

BAC 2100 Practice Midterm I

- A. Staphylococcus aureus
 - B. Streptococcus pyogenes
 - C. Streptococcus faecalis (enterococcus)
 - D. Neisseria gonorrhoeae
 - E. Staphylococcus epidermis
 - F. Streptococcus agalactiae
 - G. Streptococcus pneumoniae
 - H. Neisseria meningitidis (meningococcus)
 - I. Streptococcus viridans
- 1. Pelvic inflammatory disease
 - 2. Gram negative cocci
 - 3. Normal GI flora; urinary tract infection
 - 4. Polysaccharide capsule diplococci
 - 5. Can cause oral cavities
 - 6. 12 week postpartum meningitis
 - 7. Hyaluronic acid of tissue is split to help spreading of organism;
 - 8. Main identification is coagulase test
 - 9. Normal flora; in most cases non-pathogenic
1. In order to trigger an immune response, an antigen's molecular weight must be at least _____?
- (a) 5, 000
 - (b) 10, 000
 - (c) 100, 000
 - (d) 1, 000, 000
2. Antibodies are synthesized by what kind of cells?
- (a) T lymphocytes
 - (b) Macrophages
 - (c) Immune globulins (Ig)
 - (d) B lymphocytes
3. Which immune globulin is found in secretions?
- (a) IgM
 - (b) IgE
 - (c) IgA
 - (d) IgG
4. Which immune globulin can cross the placenta?
- (a) IgM
 - (b) IgE
 - (c) IgA
 - (d) IgG

5. There are four situations in which the immune system can be harmful. Which of the following is not a situation in which the immune system can be harmful?
- (a) A young male athlete who just had a kidney transplant
 - (b) An elderly female with rheumatoid arthritis (an autoimmune disease)
 - (c) A child, who is allergic to peanuts, eating a Reese's Peanut Butter Cup
 - (d) A university student suffering from the flu
6. After getting a vaccination for vericella (chicken pox) from his doctor, Dwight develops a sub clinical/mild illness that duplicates the symptoms of varicella. What kind of vaccine is the varicella vaccine?
- (a) An absorbed vaccine
 - (b) A recombinant vaccine
 - (c) A live attenuated vaccine
 - (d) A recombinant vaccine
7. What is the second reagent in the gram staining?
- (a) Iodine
 - (b) Crystal violet
 - (c) Alcohol
 - (d) Neutral red
8. Which gram stain reagent decolourizes the bacterium?
- (a) Iodine
 - (b) Crystal violet
 - (c) Alcohol
 - (d) Neutral red
9. The Gram stain differentiates between bacteria based on the composition of their _____.
- (a) Cell Membrane
 - (b) Nucleus
 - (c) Cell Wall
 - (d) Mitochondria
10. Before you use your reagents to stain the bacteria, you need to heat fix your sample first by waving the slide through the blue flame on a Bunsen burner a few times. Why do you do this?
- (a) So that the bacteria will react to the iodine
 - (b) So that the bacteria will react to the crystal violet
 - (c) So that the bacteria will not die
 - (d) So that the bacteria will not be washed off
11. An woman gives birth to an infant displaying neonatal ophthalmia. The pathogen responsible is:
- a) Neisseria meningitidis

- b) *Streptococcus agalactiae*
- c) *Neisseria gonorrhoeae*
- d) *Staphylococcus saprophyticus*

12. Which of the following is not a property of *Staphylococcus aureus*:

- a) Produces cytotoxins capable of acting on leukocytes, macrophages, platelets, and fibroblasts.
- b) Produces the coagulase enzyme
- c) Produces an enzyme capable of destroying penicillin.
- d) May be found in the nasal pathway of healthy individuals
- e) None of the above

13. The correct way to name the Gram positive coccus responsible for strep throat is:

- a) *Staphylococcus aureus*
- b) *Streptococcus pyogenes*
- c) *Staphylococcus Pyogenes*
- d) *Streptococcus viridans*

14. To identify the bacteria responsible for an infection in a man who underwent open-heart surgery, a coagulase test was performed. The findings were that these Gram positive grape-like cocci were in fact coagulase negative. The bacteria responsible for the infection is:

- a) *Staphylococcus epidermidis*
- b) *Staphylococcus aureus*
- c) *Streptococcus faecalis*
- d) *Streptococcus pneumoniae*
- e) *Staphylococcus saprophyticus*

15. Streptococci that are gamma-haemolytic would illustrate which of the following patterns :

- a) a clear zone around the colonies indicating partial red blood cell destruction
- b) a greenish zone around the colonies indicating partial red blood cell destruction
- c) an unchanged zone around the colonies indicating no red blood cell destruction.
- d) a brownish zone around the colonies indicating complete red blood cell destruction.

16. Which of the following is true of selective media:

- a) it is used to increase the number of a specific organism in a sample.
- b) It enhances growth of one kind of microorganism
- c) It is used to cultivate viruses in vitro
- d) It has a high sugar content to promote the growth of the specific organism in the sample.

17. Which of the following statements is not true of the MacConkey agar medium:

- a) It contains phenylethanol which inhibits Gram-positive bacteria
- b) It is both combines both selective and differential media
- c) Lactose is the key nutritional ingredient.

d) It favors Gram-negative bacteria because it contains bile salt and crystal violet dye

Short Answers:

1. _____ is a structure only found in the outer membrane of gram negative cell walls.
2. Name the four main routes of entry that bacteria can use to enter the human body.

BAC 2100 Quiz # 1

1. An individual missing phagocytic cells (host defense) is at risk for acquiring...
 - A. Exotoxins
 - B. Fimbriae
 - C. Endotoxins
 - D. IgM
 - E. Capacity of microorganism, within a group, to cause damage resulting in disease
 - F. A substance capable of inducing a specific immune response
 - G. Staphylococcus aureus
 - H. IgA
 - I. Immune globulins (Ig)
 - J. The ability of a microorganism to produce disease
2. Pathogenicity
3. Proteins excreted by living bacterial cells
4. Antigen
5. Antibody
6. Found in secretions
7. Produced in the early immune response
8. Toxins liberated when certain cells disintegrate
9. Virulence
10. Adhere to specific receptors present on body cell surfaces

BAC 2100 Quiz 3

1. The Hepatitis B vaccine is an example of
 - a) Combined vaccines
 - b) Conjugate vaccines
 - c) Recombinant vaccines
 - d) Adsorbed vaccines

2. The safest type of vaccine is
 - a) Killed vaccine
 - b) Recombinant vaccine
 - c) Conjugate vaccine
 - d) Live-attenuated vaccine

3. A vaccine that is mixed with inorganic salts to ensure prolonged immunogenic effect is
 - a) Live-attenuated vaccine
 - b) Combined vaccine
 - c) Recombinant vaccine
 - d) Adsorbed vaccine

4. In a conjugate vaccine,
 - a) toxoids are combined with live-attenuated vaccines to facilitate administration
 - b) a polysaccharide capsule becomes immunogenic when it is attached to an altered non-toxic protein
 - c) both IgA and IgG are provided as immunization against a particular microbial agent.
 - d) the possibility of a live virus surviving the inactivation process is avoided.

5. An immunization that carries a risk of activating IgE antibodies is
 - a) Passive immunization using animal IgG
 - b) Passive immunization using pre-formed human IgG antibodies
 - c) Combined active-passive immunization
 - d) Active immunization using live-attenuated vaccines

6. These microorganisms grow best between 15 and 20 C:
 - a) Psychrophiles
 - b) Mesophiles
 - c) Thermophiles
 - d) Saprophytes

7. Listeria is considered a:
 - a) Saprophyte
 - b) obligate aerobe
 - c) psychrophile
 - d) obligate anaerobe

8. Most human pathogens are:
 - a) Obligate anaerobes
 - b) Mesophiles
 - c) Thermophiles
 - d) Microaerophilic microorganisms

9. Neisseria gonorrhoeae is considered:
 - a) spirillum
 - b) diplococcus
 - c) bacillus
 - d) staphylococcus

Gram Stain Quiz

1. The Gram stain differentiates between bacteria based on the composition of their _____
 - (a) Cell Membrane
 - (b) Nucleus
 - (c) Cell Wall
 - (d) Mitochondria

2. What colour do Gram positive and Gram negative bacteria take, respectively?
 - (a) Pink and Purple
 - (b) Purple and Pink
 - (c) Orange and Yellow
 - (d) Yellow and Orange

3. Which of these factors will not affect your Gram stain results? (Given that everything else is done correctly.)
 - (a) Sample Thickness
 - (b) Reagent Quality
 - (c) Bacterial Age
 - (d) Excessive Washing of Slide

4. Before you use your reagents to stain the bacteria, you need to heat fix your sample first by waving the slide through the blue flame on a Bunsen burner a few times. Why do you do this?
 - (a) So that the bacteria will perform a musical number for your enjoyment
 - (b) So that the bacteria will react to the stain
 - (c) So that the bacteria will not be washed off
 - (d) So that the bacteria will not die

5. _____ is the first reagent used in the stain. You have to wait 30 seconds before tipping it off and washing your slide with water.
 - (a) Neutral Red
 - (b) Alcohol
 - (c) Crystal Violet
 - (d) Iodine

6. _____ is the second reagent used in the stain. You have to wait 30 seconds before tipping it off and washing your slide with water.
 - (a) Crystal Violet
 - (b) Iodine
 - (c) Alcohol
 - (d) Neutral Red

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7. _____ is the third reagent used in the stain. Using a squirt bottle, you 'wash' the slide until the liquid coming off changes from purple to clear. Wash your slide with water afterwards.

- (a) Neutral Red
- (b) Crystal Violet
- (c) Alcohol
- (d) Iodine

8. _____ is the fourth, and final, reagent used in the stain. You have to wait 10-30 seconds before tipping it off and washing your slide with water. Pat it dry with some paper towel and you are finished.

- (a) Crystal Violet
- (b) Alcohol
- (c) Iodine
- (d) Neutral Red

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Answers: 1(c), 2(b), 3(d), 4(c), 5(c), 6(b), 7(c), 8(d)