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

Q1.

(a) A diabetic person and a non-diabetic person each ate the same amount of glucose. One hour later, the glucose concentration in the blood of the diabetic person was higher than that of the non-diabetic person. Explain why.

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(3)

(b) (i) The urine of a non-diabetic person does **not** contain glucose. Explain why.

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(2)

(ii) A high blood glucose concentration could cause glucose to be present in the urine of a diabetic person. Suggest how.

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(2)

(c) A test for glucose in urine uses immobilised enzymes on a plastic test strip. One of these enzymes is glucose oxidase. Explain why the test strip detects glucose and no other substance.

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(2)

(d) If the glomerular filtrate of a diabetic person contains a high concentration of glucose, he produces a larger volume of urine. Explain why.

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(3)

(e) In some forms of kidney disease, proteins from the blood plasma are found in the urine. Which part of the nephron would have been damaged by the disease to cause proteins from blood plasma to be present in the urine? Explain your answer.

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(3)

(Total 15 marks)

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