

Medical Laboratory Technician - MLT (ASCP)

1. The renal threshold is the maximum amount of a substance that the kidney can prevent from entering into the urine.

- A. Concentration at which kidney can no longer filter the blood
- B. Concentration at which a substance in the blood spills into urine
- C. Concentration at which reabsorption first occurs
- D. Concentration at which kidney failure begins

Answer(s): B

2. Acute hemolytic transfusion reactions are most commonly due to ABO-incompatible blood being transfused to a recipient with naturally occurring ABO alloantibodies (anti-A, anti-B, anti A,B).

- A. Transfusion of ABO incompatible red cells
- B. Passively transfused antibodies to HLA antigens
- C. Allergies
- D. Transfusion-associated graft-versus-host disease

Answer(s): A

3. The negative antigen frequencies are used in the formula below to determine the percent of type-specific units that would be compatible for the patient. Negative antigen frequencies are determined by subtracting the percent antigen frequency from 100%. The negative antigen

frequency for K in this case is .91 (1.00 - .09) and the negative antigen frequency for Fya is .34 (1.00 - .66).

A. 31

B. 10

C. 100

D. 43

E. 92

Answer(s): A

4. An antithetical relationship exists between the antigens M and N. Antithetical relationships occur in situations where for a given locus, only one of two genes may be inherited, the alleles are termed antithetical alleles.

A. N

B. S

C. K

D. Vw

Answer(s): A

5. B

A. Yellow

B. Blue to green

C. Red to brown

D. White

Answer(s): A,B,C,D

6. Type I hyperlipoproteinemia is a form of hyperlipoproteinemia associated with deficiencies of lipoprotein lipase. Hyperlipoproteinemia type II is the most common form and is classified into type IIa and type IIb, depending on whether there is elevation in the triglyceride level in addition to LDL cholesterol.

A. II

B. VI

C. IV

D. V

E. III

Answer(s): C

7. As maturation continues in the granulocytic series the nucleus of the metamyelocyte becomes kidney or bean shaped.

A. Promonocyte

B. Myeloblast

C. Monocyte

D. Metamyelocyte

Answer(s): D

8. Match the viruses below with their associated conditions.

A. Common Cold

B. Warts

C. Gastroenteritis in infants

D. Herpes

Answer(s): A,B,C,D

9. This is the total magnification of the high dry objective lens.

A. 100X

B. 1000X

C. 400X

D. 40X

Answer(s): C

10. Joint pain is a common early symptom of HH. Cirrhosis of the liver, cardiomyopathy, and diabetes are late symptoms of HH.

A. Cardiomyopathy

B. Joint pain

C. Cirrhosis of the liver

D. Diabetes

Answer(s): B

11. The MCV is indicative of microcytosis with $MCV < 80 \text{ fL}$. The RDW is within normal limits and indicative of a homogenous cell population.

A. Macrocytic, homogenous

B. Microcytic, heterogenous

C. Microcytic, homogenous

D. Macrocytic, heterogenous

Answer(s): C

12. The difference between glass and plastic red stopper tubes is that the:

A. plastic tubes are recommended for blood bank tests

B. glass tubes cannot be used for serology tests

C. plastic tubes contain a clot activator

D. glass tubes contain heparin

Answer(s): C

13. Provide the equivalent measurement for 1 centimeter.

A. 1 inch

B. 10 millimeters

C. 1 kilometer

D. 5 millimeters

Answer(s): B

14. The lecithin-sphingomyelin ratio is a test for assessing fetal lung maturity that is useful in determining risk of an infant born with respiratory distress syndrome.

A. chromosomal abnormalities

B. respiratory distress syndrome

C. phenylketonuria

D. cystic fibrosis

Answer(s): B

15. The correct response is option B: The Hepatitis B "e" Antigen (HBeAg). This antigen indicates the virus is actively replicating and therefore the patient is very infectious. The hepatitis B "e" antigen is present when the virus is actively replicating. In cases of unintentional needlesticks, infectivity is of highest concern. The risk for infection is greatest during phases of increased HBeAg serology. The Hepatitis B surface antigen is the first detectable marker, but if the patient is known to have Hepatitis B already, it would be relatively unhelpful to confirm the condition with another HBsAg test. The core antigen is not detectable because it is covered by the nuclear envelope. Antibody response patterns would not be very helpful either as the patient has already been diagnosed with acute Hepatitis B. IgG antibodies would indicate recovery, which is not the case for this patient and IgM antibodies indicating a recent or acute infection would only confirm what is already known.

A. Hepatitis B surface Antigen (HBsAg)

B. Hepatitis B core Antigen (HBcAg)

C. Hepatitis B e Antigen (HBeAg)

D. Anti-Hepatitis B core (anti-HBc) IgG

E. Anti-Hepatitis B e (anti-HBe) IgM

Answer(s): C

16. Alkaline phosphatase, or ALP, is present in kidneys, liver, intestines, bone, and the placenta. The liver makes the largest amount of ALP. Some of the conditions associated with increased levels of ALP include: damaged liver cells, rapid bone growth (during puberty), bone diseases, or a disease that affects how much calcium is in the blood (hyperparathyroidism), and vitamin D deficiency.

A. Bone, brain, liver, pancreas

B. Brain, kidney, intestines, bone

C. Kidney, bone, intestines, liver

D. Liver, brain, spleen, intestines

Answer(s): C

17. Free T4 is affected the least by changes in plasma proteins during pregnancy.

A. Total T4

B. Free T4

C. Total T3

Answer(s): B

18. Provide the equivalent measurement for one gallon.

A. 4.2 liters

B. 3.79 liters

C. 2.5 liters

D. 1 liter

Answer(s): B

19. Myoglobin release is strongly associated with muscle damage; therefore, it would most closely match a diagnosis of massive muscle trauma in this question.

A. hemolytic anemia

B. massive muscle trauma

C. lower urinary tract infections

D. paroxysmal nocturnal hemoglobinuria

Answer(s): B

20. The ratio of blood to anticoagulant in a light blue stopper tube is:

A. 5:1

B. 10:1

C. 9:1

D. 2:1

Answer(s): C
