Question 1
2.5 / 2.5 pts

True/False:

Metaplastic cells are not better prepared to survive under stressful circumstances.

- ○ True
- ◉ False

Question 2
2.5 / 2.5 pts

True/False:

Hypertrophy can occur under normal and pathological conditions.

- ◉ True
- ○ False

Question 3
2.5 / 2.5 pts

Multiple Choice

Which is **NOT** true of the cytoskeleton?

- ○ It controls shape and movement
- ○ Cilia and flagella are microtubule-filled cellular extensions
- ◉ It includes peroxisomes and proteasomes

Peroxisomes and proteasomes are not part of the cytoskeleton.

Question 4
2.5 / 2.5 pts

Which are **true** of the cell membrane? Select **all** that apply.

- ☑ Controls the transport of materials from the outside fluids to within
- ☐ The main structural component is made of proteins
- ☑ Helps with the conduction of electrical currents in nerve and muscle cells
- ☑ Aids in the regulation of cell growth and proliferation

Question 5
10 / 10 pts

Compare and contrast the two types of gangrenous necrosis.

Your Answer:

Dry gangrene is when the tissue becomes dyhydrated and shrinks back and becomes dark brown/black in color and the spread of dry gangrene is slow. In wet gangrene the affected area is cold, swollen, and does not have a pulse, the skin is moist, black and disteneded. Small blisters blebs on the skins surface where liquefaction occurs and bad order that is caused by bacteria and the spread of tissue damage is fast.

In dry gangrene the affected tissue becomes dry and shrinks, the skin wrinkles, and its color changes to dark brown or black. The spread of dry gangrene is slow. It results from a cut off in arterial blood supply and is a form of coagulation necrosis. In wet gangrene, the affected area is cold, swollen, and pulseless. The skin is moist, black, and under tension. Blebs form on the surface, liquefaction occurs, and a foul odor is caused by bacterial action. The spread of tissue damage is rapid.

Question 6
2.5 / 2.5 pts

True/False:

Cell proliferation is the process in which proliferating cells become more specialized cell types.

- True
- False

False, cell differentiation

Question 7
2.5 / 2.5 pts

True/False:

Cell differentiation is the process of increasing cell numbers by mitotic cell division.

- True
- False

False, cell proliferation

Question 8
2.5 / 2.5 pts

This type of cell remains incompletely differentiated throughout life:
Your Answer:

Stem Cell

stem cell

Question 9
2.5 / 2.5 pts

Which of the following are most likely to have arisen from an adult stem cell?

- Muscle
- Bone
- Epithelial

Epithelial cells like the skin are constantly being replaced.

- Neural

Question 10
5 / 10 pts

1. _____ is a systemic treatment that enables drugs to reach the site of the tumor as well as other distant sites.

2. The profound weight loss and wasting of fat and tissue that accompany cancer is known as _____.

Your Answer:

1. Chemotherapy

2. Wasting

1. chemotherapy

2. cancer anorexia-cachexia syndrome

Question 11
5 / 5 pts

Short answer

Explain how the skin's physical barrier makes it inhospitable to microorganisms.

Your Answer:

Our skin is designed to be a physical barrier. It is comprised of closed packed cells in multiple layers that are being shed constantly. Keratin is what covers the skin and this makes a salty acidic enviroment that makes it inhospitable to microorganisms. It also contains antimicrobial proteins and lysozyomes that inhibt microbes that helps destroy them.

It has closely packed cells in multiple layers that are continuously being shed. Keratin covers the skin, which creates a salty, acidic environment inhospitable to microbes. It also contains antimicrobial proteins and lysozymes that inhibit microorganisms and help to destroy them.

Question 12
2.5 / 2.5 pts

True/False:

The T cells that display the host's MHC antigens and T-cell receptors for a nonself-antigen are allowed to mature, a process termed positive selection.

- (●) True
- ( ) False

Question 13
2.5 / 2.5 pts

Multiple Choice:

Which cell in the blood provides primary hemostasis?

- (●) Platelets
- ( ) Endothelial cells
- ( ) Histamine
- ( ) Macrophages

Question 14
7 / 10 pts

A 12-year-old female presents with itchy eyes, nasal congestion and drainage, and sneezing every spring when the pollen count is high. (1) Explain the immunologic mechanisms that are responsible for her symptoms. (2) What type(s) of treatment might be used to relieve her symptoms?
Your Answer:

Atopy, in most cases it is a genetic predisposition to the IgE-mediatied reaction that occure upon exposure. High level of IgE. Treament sims to remove the offeding agents and control symptoms. Antihistamines and intranasal corticosteriods used. Second generation antihistmines like zyrtec and claritin are better tolerated.

(1) Mast cells, basophils, and eosinophils play an important role in the development of type I reactions because they contain the chemical mediator histamine. A primary or initial-phase response is vasodilation, vascular leakage, and smooth muscle contraction. A secondary or late-phase response is characterized by more intense infiltration of tissues with eosinophils

and other acute and chronic inflammatory cells, as well as tissue damage. (2) Antihistamines and intranasal corticosteroids are the mainstay of treatment.

Question 15
2.5 / 2.5 pts
Multiple Choice:

The patient is found to be a severely malnourished alcoholic. The most likely cause of his anemia is:

- (•) Folate deficiency
- ( ) Pernicious anemia
- ( ) Iron deficiency anemia
- ( ) Anemia of chronic inflammation

Question 16
2.5 / 2.5 pts
Multiple Choice:

Which of the following is NOT true of vitamin B12 deficiency anemia?

- ( ) Vitamin B12 is bound to intrinsic factor
- ( ) Peripheral neuropathy can be a result of deficiency
- (•) Dietary deficiencies are common
- ( ) MCV is elevated

Question 17
2.5 / 2.5 pts
Multiple Choice:

Each of the following are risk factors for secondary hyperlipidemia except?

- ( ) Obesity
- ( ) Diabetes mellitus
- ( ) High cholesterol diet
- (•) Autosomal dominant disorder of LDL receptor

Question 18
2.5 / 2.5 pts
Multiple Choice:

Risk factors for coronary heart disease include each of the following except:

- (•) HDL > 60
- ( ) Smoking
- ( ) Hypertension
- ( ) Family history of heart disease

Question 19
10 / 10 pts

Patient is found to have the above:

1. What risk factors mostly led to this disease state?
2. What is this person at risk for developing?
3. What lifestyle modifications would you suggest for them?

Your Answer:

1. Smoking, obesity, and viseral fat, hypertention, diabetes mellitus.

2. Coronary Artery Disease, Angina, Myocardial Infarction, Stroke

3. Stop smoking, lose weight, low fat - low cholestroal diet

Answer: Picture is of an atherosclerotic plaque

1. **Hyperlipidemia, cigarette smoking, obesity and visceral fat, hypertension, diabetes mellitus. Increasing age, family history of premature CHD, and male sex. May also include C-reactive protein (CRP) and serum lipoprotein(a).**
2. **Coronary artery disease, angina, myocardial infarction, aneurysm, stroke (ischemia, thrombosis, emboli).**
3. **Stop smoking, lose weight/exercise, healthy diet (low-fat, low-cholesterol), adhere to medication for blood pressure, hyperlipidemia, and/or diabetes.**

Question 20
5 / 5 pts

_____ is the flow of gases into and out of the alveoli of the lungs.

Your Answer:

Ventilation

Ventilation