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BS MLT 4th semester ANSWER SHEET

**Section A**

1. Two students of MLT are talking about the use of cholesterol in food one says its good to have cholesterols in food the other said use of more cholesterol is not good for our health, they both asked from his class teacher and he replied “having high triglyceride levels in your blood can make you more likely to have \_\_\_C\_\_\_\_\_\_
2. Arthritis
3. Feet infections
4. Heart disease
5. Beri Beri
6. Focal segmental glomerulosclerosis is a disease that scars the \_\_B\_\_\_
7. Bowman’s capsule
8. Glomeruli
9. Pancreases
10. Liver
11. Minimal change disease **“MCD”** is the most common cause of nephrotic syndrome in\_C\_\_\_\_
12. Women
13. Men
14. Children
15. Aged
16. The main signs or symptoms make up nephrotic syndrome is/are\_\_D\_\_\_\_\_\_\_\_
17. Proteinuria
18. Hyperlipidemia
19. Hypoalbuminemia
20. All of the above
21. To diagnose a patient nephrotic syndrome, you should go for? \_\_D\_\_\_\_\_\_\_\_
22. Urine Test
23. Blood Test
24. Biopsy
25. All of the above
26. Your class teacher gives you a history of patient such that a patient having yellow skin and body fluid that is the by-product of RBCs breakdown, Red blood cells typically survive for about 120 days before the body breaks them down, an increased breakdown of RBCs made the skin and body fluids colour yellow, this is due to\_\_\_\_\_\_A\_\_\_\_\_\_
27. Bilirubin
28. Cytokines
29. Alpha blockers
30. Side effects of NSAIDs
31. New-borns with jaundice are carefully monitored and generally improve within \_\_\_D\_\_\_\_hours.
32. 04 to 07
33. 10 to 12
34. 12 to 24
35. 48 to 72
36. All are true regarding Bilirubin Test Except? \_\_B\_\_\_\_\_\_\_\_
37. Is used to detect an increased level in the blood
38. Determine the cause of jaundice
39. Cannot diagnose blockage of the bile ducts.
40. Help diagnose conditions
41. A patient of malabsorption syndrome is admitted in LRH ward and you have to test the condition, of all the possible diagnostics test the most reliable test of malabsorption is\_\_\_\_\_A\_\_\_\_\_\_\_
42. Stool test
43. Blood test
44. Berth test
45. Imaging
46. The Urine Albumin to Creatinine Ratio (UACR) is a test that estimates how much albumin is excreted in a \_\_B\_\_\_\_period without requiring patients to collect urine for a whole day.
47. 12-hour
48. 24-hour
49. 48-hour
50. 72-hour
51. Which option are not **true** about kidney functions? \_\_\_\_\_B\_\_\_\_\_\_
52. Filter waste materials and toxin from the blood
53. Production of vitamin E
54. Red Blood Cells (Erythropoietin) formation
55. Synthesize hormones that regulate blood pressure
56. Structural and Functional unit of the kidney is? \_\_\_\_\_C\_\_\_\_\_\_\_
57. Renal corpuscle
58. Renal tubule
59. Nephron
60. All of the above
61. Normally: The pH of urine \_\_\_\_\_C\_\_\_\_\_\_\_
62. acidic
63. alkaline
64. varies from acidic to alkaline
65. varies from alkaline to acidic
66. Uric acid is the end product of \_\_\_\_\_C\_\_\_\_\_\_\_ catabolism.
67. Thymine
68. Pyramidin
69. Purine
70. Urea
71. …A….is known as the good cholesterol.
72. HDL
73. LDL
74. VLLDL
75. triglycerides

**Q1 What do you know about proteinuria?**

**ANSWER:** Ketonuria is a medical condition characterized by ketones in the urine. Ketones are metabolic end-products of fatty acid metabolism. In healthy individuals, ketones are formed in the liver and are completely metabolized so that only negligible amounts appear in the urine. However, when carbohydrates are unavailable or unable to be used as an energy source, fat becomes the predominant body fuel instead of carbohydrates and excessive amounts of ketones are formed as a metabolic byproduct. Higher levels of ketones in the urine indicate that the body is using fat as the major source of energy.

**Q2 explain Ketonuria and phenylketonuria in detail.**

**ANSWER:** Ketonuria is a medical condition characterized by ketones in the urine. Ketones are metabolic end-products of fatty acid metabolism. In healthy individuals, ketones are formed in the liver and are completely metabolized so that only negligible amounts appear in the urine. However, when carbohydrates are unavailable or unable to be used as an energy source, fat becomes the predominant body fuel instead of carbohydrates and excessive amounts of ketones are formed as a metabolic byproduct. Higher levels of ketones in the urine indicate that the body is using fat as the major source of energy.

**Causes of ketonuria:**

Our bodies use a combination of carbohydrates, proteins, and fats to fuel cellular tissue. Glucose is the most important energy source as it can be easily utilized by cells. However, this is only if the hormone insulin is on board to help facilitate the deliverance of glucose into the cell. Metabolic conditions, such as diabetes mellitus, are able to efficiently use glucose and force the body to use other means for producing energy.

**Starvation**

When you do not consume food for a long period of time insulin decreases. Once our body has depleted reserve glucose stores in the body, it will begin to cannibalize your fat and muscles, creating ketone bodies as an alternative fuel source known as ketosis.

**Digestive disturbances**

If the intake or absorption of carbohydrates becomes compromised, body will lean on converting fat and muscle into the energy it needs. This will lead to the development of ketone in the blood and in the urine.

**Excessive vomiting and diarrhea**

Essentially causes the body to go into starvation mode as it tries to break down fat as its fuel source. This will lead to the production of ketones, which gets excreted into the urine.

**Dietary imbalance**

Eating a diet that is primarily high in fat or low in carbohydrates can effectively shift the majority of energy source taking from fat, creating ketones in the process

**Symptoms of ketonuria**

Symptoms that are present in a patient with ketonuria will depend on the underlying cause The following may be seen upon presentation

* **Fruity smelling breath:** A common sign looked for by medical professionals, especially when diabetes has been rushed to the emergency room. This is from a ketone called acetone, which has a fruity odor that is excreted through the lungs.
* **Nausea and vomiting:** Ketone accumulation within the blood can cause an imbalance of other various electrolytes such as sodium and potassium. Having low levels of these electrolytes can lead to nausea and vomiting if not corrected.
* **Heavy breathing:** Increased ketone concentration in the blood can lead to deep, heavy, and labored breathing.
* **Confusion and disorientation:** Excess ketones can have a harmful effect on the brain over time.
* **Frequent urination:** A common sign of diabetes as the body tries to get rid of ketones in the blood, increasing the urge to urinate.
* **Dehydration and excessive thirst:** Due in part to the frequent urination but also from nausea and vomiting as well.
* **Diagnosis and treatment for ketonuria:** Detecting ketones in the urine is often a simple process that can be done quickly by a urine dipstick. However, ketones can also be identified using blood tests, but this would require more time and a blood sample**.**
* The normal range for finding ketones is less than 0.6mmol/L and they’re often presented as having a negative result.

**Phenylketonuria:**

Is an inborn error of metabolism that results in decreased metabolism of the amino acid phenylalanine. Untreated, PKU can lead to intellectual disability, seizures, behavioral problems, and mental disorders. It may also result in a musty smell and lighter skin.

* Most babies with phenylketonuria appear healthy at birth.
* Symptoms usually only develop due to complications that arise if the condition is not treated properly.
* If it isn't treated, damage to the brain and nervous system can lead to:
  1. learning disabilities
  2. behavioural difficulties
  3. epilepsy
* Often have lighter skin, hair, and eyes than brothers or sisters without the disease.
* Other symptoms include:
  1. Eczema
  2. Recurrent vomiting
  3. Jerking movements in arms and legs
  4. Tremors
  5. Mood disorders

Microcephaly

**Diagnosis**

* Screening on blood samples during the first week of life.
* If a diagnosis of PKU is confirmed, the child will need regular blood tests to measure levels of phenylalanine in their blood and assess how well they are responding to treatment.

**Treatment**

* Phenylketonuria (PKU) can be successfully treated with a low-protein diet and dietary supplements.
* The diet must be strictly followed.

Those who continue the diet into adulthood have better physical and mental health.

**Prognosis**

* The outcome is expected to be very good if the diet is closely followed, starting shortly after the child's birth.
* If treatment is delayed or the condition remains untreated, brain damage will occur.
* If proteins containing phenylalanine are not avoided, PKU can lead to intellectual disability by the end of the first year of life.

**Q3 Enlist all the possible cause of Cushing syndrome.**

* **ANSWER:** is a disorder that occurs when your body makes too much of the hormone cortisol over a long period of time. Cortisol is sometimes called the “stress hormone” because it helps your body respond to stress.

## Symptoms

The signs and symptoms of Cushing syndrome can vary depending on the levels of excess cortisol.

### Common signs and symptoms of Cushing syndrome

* Weight gain and fatty tissue deposits, particularly around the midsection and upper back, in the face (moon face), and between the shoulders (buffalo hump)
* Pink or purple stretch marks (striae) on the skin of the abdomen, thighs, breasts and arms
* Thinning, fragile skin that bruises easily
* Slow healing of cuts, insect bites and infections
* Acne
* Severe fatigue
* Muscle weakness
* Depression, anxiety and irritability
* Loss of emotional control
* Cognitive difficulties
* New or worsened high blood pressure
* Headache
* Increased pigmentation of the skin
* Bone loss, leading to fractures over time
* In children, impaired growth