Which of the following are **only** involved in adaptive (vs. innate) immunity?

1. T lymphocytes
2. Neutrophils
3. Platelets
4. Inflammation
5. Mast cells

ANSWER: A

What cause(s) capillaries to become leaky, allowing leukocytes to enter the fluid surrounding cells within tissues?

1. Complement proteins
2. Pyrogens
3. Clotting Factors
4. Histamine
5. Bradykinin

ANSWER: D

Cells in your body have specific proteins called \_\_\_\_\_\_\_\_\_\_\_\_ that allow your immune system to tell self from non-self.

1. antibodies
2. MHC proteins
3. CD4 receptors
4. complement proteins

ANSWER: B

Cytotoxic T-cells produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ when they detect a cell that needs to be destroyed.

1. antibodies
2. perforins and granzymes
3. cytokines
4. pyrogens
5. complement proteins

ANSWER: B

Which of the following best explains the purpose of a booster shot after the initial vaccination? A booster shot would \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. contain antibiotics to help fight off infection.

B. stop production of antibodies.

C. causes the reproduction (or clonal expansion ) of many B cells that remember the specific antigen.

1. contain antihistamine to stop the inflammatory response.

ANSWER: C

During the primary response (or sensitization period) of the allergic response, \_\_\_\_\_\_\_\_\_\_ antibodies are inserted into the membrane of mast cells.

1. IgG
2. IgA
3. IgM
4. IgE
5. IgD

ANSWER: D

What are the most abundant antibodies in the blood as well as the entire body?

1. IgG
2. IgA
3. IgM
4. IgE
5. IgD

ANSWER: A

What are the type of antibodies found in saliva, tears, sweat and breast milk?

1. IgG
2. IgA
3. IgM
4. IgE
5. IgD

ANSWER: B

Helper T-Cells release \_\_\_\_\_\_\_\_\_ that attract leukocytes to an area of infection and also activates B-Lymphocytes and amplifies the humoral immune response.

1. Interleukins (or cytokines)
2. antibodies
3. histamines
4. antigens
5. complement proteins

ANSWER: A

During clonal expansion, B cells that are specific to the invading organisms reproduce and produce \_\_\_.

1. antigens that bind to the specific microorganism
2. specialized plasma cells that release antibodies into the blood
3. cytotoxic T-cells that kill the invading organisms
4. histamine that causes the invading cells to undergo cell lysis

ANSWER: B

A cancerous cell will produce altered proteins called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proteins that will be presented to lymphocytes using \_\_\_\_\_\_\_\_\_\_\_\_\_ MHC proteins.

1. Internal (endogenous)/ Class I
2. External (exogenous) / Class I
3. Internal (endogenous)/ Class II
4. External (exogenous) / Class I

ANSWER: A

One way in which antibodies can act is by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. digesting antigens
2. causing antigens to precipitate out of solution
3. punching holes into the membrane of foreign cells
4. causing capillaries to become leaky

ANSWER: B

Acquired Immunodeficiency Disease is due specifically to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. body attacking foreign allergens such as wheat pollen
2. acquisition of the HIV virus
3. immune system attacking “self” or normal, healthy tissue
4. inability of stem cells to repair damage to tissues

ANSWER: B

Which of the following is a disease that is caused by a gluten allergy that leads to autoimmunity?

1. Celiac Disease
2. Irritable Bowel Syndrome
3. Crohn’s Disease
4. Diverticulitis

ANSWER: A

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ functions in the production of specialized lymphocytes called

T-cells.

1. thymus
2. thalamus
3. thyroid
4. hypothalamus
5. adrenal gland

ANSWER: A

Which of the following is the most abundant leukocyte in the blood?

1. Macrophages
2. Eosinophils
3. Neutrophils
4. Basophils
5. lymphocytes

ANSWER: C

The \_\_\_\_\_\_\_\_ aid in the phagocytosis of bacteria.

1. erythrocytes
2. eosinophils
3. mast cells
4. neutrophils
5. B lymphocytes

ANSWER: D

Which of the following would be an example of an innate or non-specific mechanism of the immune system?

1. The production of histamine causes tissues to swell.
2. Macrophages engulf and digest bacteria.
3. An increase in the body’s temperature helps to fight of infection.
4. The presence of lysozyme in tears, saliva and sweat.
5. All of the above.

ANSWER: E

Specialized \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ produce antibodies in response to foreign antigens.

1. erythrocytes
2. B lymphocytes
3. neutrophils
4. T lymphocytes

ANSWER: B

What type of cells are presented with antigens by macrophages?

A. Mast Cells

B. Helper T-Cells

C. Erythrocytes

D. Plasma Cells

E. B –Cells

ANSWER: B

You receive the anthrax vaccine which contains proteins from a strain of bacteria that is not virulent. In response the B-cells will produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. antigens specific to the foreign protein
2. histamines that cause blood vessels to swell
3. antibodies that can bind to the foreign antigens
4. antibiotics that decrease the ability of bacteria to reproduce

ANSWER: C

The use of serums, called gamma globulin shots, to treat snake bites in humans is an example of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. passive immunity
2. a vaccination
3. active immunity
4. using antibiotics

ANSWER: A

Using a specific example of a vaccination, describe what happens during a vaccination. How is the immune system able to learn how to recognize a foreign pathogen? Include in your answer the terms B-cells, T-cells, antigens, antibodies, memory cells, plasma cells.