


Course No: DENT2113  
Course Title: Oral Microbiology  
Date: 27/5/2015  
No. of Questions: 4  
Time: 2 hr  
Using Calculator (No)


University of Palestine  
  
Final Exam  
2014/2015  
Total Grade: 60

Instructor: Dr. Jamal Naim  
Student No.: \_\_\_\_\_  
Student Name: \_\_\_\_\_  
College Name: Dentistry  
Dep. / Specialist: \_\_\_\_\_  
Using Dictionary (No)

**I. Indicate which of the following sentences are true or false:**

- 1- (T / F) Oral cavity contains only nonpathogenic microorganisms.
- 2- (T / F) A commensal microorganism don't cause diseases at all.
- 3- (T / F) High level mutans group streptococci always associated with dental caries.
- 4- (T / F) Saliva is hypertonic with alkaline pH.
- 5- (T / F) The dominant protein in saliva is amylase.
- 6- (T / F) One function of saliva is to form a pellicle over the teeth.
- 7- (T / F) Amylase could play role in forming dental caries.
- 8- (T / F) *S. mutans*, to appear later in the mouth than *S. sanguinis*.
- 9- (T / F) Lactoferrin inhibits bacterial growth by addition of  $Fe^{2+}$  ions.
- 10- (T / F) Most bacteria that cause dental caries are gram negative.
- 11- (T / F) Acidogenic means that organisms are able to survive at very low pH.
- 12- (T / F) *Streptococcus pyogenes* produce hemolysis, and this why it is considered  $\alpha$  hemolytic.
- 13- (T / F) Biofilm formation is a way to improve bacterial pathogenicity.
- 14- (T / F) The collective strength of a microbial biofilm community in terms of metabolic efficiency and survival is much greater than the sum of the components.
- 15- (T / F) Bacterial biofilms could lower their susceptibility to antibiotics.
- 16- (T / F) *Streptococcus pyogenes* is strongly involved in the production of dental caries.
- 17- (T / F) Medically, it is disparate need to develop a vaccine for dental caries.
- 18- (T / F) The protective role of saliva agglutinins is to stick bacteria and then passing them away to the respiratory tract.
- 19- (T / F) Saliva could be a source of nutrition for bacterial oral cavity.
- 20- (T / F) Mucin function depends on trapping of water molecules, thus determining the degree of hydration of the mucin gel.

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**II. A) Choose the correct answer of the following:**

- 1. Which of the following is NOT a main portal for entry for microorganisms to enter the dental pulp:**
  - A- Dentinal tubules
  - B- Direct pulp exposure
  - C- Periodontal disease
  - D- Occlusal grooves
- 2. Exposed dentine provides an unimpeded access for bacteria to enter the pulp:**
  - A. True
  - B. False
- 3. Anachoresis is :**
  - A. Artificial formation of an apical barrier
  - B. Induction of biologic calcific apical barrier
  - C. Microorganisms transport from blood vessels to damaged tissue
  - D. Systemic infection resulting from infected pulp tissue
- 4. Which of the following is NOT a category of intraradicular infection**
  - A. Primary
  - B. Secondary
  - C. Tertiary
  - D. Persistent
- 5. All the followings are sources of nutrients for bacteria within the root canal system EXCEPT**
  - A. Necrotic pulp tissue
  - B. Inflamed vital pulp tissue
  - C. Proteins & glycoproteins seeping into the root canal system
  - D. Components of saliva penetrating into the pulp tissue
- 6. Which of the following microorganisms are commonly present in large percentages of root canal-treated teeth that present with persistent apical periodontitis, indicative of failed treatment.?**
  - A. Enterococcus faecalis
  - B. Dialister invisus
  - C. Tannerella forthysia
  - D. Pseudoramibacter alactolyticus

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**7. The most common microorganisms in primary endodontic infections are:**

- A. Gram negative bacteria
- B. Gram positive bacteria
- C. Facultative anaerobes
- D. Facultative aerobes


**8. Gram-positive bacteria have been demonstrated to:**

- A. Have higher occurrence in post-instrumentation samples
- B. Are more resistant to antimicrobial treatments
- C. Are able to adapt to harsh environmental conditions
- D. All of the above

**B ) True or False**

1. Gram-negative facultative bacteria & aerobic bacteria are predominant with persistent infection. ( )
2. The main example of an extraradicular infection independent of the intraradicular infection is apical actinomycosis. ( )
3. Bacterial penetration through dentinal tubules (from outward to inward) is faster in vital teeth compared to necrotic teeth. ( )

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**III. A) Fill in the space:**

- 1- The most commonly used stain in diagnostic microbiology is the .....  
and are used to .....  
and to .....
- 2- ..... is the most widely used bacterial culture medium.
- 3- The two principal gases that affect metabolism of the bacteria are  
..... and .....
- 4- Antibiotic sensitivity tests can be performed on the mixed growth obtained from  
..... Or .....
- 5- The main constituents of bacteriological media are .....,  
..... & .....
- 6- Examples of strict anaerobic bacteria of Fusobacterium species are  
..... and .....

**B) Choose the correct answer of the following:**

- 1) **The specimen that should be collected for microbiological examination of a dentoalveolar abscess is:**
  - a. Lavage obtained from the lesion
  - b. Lavage obtained from the oral cavity
  - c. An aspirate collected into an anaerobic transport system
  - d. A swab from the lesion
- 2) **Osteomyelitis of the mandible following oral surgery is probably caused by:**
  - a. Staphylococcus aureus.
  - b. Streptococcus salivarius.
  - c. Clostridium perfringens.
  - d. Mycobacterium tuberculosis.
- 3) **In Ludwig's angina, all the following are correct, except:**
  - a. An inflammation caused by Fusobacterium & Staphylococcus aureus.
  - b. They can be completely controlled by using antibiotics only.
  - c. An inflammation of the submandibular and sublingual area or spaces.
  - d. A serious, potentially life-threatening infection.

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- 4) Which of the following is the single most numerous group of microorganisms on the oral cavity:
- Staphylococci.
  - Beta-hemolytic Streptococci.
  - Anaerobic Streptococci.
  - Facultative Streptococci.

#### IV.

a) **True/False**

*Indicate whether the statement is true or false.*

- \_\_\_\_\_ 1. S mutans appears to be a member of the normal flora on the teeth.
- \_\_\_\_\_ 2. Environmental factors such as oral hygiene habits and diet don't have any role in caries occurrence.
- \_\_\_\_\_ 3. Treatment under the non-specific plaque hypothesis requires total plaque elimination.
- \_\_\_\_\_ 4. Dental plaque is a gelatinous mass of bacteria adhering to the tooth surface. It is hard red in color, accumulating on the surface, of the teeth, and composed of bacteria and their by-products.
- \_\_\_\_\_ 5. After 7 hours; mature pathogenic plaque develops and colonizes by anaerobic bacteria, acid release, and metabolic toxins.

b) **Completion**

*Complete each statement.*

6. Dental decay is due to:

.....  
.....  
.....  
.....

