**Question 33 [WATP Sem I 2015 Paper] (10 marks)**

This question concerns the regulation of blood glucose.

1. Name the endocrine portion of the pancreas and the cell type that produces insulin. (2 marks)

1. If a Type 1 diabetic patient collapses due to lack of insulin in their blood, what has happened to their blood glucose levels? (1 mark)

1. If insulin is given to the collapsed diabetic patient **describe** TWO intra-cellular processes that will occur in the liver. (2 marks)

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1. Lack of insulin due to type I diabetes has been likened to starvation, even though the diabetic individual may have adequate food intake. Explain why the effects of a lack of insulin can be considered similar to the effects of starvation. (2 marks)

1. A healthy, young person with normal blood sugar levels was told to prepare for a surgical operation by not eating any food for 24 hours. If the blood sugar level for this person is measured after this 24 hour period, what is the likely result? Explain your answer. (3 marks)

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