Bacteriology

1- All of the following are correct about normal flora except
A. The predominant normal flora of the colon is bacteroides.
B. The predominant normal flora of the skin is Staph.albus.
C. The predominant normal of the vagina in Lactobacilli.
D. The predominant normal flora of the colon is E.coll.

2. All of the following are correct about Probiotics except
A. Are Live micro-organiams which when administered in adequate amounts confer a health benefit on the host.
B. Nonpathogenic, non-toxigenic and drug resistant are some criteria used for selecting probiotics.
C. Probiotics usually given by oral,
D. Streptococci are the main bacteria used as probiotics

3- All of the following are correct concerning Bacillus anthracis except
A. Colonies are non-hemolytic on blood agar and frosted like appearance with curl like edges giving medusa head appearance.
B. Large gram positive bacilli with clear cut ends when taken from the skin lesions.
C. The most common clinical infection is cutancous anthrax.
D. The main method of laboratory diagnosis of anthrax is by isolation.

4- All of the following bacterial infections are preventable except
A. Tetanus
B. Diphtheria
C. Tuberculosis
D.Botulism

5- All of the following statements are correct concerning tetanus except
A. Is a toxin mediated infection caused by Cloustridum tetani.
B.Route of infection is by wound contaminated by soil containing spore
C. Gram stained smear from wound reveals thin Gram positive bacilli with dram-like appearance
D.its a preventable disease which can be achieved by treatment.

6- All of the following statements are correct concerning botulism except
A. It is a food poisoning intoxication disease caused by Clostridium botulinum .
B. Cuties flaccid paralysis.
C.Infant botulism caused by ingestion of contaminated honey with bacilli.
D. Treatment is by intravenous injection of trivalent (A.B,C) antitoxins.

7- All of the following statements are correct concerning Clostridium difficile except

A. Causer antibiotic associated diarrhea and pseudomembranous colitis upon oral administration of broad spectrum antibiotics
B. One-step immunochromatugraphie test used for the differential detection of the glutamate dehydrogenase (GDH) as well as the toxins A and B from C. difficile in human blood.

C. RIDASCREENE Clostridium difficile Toxin A/B is an enzyme immunoassay for qualitative determination of the *Clostridium dificile* toxins A and B in human stool specimens or from culture of toxin producing *Cl.difficile* isolated from stool of patients
D. The drug of choice is metronidazole

8- All of the following statements are correct concerning *Clostridium perfringens* Except
A.Differentiated into 6 types (A, C, D, E, F) on the basis of capsular antigen.
B. Type A is responsible for gas gangrene and food poisoning.
C. Mere presence of clostridium in wound does not mean gas gangrene.
D. Clestridial food poisoning is similar to that produced by *Bacillus cereus.*

9. Which one oft the fallowing is correct concerning *Neisseria gonorrheae*
A. Fastidious bacteria grow only on enriched media like blood agar.
B. Most infections in men are localized in the urethra snd asymptomatic
C.Isolation is the only reliable methods for diagnosis of gonorrhea in females.
D. Most infections in women are localized in the cervix and symptomatic.

10-All of the following are correct concerning *Neisseria gonorrheae* except
A There is no vaccine because of the different types with no cross immunization.
B.The bacteria.can evade from immune responses by frequent antigenic variation of their surface proteins
C The most severe complication in female is salpingitis and infertility,
D.Disseminated infection is more common in females

11-All of the fallowing are wrong coucerning *Neisseria meningitiditis* except
A. It is classified into different serogroups according to the outer membrane proteins.
B. Can cause meningococcemia which is a severe septicemia with or without meningitis.
C. Cannot be prevented by vaccine.
D. Detection of Carriers is made by taking cervical swab and culture on chocolate agar to see Gram negative diplococcie.

12- All of the following are correct concerning E.coli O157:H7 except
A. It is a zoonotic pathogen from feces of cattle.
B. It in classified as Enterohemonhagic E.coli or shiga like toxin producing E coli (STEC).
C. Causes bloody diarrhea with severe complication such as hemolytic uremic syndrome.
D. Antibiotics are required to cure infection.

13-All of the following are correct concerning Proteus sp. Except
A. Can cause urinary trait infection and changes urine acidic pH into alkaline.
B. Classified as true human pathogen.
C. Produce K/A with abundant H2S in TSI medium which is similar to Salmonella serotypes that are responsible for food born Salmonella,
D. Have two unique cultural characteristics such as swarming phenomenon and fishy odor.

14-All of the following are correct concerning Salmonella except
A. Food born Salmonellosis is a type of gastroenteritis usually without bacteremia.
B. Enteric fever is a severe systemic disease caused by serotypes specific for humans.
C. The main complication of entire fever is intestinal hemorrhage and perforation.
D. Diagnosis of typhoid fever in our laboratories is mainly done by isolation.

15-All of the following are correct concerning *Shigella sp*.except
A. It is divided into 4 species according to the O-untigens.
B. All species can cause bacillary dysentery but with different severity
C. Bacillary dysentery is a localized infection in the large intestine without bacteremia.
D. Laboratory diagnosis is made by serological tests.

16-All of the following are correct concerning Vibrio cholera except
A. Cause cholera which is a localized infection of the small intestine characterized by severe watery diarrhea.
B. Cause cholera which occurs in epidemic form mainly from contaminated
C. Final diagnosis requires isolation using selective culture media like TCBS agar then followed by biochemical reactions and serological tests to determine serogroup, serotypes and biotypes.
D.The main complication of cholera is bacteremia.

17-All of the following are correct concerning Campylobacter jejuni except
A.Can cause watery diarrhea like cholera.
B. laboratory diagnosis is made by Isolation using selective media like Skirrow medis and 42C followed by biochemical test or PCR.
C. Cause food poisoning mainly from contaminated poultry meat.
D. Some patients may develop autoimmune disease like Guillain Barre syndrome or reactive arthritis.

18- All of the following are correct concerning *Helicobacter pylori* except
A. It has many characteristic features similar to Campylobacter
B. Cause peptic ulcer and guitric carcinoma.
C. Morphologically and in gas requirements similar to Campylobacter.
D. The most specific and sensitive invasive test is urea breath test.

19-All of the following are correct concerning *Haemophilus influenza* except
A. Are Gran negative coccobacili.
B. Divided into typable and non typable according to the presence of capsule.
C .Type b causes invasive infections like meningitis in children.
D.Fastidious bacteria grow only on blood agar,

20-All of the following bacteria are oxidase positive except
A. *Nelsseria gonorrhiae*
B. *Vibrio cholerae*
C. *Pseudomonar aeruginon*
D.*Shigella dysentery*

21. All of the following pathogens can cause neonatal meningitis except
A. *Strept avalanchea*
B.*E.coli KI strain*
C. *Klehatella peumoniar*
D. *Orcella melanomas*

22- Capsule is the mature virulence factor of all of the following pathogens except
A. Netaseria meningitidis
B. Hiaemophilus influrae
C. *Streptococcu pneumoniae*
D. *Stuph.aureus*

23-All of the following pathogens can cause UTI except
A. *Staph.aureus*
B. *Enterococcus faecalis*.
C.*Staph.saprophyticus*
D. *Strept pyogenes.*

24-All of the following infections caused by Strep.pyogenes are due to tissue invasion and multiplication except
A. Sore throat
B. Puerperal fever
C. impetigo
D. Scarlet fever

25- All of the following Gram positive pathogens can cause meningitis except.
A. Streptococcus pineumoniar
B. Listeria monocytogener
C. Streprococeus agalactiae
D. Corynebacterhun diphtheria

26-All of the following infections cause diarrhea except
A. Cholera
B. Shigellosis
C. Campylohacteriosis
D. Diphtheria

27-All of the following bacteria are important bacterial causes of food poisoning except

A. Salmonella typhintiartum
B. Campylobater jajuni
C. Listeria monocytogenes
D. Streptococeus agalactiae

28- All of the following pathogens not transmitted by sexual intercourse except

A. Neieneria gonorrheine
B. Vibria cholerae
C.Shigella sonnei
D. Nelateria meningitidis

29-All of the following are wrong concerning *Mycobacterium tuberculasis* except

A. Renal tuberculosis is the predominant clinical infection
B. Mid stream urine is the preferred sample for diagnosis of renal tuberculosis
C. early morning sputum ii the preferred sample for diagnosis of pulmonary tuberculosis.
D. Tichl-Neelsen stain is the most reliable method for diagnosis of pulmonary

30-All of the following pathogens can cause otitis media except

A. *Proteus sp*
B. Streptocuccus pneuanoniae
C. Haemophilus biflucenea.
D. Camplobacter jejuni

Q2) A S-year old boy watlered fros bloody diarrhea then developed severe anemia (Hb: m umm) with jmndice (T.S.IB: 12.0 mg/ml, Indirect bilirubin is high). Color of the urine was red (Hburia). CB.C showed throenbocytopenia with many schistocytes (fragmented IIC) Both blood urea and serum creatinine were elevated.

1-What is your tentative diagnosis (disease)
2. What in the possible causative agent?
3- What is the source of this infection?
4. Te the cane due to toxemia or bacteremia?
5- How to make laboratory diagnosis of the esuative agent?

03)A 25-yenr-old boy newly Joined to the anny service developed high fever, nausea. vomiting, neck stiffness and petechial hemorthagle skin rashes over the trank. CSF specimen was collected under aseptic conditions and sent to Lab. W.B. Ca: 20 000/cu.mm, D,LC. Neutrophilia, Pruteis level was raised while sugar was low. The sample was cultured and the depontit atained with Gram stain which showed presence of abundant of PMNS with Gram negative intracellular and extracellular diplococci.

1- What is the suspected canative agent
2- On which culture media the Sample should be streaked
3- Which lab.tests do you need to confirm your diagnosis?
4- What is the source of infection of this cate?
5- Which stricture of this agent is responsible for high fever?

Q4) Describe the Gram stained smears from the following pathogens.
a- Corynebacterium diphtheriae
b- Haemophilus influenzae
b- Campylobacter jejuni
c- Vibrio cholerae
d- Pseudomonas aeruginosa

Q5) What is the purpose of using the following tests

a- 2-Mercaptoethanol test
b- Sensitivity to O/129 compound
c- CAMP test
d- Widal test
e- Bacitracin test

Q6) Answer the following short assays

a- Write the names of two Gram negative bacteria that cause meningitis, one is Diplococci and the other is coccobacilli
b- Write two infection that are zoonotje
c- Name five different bacterial causes of food poisoning
d- Name one complication of gonorrhea in women and men
e- Name two infections that can occur in epidemic forms
f- Name two Gram negative bacteria that can cause bloody diarrhea
g- Write two Gram positive bacteria that commonly.cause impetigo
h- What is cold enrichment and for which pathogen is used?
i- Name two invasive tests used for diagnosis of H.pylori
j- What is X and V factors?

Answer by true or false and correct the false if it is present at the following:

1. Strict pathogens are typically members of normal flora and cause diseases when they are introduced into unprotected sites; usually occur in people with underlying conditions.
2. In compromised patients, whose defenses ace weakened, normal flora bacteria often cause opportunistic infectious diseases when entering the bloodstream.
3. S pyogenes is a group B-hemolytic, it is strict parasite and Most serious streptococcal pathogen. It is extremely pathogenic because of its many virulence factors such as M-protein, tissue-digesting enzymes, and streptolysins S and O, which attack leukocytes, kidney, and heart muscle.
4. Attachment between of microbe to host tissue requires: Adhesins which are Surface molecules on host tissues and Receptors, which are Surface molecules on pathogen.
5. Intracellular pathogens must be able to avoid being killed within phagolysozomes.
6. The three species of Staphylococcus can be distinguished from cach other by serology test.
7. *S.sanrophyticus* is usually non-pathogenic, patients with a compromised immune infected with it.
8. Neonates can acquire Streptococcus agalactiae in utero or during delivery from the maternal genital E tract.
9. *E. faecalis* is sometimes found in the pharynx, strains can mistaken for *Streptococcus pyogenes*, but the ability of *E faecalis* to hydrolyze esculin in 40% bile salt, and its resistance to bacitracin help distinguish it.
10. *S. pneumoniae* on blood agar develop a-hemolytic colonies with a mucoid (smooth, shiny) appearance (bence "S" form). Mutants S. prieumoniae witbeut capsules on blood agar produce colonies with a soft surface ("S" form).

Q2): Full the following blank by correct words:

1- The ability of microorganisms to produce disease in a host organism.called pathogenicity
2- Bacterial infections are usually initiated by adherence of the microbe to a specific epithelial surface of the host.
3- Waxes of cell wall of mycobacterium tuberculosis helps resist digestion after phagocytosis.
4- The genus *Staphylococcus* include just thirty-three species. Contains both pathogenic and non- pathogenic organisms. The genus *Staphylococcus* do not produce enalogpores…….
5- Mannitol Salt Agar(MSA) is selective medium for *staphylococci* due to presence of high salt…..

Q1) Generally it is known that bacterial pathogens are always harmful and their structures or by-products can be used for an in vitro diagnosis of other Note correct give an example.

Q2)Although normal flora has many advantáges but not free from disadvantages. W rite one of those disadvantages that upset vou as a bacteriologist working in diagnostic laboratories.

Q3) What does pathogen tolerance to antibioties mean?

Q4) How to detect MRSA in the laboratory?

Q5) Where the following pathogens become carriers?

A- Staph.aureus
B- Strept. agalactiae
C- Listeria monocytogenes
D- Strept.pneumoniae

Q6) Ear swab cultured on blood agar revealed of alpha hemolytic Gram positive, catalase negative, oval shaped diplococci.
1- Name the suspected isolate.
2- How to confirm your diagnosis?
3- What is the characteristic of colonies on blood agar?
4- What is the most common clinical infection of this isolate?