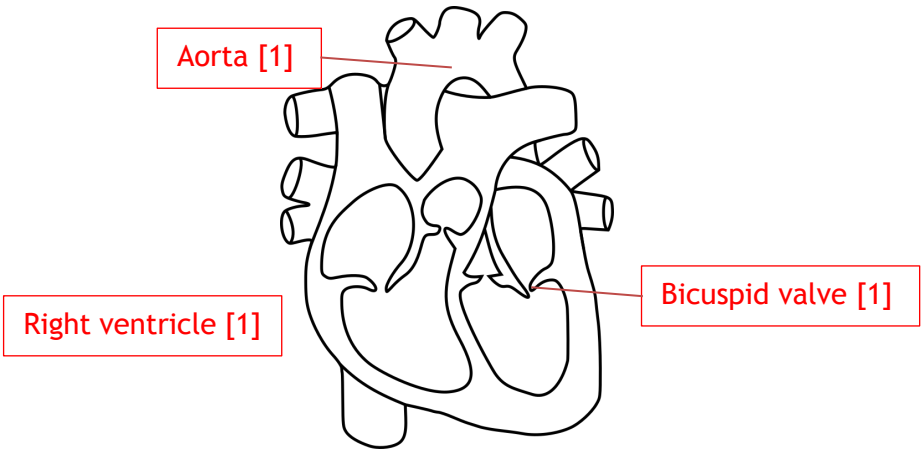
(a)



(b) The person has to consume less fats. [1]
Without pancreatic lipase secreted into the duodenum, the rate of digestion of fats will be lower than with a pancreas. [1]
Undigested fats will be removed with undigested food, resulting in oily stools. [1]

Question 24

(a)



(b) A weakened aortic valve allows some blood to flow back into the left ventricle, resulting in less blood flowing through the aorta when the ventricle contracts. [1]
Body cells receive less oxygenated blood and release less energy due to the decreased rate of respiration, causing the person to feel more lethargic. [1]

(c) Thick muscular walls
Withstand high blood pressure [1]
OR
Narrow lumen
Maintain high blood pressure [1]
OR
Elastic muscular wall
Recoil to withstand high blood pressure [1]

Question 25

(a) Point C where LV relaxes and $P_{aorta} > P_{left}$ ventricle [1]
Blood would flow from higher P to lower P [1]
SL valve closes to prevent backflow of blood from the aorta into the LV [1]

(b) Patient with blood type B has antigens B on RBC, and antibodies A in plasma. [1]
If receives blood from type A or AB, which has antigens A on RBCs, complementary antigen and antibody A will cause blood to agglutinate. [1]
Blood clumps and may block blood flow to certain organs, depriving the organ of oxygenated blood. [1]
Can only receive blood from type B or type O where RBCs do not contain antigens A. [1]