**BSC ENDOCRINOLOGY, MODULE 2 – DIABETES TUTORIAL 1**

**Diabetes in Practice**

Here are four descriptions of patients with diabetes mellitus:

A) A woman aged 38 was diagnosed with Type 2 diabetes 3 years previously. She had a BMI of 25 kg/m2 at diagnosis and currently has a BMI of 24.3 kg/m2. She was prescribed metformin initially, but this failed to reduce blood glucose or HbA1c levels. Since then she has been maintained on a sulphonylurea, but her HbA1c is now steadily rising.

B) A boy aged 12 was admitted to A&E in a coma. His blood glucose level was found to be 17.1mmol/l and his breath had a distinctive sweet solvent odour.

C) Early in a research investigation that involved recruiting members of families in which one or more members had been diagnosed with Type 2 diabetes, a girl aged 9, with a BMI of 23.7 kg/m2 was found to have a fasting plasma glucose concentration of 8.2 mmol/l. She had no symptoms, apart from being described as ‘perhaps a little more thirsty than other children’.

D) A man aged 59, with a BMI of 37.6 kg/m2 had tested positive for urine glucose at his GP’s surgery, after having complained of ‘spots in front of his eyes’. A random blood sample was was taken and sent for measurement of plasma glucose concentration, which was found to be 12.2 mmol/l.

**1) What is the diagnosis and likely pathogenesis in each of these cases of diabetes mellitus?**

**2) What further tests would you carry out to confirm your suspected diagnosis?**

**3) How would you anticipate treatment of these patients progressing?**

**4) What hopes for long-term well-being might current research hold out for each of these patients?**