PATHOPHYS Module Exams

Module 1 Exam

Question 1
2.5 / 2.5 pts
True/False:
A bodybuilder’s muscles will display hyperplasia.

True
Correct!

False
It will display hypertrophy.

Question 2
2.5 / 2.5 pts
True/False:

Barrett esophagus is an example of dysplasia.

True
Correct!

False
It’s metaplasia.

Question 3
0 / 2.5 pts
True/False:

Hypertrophy is an increase in the size of an organ or tissue caused by an increase in the number of cells
You Answered

True
Correct Answer

False

Question 4
2.5 / 2.5 pts
True/False:

Hypertrophy can occur under normal and pathological conditions.
Correct!

True

False

Question 5
10 / 10 pts
Match the following:

Deals with the cause of death in a population a. Incidence
Number of new cases in a population at risk during a specified time b. Prevalence
Number of people with the disease in a population in a given time c. Morbidity
The effect of an illness on one's life
d. Mortality

Question 6
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
Correct!

It includes peroxisomes and proteasomes
Peroxisomes and proteasomes are not part of the cytoskeleton.

Question 7
1.67 / 2.5 pts
Which of the following move across the cell membrane via diffusion? Select **all** that apply.
Correct!

Oxygen

Glucose
Correct Answer

Water
Correct!

Carbon dioxide

Question 8
2.5 / 2.5 pts
Multiple Choice
Which of the following are **false** regarding cell communication?

Endocrine signaling depends on hormones

Neurotransmitters act through synapses

G-protein linked receptors act through an on-off switch
Correct!

Paracrine signaling releases a chemical into the extracellular fluid that affects its own activity

Question 9
2.5 / 2.5 pts
Which is **true** of the cytoskeleton? Select **all** that apply.
Correct!

It controls shape and movement
Correct!

Cilia and flagella are microtubule-filled cellular extensions

It includes peroxisomes and proteasomes

Question 10
0 / 2.5 pts
Multiple Choice

High blood pressure is an example of which of the following?

Pathology
Correct Answer

Pathophysiology

Physiology
You Answered

No answer text provided.

Question 11
2.5 / 2.5 pts
Multiple Choice

A patient has a fever and rash. What are these examples of?
Correct!

Signs

Symptoms

Both A & B

Question 12
2.5 / 2.5 pts
Multiple Choice
Which of the following is true of a test's sensitivity?

It is how likely the same result will occur if repeated
Correct!

If negative, it can safely be assumed that the person does not have a disease

It is considered a true-negative result

It can only be calculated from people without the disease

Question 13
2.5 / 2.5 pts
Multiple Choice

Which of the following is the effect of an illness on one's life?

Incidence
Correct!

Morbidity

Prevalence

Mortality

Question 14
10 / 10 pts
Define secondary prevention and give an example:
Your Answer:
It is one of three categories in disease prevention. It aims to detect and treat disease early, while the disease is asymptomatic and curable. An example is an annual Pap smear.
Secondary prevention aims to detect and treat disease early, usually while the disease is asymptomatic and curable. Some examples include annual Pap smears to detect early cervical cancer, encouraging smoking cessation, checking blood pressure and cholesterol, and colonoscopy screening.

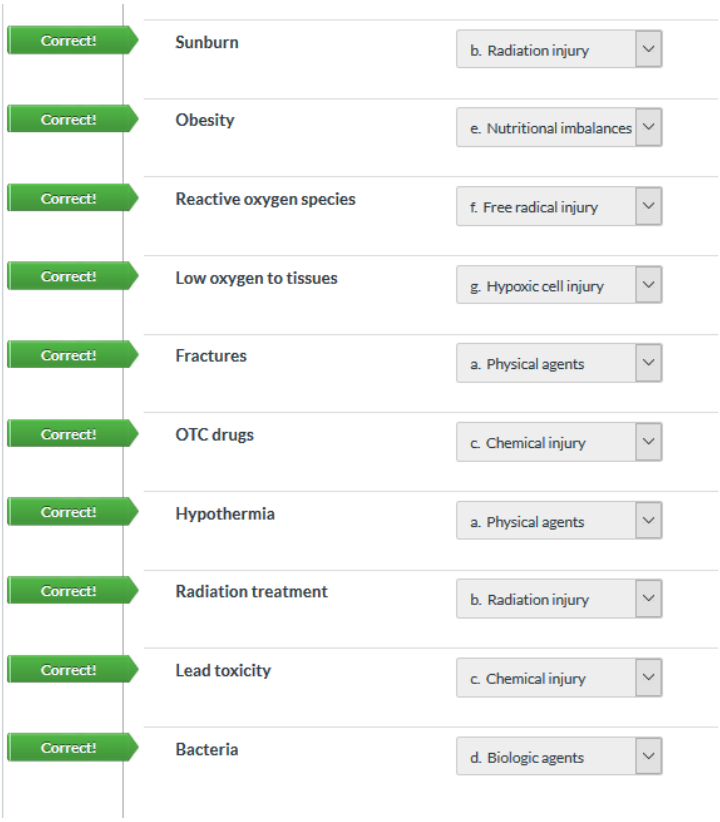
Question 15
10 / 10 pts
Compare and contrast the two types of gangrenous necrosis.
Your Answer:
2 types are dry and moist. In dry gangrenous, the affected tissue is dehydrated, shrinks back and becomes dark brown or black in color. THe spread of dry is slow. In wet, the affected area is cold, swollen, with no pulse. The skin is moist, black, and distended. Small blisters form and as liquefaction occurs, foul ordor emerges. The spread of wet gangrenous is rapid.
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 16
10 / 10 pts
Explain what necrosis is and give an example and description of one type of necrosis.
Your Answer:
Necrosis is cell death in tissue or organ that is still part of a living person. An example of a type of necrosis is coagulative necrosis. This results from a sudden cutoff of the blood supply to an organ, such as the heart.
Necrosis refers to cell death in an organ or tissues that is still part of a living person. It often interferes with cell replacement and tissue regeneration. Coagulative necrosis results most often from a sudden cutoff of blood supply to an organ (ischemia), particularly the heart and kidney. Liquefactive necrosis occurs when some of the cells die but their catalytic enzymes are not destroyed. It is commonly seen with brain infarcts or abscesses. Caseous necrosis occurs as part of granulomatous inflammation and is most often associated with tuberculosis.
Gangrenous necrosis most often affects the lower extremities or bowel and is secondary to vascular occlusion. The term *gangrene* is applied when a considerable mass of tissue undergoes necrosis. 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 17
10 / 10 pts
Match the type of cell injury to the cause. Some answers may be used more than once. (1 point each)

Sunburn	a. Physical agents
Obesity	b. Radiation injury
Reactive oxygen species	c. Chemical injury
Low oxygen to tissues	d. Biologic agents
Fractures	e. Nutritional imbalances
OTC drugs	f. Free radical injury
Hypothermia	g. Hypoxic cell injury
Radiation treatment	
Lead toxicity	
Bacteria	



Question 18
10 / 10 pts
List the 4 types of tissue found in the body. Pick 2 and give a description and example of each.
Your Answer:
Epithelial, Connective, Muscle, and Nervous
Epithelial tissue covers the body's outer surface, lines inner surfaces, forms glandular tissue. It is avascular and can be squamous, cuboidal, and columnar. An example of this type of tissue is our skin. Muscle tissue functions to move our bones, pump blood through the heart, as well as contract blood vessels. Cardiac muscle tissue is an example of muscle tissue.
Epithelial tissue covers the body's outer surface, lines the inner surfaces, and forms glandular tissue. Epithelial tissue has three distinct surfaces and the basal surface is attached to an underlying

basement membrane. It is avascular, meaning without blood vessels. It receives oxygen and nutrients from the capillaries of the connective tissue on which it rests.
Connective or supportive tissue is the most abundant tissue in the body. It connects and binds or supports the various tissues. Its cells produce the extracellular matrix that support and hold tissues together. Connective tissue is divided into two types: connective tissue proper and specialized connective tissue (cartilage, bone, and blood cells). The four types of connective tissue proper are loose (areolar), adipose, reticular, and dense connective tissue.
The function of muscle tissue is to move the skeletal structures, pump blood through the heart, and contract the blood vessels and visceral organs. Muscle tissue can accomplish this by contraction. The two types of fibers that contract are called thin and thick filaments. Thin filaments are called actin, and the thick filaments are myosin. The three types of muscles tissue are skeletal, cardiac, and smooth.
Nervous tissue is distributed throughout the body for communication. It provides the means for controlling body function and for sensing and moving about the environment. The two types of cells are neuron and glial cells. Neurons function is communication. Glial (meaning glue) cells support the neurons.

Question 19
2.5 / 2.5 pts
What is the most studied active transport system in the human body?
Your Answer:
The most studied active transport system is the sodium-potassium-ATPase pump. This pumo moves sodium from inside the cell to outside region, returning potassium to the inside of the cell. If this did not occur, sodium would remain in the cell, water would follow resulting in the cell to swell.
Sodium-potassium (Na^+/K^+)-ATPase pump

Question 20
2.5 / 2.5 pts
What is the term to describe when cells use energy to move ions against an electrical or chemical gradient?
Your Answer:
Active transport
Active transport

Question 21
2.5 / 2.5 pts
Give one function of a membrane potential:
Your Answer:
Generate nerve impulses
Generate nerve impulse, muscle contractions, or cause hormone secretion

Question 22
2.5 / 2.5 pts
What is the term that describes a transport protein to help lipid soluble or large molecules pass through the membrane, that otherwise would not be able to get through?
Your Answer:
Facilitated diffusion
facilitated diffusion

Module 2 Exam-

Question 1
3 / 3 pts
True/False:
Blood tests for tumor markers are the single best screening tool for cancer. Why or why not?
Your Answer:
False. Tumor markers, which can be used for establishig prognosis, monitoring treatment and detecting recurrent disease, have limitiations. Under benign situations, tumor markers can still be elevated. Whereas in early stages of malignancy, not elevated. They have a lack of specificity and are then limited in their ability to screen or diagnose accuratley.
False, they are elevated in benign conditions, most are not elevated in the early stages of malignancy.

Question 2
3 / 3 pts
Tissue biopsy is of critical importance in what role?
Your Answer:
Play a critical role in histologic and cytologic studies for diagnosis of cancers.
Diagnosing the correct cancer and histology.

Question 3
4 / 4 pts
1. List two signs or symptoms a patient may present with that might indicate a cancer diagnosis:

2. What are two side effects commonly experienced by cancer patients?
Your Answer:
1) Bleeding and/or weight loss
2) Anorexia, hair loss
1. Bleeding; sore that doesn't heal; fluid in the pleural, pericardial, or peritoneal spaces; chest pain, shortness of breath, cough, abdominal discomfort or swelling. Other possible answers can include a mass or lump, pain (need to be specific), fatigue, fevers, weight loss

2. Weight loss, wasting of body fat and muscle tissue, weakness, anorexia, and anemia, fatigue, sleep disturbances

Question 4
10 / 10 pts
Explain the TNM system:

Your Answer:
TNM system is a detailed staging system, created by AJCC, is used by cancer facilites. It classifies cancers into stages using 3 tumor components; Tumor, Nodes, Metastasis. T is size and spread of the primary tumor. N is how involved the lymph nodes. M is the extent of metastatic involvement.
Classification:
Tx, T0, Tis, T1-4
Nx, N0, N1-3
Mx, M0, M1

***T* is the size and local spread of the primary tumor.**
***N* is the involvement of the regional lymph nodes.**
***M* is the extent of the metastatic involvement.**

Question 5
10 / 10 pts
1. When would surgery be appropriate in the treatment of cancer?

2. Most chemotherapeutic drugs cause pancytopenia due to bone marrow suppression. What are the 3 possible adverse outcomes of this?
Your Answer:
1. Surgery can be used if the tumor is solid and small with well-defines margins. Also can be used to treat oncologic emergencies and be used as prophylactic measures.
2. 3 possible adverse outcomes are neutropenia, anemia, thrombocytopenia.
1. Surgery is often the first treatment for solid tumors. If the tumor is small with well-defined margins, it can be removed completely. It is also used for oncologic emergencies and prophylactic surgery in high risk patients.

2.
Neutropenia- risk for infections
Anemia- causing fatigue
Thrombocytopenia- risk for bleeding

Question 6
2.5 / 2.5 pts
True/False:
Cell proliferation is the process in which proliferating cells become more specialized cell types.

True
Correct!

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
Correct!

False
False, cell proliferation

Question 8
2.5 / 2.5 pts
What are two important properties that stem cells possess?
Your Answer:
Stem cells possess self-renewal and potency.
Self renewal means that they can undergo mitotic divisions while maintaining undifferentiated state.
Potency is the differentiation potential of stem cells.
Potency and self-renewal

Question 9
0 / 2.5 pts
Which of the following are most likely to have arisen from an adult stem cell?
You Answered

Muscle

Bone
Correct Answer

Epithelial

Neural

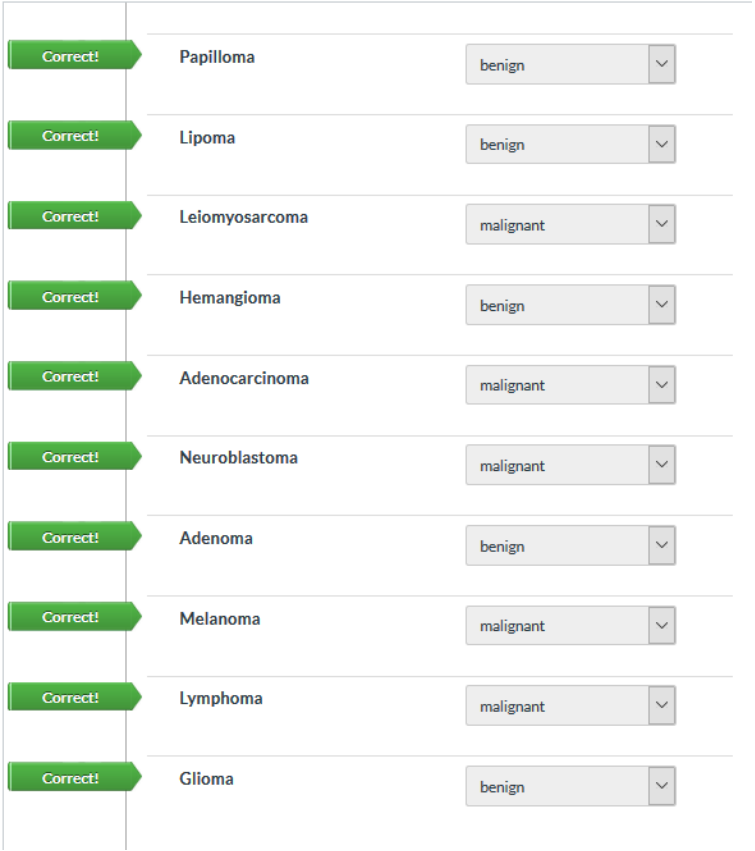
Question 10
4 / 4 pts
What is angiogenesis? Why do tumors need it?
Your Answer:
Angiogenesis is the development of new blood vessels within the tumor. In order to continue growing, it must establish blood vessels and growth factors.
development of new blood vessels within the tumor. They need it to continue to grow.

Question 11
3 / 3 pts
What are normal genes called that become cancer-causing if mutated?
Your Answer:
Proto-oncogenes and Tumor suppressor genes
protooncogenes

Question 12
1 / 3 pts
What is a tumor suppressor gene? Give one example.
Your Answer:
It is a gene that codes for a protein that inhibits cell growth and signals apoptosis. An example is p53.
Tumor suppressor genes are associated with gene underactivity. These genes slow down cell division, repair DNA mistakes, or tell cells when to die. BRCA1 or 2, TP53

Question 13
10 / 10 pts
Determine if the tumor is **benign** or **malignant** based on the nomenclature:
Papilloma
Lipoma
Leiomyosarcoma
Hemangioma
Adenocarcinoma
Neuroblastoma
Adenoma
Melanoma

Lymphoma
Glioma



Question 14
10 / 10 pts
A 62-year-old man with a 30-pack year smoking history is diagnosed with small cell lung cancer with metastasis to the bone. (1) Explain the process of how cancer spreads metastatically. (2) What symptoms might he have presented with? (3) Which screening test would he have benefited from?
Your Answer:
1. Metastasis is a multi-step process. Cancer cells breaks loose from the primary tumor and enters circulation via a blood vessel or lymp system. It finds a new favorable location to invade, grow, and establish blood supply.
2. Patient might have presented with shortness of breath, chest pain, and cough.
3. Patient would have benefited from a chest CT scan.
(1) Metastasis- a cancer cell must break loose from the primary tumor, invade the surrounding extracellular matrix, gain access to a blood vessel, survive its passage in the bloodstream, emerge at a favorable location, invade the surrounding tissue, begin to grow, and establish a blood supply. (2) Chest pain, shortness of breath, cough, bone pain. (3) Yearly low-dose chest CT.

Question 15
3 / 3 pts
Benign tumors have which of the following characteristics? **Select all that apply.**

Undifferentiated cells
Correct!

☑

Grows by expansion

☐

Gains access to blood and lymph channels

Correct!

☑

Growth may stop or regress

Question 16

3 / 3 pts

What are the genetic events that can lead to cancer? **Select all that apply**.

Correct!

☑

Gene amplification

☐

Pleomorphism

Correct!

☑

Point mutation

☐

Seeding

Correct!

☑

Chromosomal translocation

Question 17

4 / 4 pts

List 4 of the 7 risk factors linked to cancer as stated in the module.

Your Answer:

1. heredity
2. environmental agents
3. radiation
4. cancer-causing viruses

Heredity, hormonal factors, obesity, immunologic mechanisms, environmental agents such as chemicals, radiation, and cancer-causing viruses.

Question 18

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 19
3.5 / 3.5 pts
Which of the following are risk factors for developing cancer? **Select all that apply.**
Correct!
☑
HBV
Correct!
☑
Alcohol
Correct!
☑
High intake of smoked meats
☐
Deodorant

Question 20
3.5 / 3.5 pts
All of the following viral agents are correctly paired with the associated lesion except:
○
Human papillomavirus (HPV): genital warts
Correct!
◉
Epstein-Barr virus: carcinoma of the cervix
Epstein Barr is linked to Burkitt lymphoma and nasopharyngeal cancer. Cervical carcinoma is linked to HPV.
○
Hepatitis B virus: hepatocellular carcinoma
○
Human herpes virus-8: Kaposi sarcoma

Question 21
3 / 3 pts
List one example of screening for each method: observation, palpation, and lab test/procedure:
Your Answer:
Observation: skin
Palpation: breast
Lab test: Pap smear
Observation: skin, mouth, external genitalia
Palpation: breast, thyroid, rectum and anus, prostate, lymph nodes
Laboratory tests and procedures: Pap smear, colonoscopy, mammography

MODULE 3
Question 1
5 / 5 pts
Short answer

Explain the challenges of diagnosing autoimmune disorders.
Your Answer:
Diagnosing is made by history, physical, and serological findings. Since some blood tests are more generic, results can be imprecise. Markers can be elevated in the presence of other diseases.Criteria for diagnosis: Evidence of an autoimmune reaction, immunological findings are not second to other conditions, and no other causes are found.
There are over 80 identified, many with overlapping presentations. Many manifestations are nonspecific and are seen in other non-autoimmune diseases. Blood testing isn't perfect either, as some tests are more generic and can be elevated in the presence of other diseases.

Question 2
2.5 / 2.5 pts
Multiple Choice:

Which type of immunity is characterized by the development of a specific response to an antigen?

Innate immunity
Correct!

Adaptive immunity

Autoimmunity

Active immunity

Question 3
2.5 / 2.5 pts
Multiple Choice:
What allows the lymphocyte to differentiate between self and foreign molecules?

Antigen presenting cells

Regulatory cells
Correct!

Major histocompatibility complex (MHC) molecule

Effector cells

Question 4
0 / 3 pts
T lymphocytes produce what type of immunity?
Your Answer:
Adaptive immunity
Cell-mediated

Question 5

2 / 2 pts
Multiple Choice:

Which immunoglobulin passes immune factors from the mother to the fetus?

IgM

IgA
Correct!

IgG

IgD

IgE

Question 6
2 / 2 pts
Multiple Choice:

Which cell type is an early responder and the most abundant in the body?

Lymphocytes

Eosinophils

Basophils
Correct!

Neutrophils

Question 7
3.5 / 3.5 pts
Multiple Choice:

Which is NOT a finding consistent with Graves' disease?

Exophthalmos
Correct!

Hypothyroidism
hyperthyroidism

Goiter

Corneal ulceration

Question 8
10 / 10 pts
A 9-year-old boy with a peanut allergy was exposed to peanuts. He presents to the emergency room with an anaphylactic reaction. (1) What symptoms might he present with? (2) Does the quantity of exposure mean he will have a more severe reaction? (3) What is the initial immediate treatment? (4) What are 2 things people with anaphylaxis should always carry?
Your Answer:
1) shortness of breath, skin redness/hives , abdominal cramping
2) quantity of the exposure does NOT play role on how severe the reaction can be
3) elimination of the food and EpiPen (epiniphereine)
4) carry 2 EpiPens
(1) Any of the following reactions are accepted.
Grade I: erythema and urticaria, with or without angioedema.
Grade II: hypotension, tachycardia, dyspnea, and GI manifestations, like nausea, vomiting, diarrhea, and abdominal cramping from mucosal edema.
Grade III: bronchospasm, cardiac dysrhythmias, and cardiac collapse.
Grade IV: cardiac arrest
(2) No
(3) Epinephrine
(4) identification about allergy, EpiPen

Question 9
3.5 / 3.5 pts
True/False:
Following a heart attack, the area of heart muscle that has undergone necrosis because of lack of blood supply will heal by scar tissue replacement.
Correct!
(●)
True
( )
False

Question 10
3 / 3 pts
Multiple Choice:

Which of the following is an incorrect pairing of a classic manifestation of acute inflammation with its corresponding cause?
( )
Rubor – vasodilation
Correct!
(●)
Dolor – inflammatory cells infiltrating sensory nerves
In acute inflammation, dolor (pain) is caused by increased hydrostatic pressure in tissues and by chemical mediators.
( )
Calor – increased blood flow

Tumor – exudation of fluid and cells into extravascular tissues

Question 11
3.5 / 3.5 pts
True/False:
Lymphocytes are categorized as either granulocytes or agranulocytes.

True
Correct!

False
false, leukocytes

Question 12
3 / 3 pts
True/False:

Passive immunity is achieved through immunization.

True
Correct!

False
false, active immunity

Question 13
2.5 / 2.5 pts
True/False:

B lymphocytes normally produce antibodies against host tissues.

True
Correct!

False

Question 14
3.5 / 3.5 pts
Antibodies are also known as _____?
Your Answer:
immunoglobulins
immunoglobulins

Question 15
3.5 / 3.5 pts
Multiple Choice:
Which of the following hypersensitivity reactions can be treated with the administration of epinephrine?

Correct!

Type I

Type II

Type III

Type IV

Question 16
3.5 / 3.5 pts
Multiple Choice:

Which cell is NOT part of the adaptive immune response?
Correct!

Monocytes

Lymphocytes

Antigen presenting cells

Effector cells

Question 17
3.5 / 3.5 pts
Multiple Choice:

The body’s ability to distinguish self from nonself is termed what?

Autoantibodies

Positive selection
Correct!

Self-tolerance

Anergy

Question 18
5 / 5 pts
Short answer:

What are autoantibodies?
Your Answer:

In autoimmune diseases, the immune sustem loses its ability to recognize self and produces autoantibodies, which act against host tissues

Answer: In many autoimmune diseases, the immune system loses its ability to recognize self and produces what is called autoantibodies, which act against host tissues.

Question 19
10 / 10 pts
Short answer
A 40-year-old man presents with cough and shortness of breath. After an H&P and chest films, it is determined he has pneumocystis carinii pneumonia (PCP). The provider does an HIV test, which is positive. Upon further testing, the man's CD4+ cell count is 100 cells/µL and his viral load is 250,000 copies/mL. (1) Why did the provider do an HIV test after the man was diagnosed with PCP? (2) What classification does this man fall into based on his CD4+ count and symptomatology, and why?
Your Answer:
1) PCP is a lung infection that affects people with weakened immune systems, such as those infected with HIV. It is listed as an opportunistic infection.
2) Overt AIDS. Patient's CD4+ cell count is below 200 cells/uL. Patient also presented with an AIDS-defining illness, such as PCP.
(1) Opportunistic infections are those common organisms that do not produce infection without impaired immune function. (2) The last phase, or AIDS illness, occurs when the CD4+ cell count falls to less than 200 cells/µL or exhibits an AIDS-defining illness. The risk of opportunistic infections and death increases significantly when the CD4+ cell count falls below 200 cells/µL.

Question 20
3.5 / 3.5 pts
Multiple Choice:

Which process is NOT included in wound healing?

Inflammatory

Proliferative
Correct!

Acute-phase response

Remodeling

Question 21
3.5 / 3.5 pts
Multiple Choice:

Which of the following cells is a permanent cell?

Epidermal cell

Hepatocyte

Intestinal mucosal cell
Correct!

Neuron

Renal tubular cell

Question 22
3.5 / 3.5 pts
Fill in the blank
As the CD4 T cell count decreases, the body becomes susceptible to _____ _____.
Your Answer:
opportunistic infections
Answer: opportunistic infections

Question 23
3.5 / 3.5 pts
The term to describe the time when an infected person's blood converts from being negative for HIV antibodies to being positive is called what?
Your Answer:
Seroconversion
Answer: seroconversion

Question 24
3.5 / 3.5 pts
True/False:

A person with HIV is not infectious when they are asymptomatic.

True
Correct!

False

Question 25
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.
Correct!

True

False