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| **SWBH Department of Clinical Chemistry****Biochemical Investigation of Diabetes Mellitus and Hypoglycaemia** **Questions Set by Trainer** |
| Name:  | Date: |
| Supervisor:  | Section: Biochemical Investigation of Diabetes Mellitus and Hypoglycaemia |
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| 1. What tests can be used to diagnosis diabetes? Describe the methodology behind them.
2. What are the expected differences when using different sample types to measure blood glucose - venous whole blood vs capillary whole blood vs plasma glucose?
3. What samples are required and what are the pre-analytical requirements for the laboratory analysis of a) blood glucose b) HbA1c c) insulin d) c-peptide e) lipid profile.

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| **Test**  | **Sample Type/ Pre-analytical requirements** |
| Blood glucose |  |
| HbA1c |  |
| Insulin  |  |
| C-peptide |  |
| Lipid profile  |  |

1. List the signs and symptoms of diabetes
2. What tests should be performed as routine on a new diabetic? How often should these be repeated?
3. When is it useful to measure glycated protein (fructosamine) in a patient with diabetes?
4. What is urinary microalbumin? Why do patients with diabetes have this test? What methods are available to measure urinary microalbumin?

 1. What other “teams” are involved with monitoring a diabetic patient?
2. What methods are available to the patient for monitoring glycaemic control in diabetes?
3. What are the limitations of using urine glucose in the monitoring of patients with diabetes?
4. What is the glucose tolerance test? How would you identify a glucose tolerance test when it is received in the laboratory? Are there any steps you need to take to ensure it is processed correctly? How would you interpret the results?
5. What does MODY mean and what causes this type of diabetes?
6. Why is gestational diabetes important and how is the monitoring and treatment of this condition different compared with other patients with diabetes?
7. Explain the terms fasting and reactive hypoglycaemia
8. List five causes of hypoglycaemia in neonates. List five investigations that are useful in determining the cause of neonatal hypoglycaemia and explain why these investigations are useful.
9. What methods are available for analysing sugars in urine and what are their limitations? Why is urine sugar chromatography requested in neonates and children?
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| Standards linked to IBMS portfolio: |
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| Employee Signature | Supervisor Signature |
| Name:Date: | Name:Date: |