**BSC ENDOCRINOLOGY, MODULE 2, 2012-13 – DIABETES TUTORIAL 2**

**Insulin resistance and secretion: research design**

An island of about 10,000 inhabitants, who have hitherto lived mainly by subsistence farming and fishing, has, one generation previously, found itself in possession of massive oil reserves. The government has distributed a proportion of the wealth from this find to the population but is also retaining a substantial fund for projects aimed at furthering the common good. Concern is growing about rising rates of obesity and diabetes on the island and the government has invited proposals from academic institutions around the world to investigate, in-depth, all aspects of this problem. Your department has internationally-recognised expertise in measuring insulin resistance and secretion and you believe that this population could provide important clues with which you could answer the question: ‘is insulin resistance or beta cell dysfunction more important in the development of Type 2 diabetes?’ You decide to submit a proposal.

**1) Which techniques for measuring insulin resistance and/or secretion would you consider?**

**2) What features of this island population might be useful in helping you answer your question?**

**3) What kinds of basic study design might you consider?**

**4) How would you justify your proposed work in terms of its potential benefits for the islanders?**