Practice Question Set For A-Level
Subject : Biology
Paper-2 Topic: 6 Organisms Response To Their Environment

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Name of the Student:_____
Max. Marks : 15 Marks **Time : 15 Minutes**

Mark Schemes

Q1.

(a) In Diabetic person:

1. Lack of insulin / reduced sensitivity of cells to insulin;
2. Reduced uptake of glucose by cells / liver / muscles;
3. Reduced conversion of glucose to glycogen;

Penalise zero / no
once only

3

(b) (i) Leaves the blood at kidney;
Taken back into blood / reabsorbed (from kidney tubule);

Reject some reabsorption

(Reabsorbed) in 1st convoluted tubule;

Kidney / named part needs to be mentioned once

2 max

(ii) Large amount / high concentration of glucose in filtrate;
Cannot all be reabsorbed / 1st convoluted tube too short to reabsorb all of glucose / saturation of carriers;

2

(c) Enzyme has specific shape to active site / active site has specific tertiary structure;
Only glucose fits / has complementary structure / can form ES complex;

2

(d) Glucose in filtrate lowers water potential;

Ignore 'urine'. Accept increase solute potential

Lower Ψ gradient / less difference in Ψ filtrate − Ψ plasma;

Ignore 'concentration'

Less water reabsorbed by osmosis;

Accept diffusion of water. Reject no water reabsorbed if implied

3

(e) 1. Glomerulus / Bowman's capsule / renal capsule;
2. Basement membrane;
3. Proteins are large (molecules) / proteins cannot normally pass through filter / proteins
can only pass through if filter damaged;

3

[15]

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