**Microbiology**

**1.** Francesco Redi demonstrated that maggots appeared only in decaying meat that had been exposed to flies – this supports the:

**Biogenesis theory**

**2.** Germ theory of disease (that microbes cause disease) was developed by:

**Louis Pasteur**

**3.** Fermentation is conversion of sugar to alcohol by yeasts in the absence of air: **True**

**4.** Three domains in classification:

**Bacteria, Archaea, Eukarya**

**5.** Complete removal of all life forms including endospores:

**Sterilization**

**6.** Spontaneous generation was finally disproved by:

**Louis Pasteur**

**7.** A unicellular microorganism lacking nucleus and organelles:

**Bacteria**

**8.** Taxonomic category below kingdom:

**Phylum**

**9.** Salvarsan for syphilis was developed by:

**Paul Ehrlich**

**10.** Immersion oil is used to clean microscope lenses:

**False**

**11.** When first focusing under low power, bring the lens close to slide:

**True**

**12.** Gram stain differentiates bacteria based on nucleus composition: **False**

**13.** Stains that use heat:

**Acid-fast stain, Endospore stain**

**14.** Peptidoglycan is found in:

**Gram-positive bacteria**

**15.** Helically curved rod-shaped bacteria:

**Spirilla**

**16.** Bacteria lacking cell wall:

**Mycoplasma**

**17.** Peptidoglycan is found in the:

**Cell wall**

**18.** Locomotion organ in bacteria:

**Flagella**

**19.** Media can be both selective and differential:

**True**

**20.** Psychrophiles grow at -20°C to 10°C:

**True**

**21.** Generation time is time to double population:

**True**

**22.** Generation time:

**t/n (time over number of generations)**

**23.** Turbidity at surface of broth only:

**Obligate aerobe**

**24.** Organism growing best in low oxygen: **Microaerophile**

**25.** Obligate anaerobe:

**Killed by oxygen**

**26.** Generation time of E. coli:

**20 minutes**

**27.** Organisms requiring oxygen:

**Obligate aerobes**

**28.** 15 colonies at 1/1000 dilution =

**15,000 cells/mL**

**29.** Freezing is the most widely used physical microbial control:

**False**

**30.** Dry heat is the most widely used physical microbial control:

**False**

**31.** Methods achieving sterility:

**Autoclaving, Filtration, Incineration, Radiation**

**32.** Items sterilized by dry heat:

**Glass pipettes**

**33.** Chemical agent applied to body to destroy/inhibit pathogens:

**Antiseptic**

**34.** Goal of sterilization:

**Destroy all viable microorganisms**

**35.** Autoclaving uses:

**Steam and pressure**

**36.** Pasteurization results in: **Reduced spoilage organisms**

**37.** Actinobacteria are:

**High G+C Gram-positive bacteria**

**38.** Clostridiales are:

**Low G+C Gram-positive, endospore-forming**

**39.** Nonsense codons:

**UAG, UAA, UGA**

**40.** Cell wall-lacking organism:

**Mycoplasma**

**41.** True about Mycoplasma:

**All are correct**

**42.** Fungi are:

**Eukaryotes**

**43.** Bacteria colonizing majority of insects:

**Wolbachia**

**44.** Proteobacteria classification based on:

**rRNA studies**

**45.** Gender as UTI risk factor:

**True**

**46.** Disease spread via water:

**Vehicle transmission**

**47.** Rapid outbreak in area:

**Epidemic**

**48.** Nosocomial infection factors: **All listed**

**49.** Shock symptoms in Gram-positive infections:

**Superantigens**

**50.** Direct bacterial damage:

**Invasion and lysis (e.g., by E. coli)**

**51.** Polio virus portal of entry:

**Mucous membranes**

**52.** All Gram-negative bacteria release endotoxins:

**True**

**53.** Most infectious by ID50:

**Treponema pallidum**

**54.** Community-acquired MRSA:

**More virulent**

**55.** Antivirals act on viral infection processes:

**True**

**56.** Phage therapy is antiviral:

**False – it targets bacteria**

**57.** Drug resistance is due to:

**All listed reasons**

**58.** Drug for candidiasis:

**Fluconazole**

**59.** Antibiotic NOT affecting cell wall:

**Macrolides**

**60.** Broadest-spectrum antibiotic: **Tetracyclines**

**61.** Fluoroquinolone inhibits DNA synthesis:

**True**

**62.** Protozoan and helminthic diseases are hard to treat because:

**Their cells are similar to human cells**

**63.** Forage poisoning is due to:

**Botulinum toxin C**

**64.** Tetanus and botulism exotoxins can be made into toxoids:

**True**

**65.** Obligate anaerobes include:

**C. septicum, C. novyi, C. tetani, C. botulinum**

**66.** B. cereus causes food poisoning symptoms by:

**Toxins**

**67.** Most toxic exotoxin:

**Botulinum toxin**

**68.** Clostridium botulinum food poisoning is due to:

**Ingestion of preformed toxin**

**69.** Food often associated with B. cereus emetic food poisoning:

**Rice**

**70.** Koch's postulates first satisfied with:

**Bacillus anthracis**

**71.** Latex agglutination test used to identify:

**Staphylococcus aureus**

**72.** DNase test differentiates S. epidermidis from S. saprophyticus: **False**

**73.** Coagulase test used to identify S. aureus:

**True**

**74.** Streptolysin O is:

**Heat-labile**

**75.** Microorganism involved in dental caries:

**S. mutans**

**76.** Test to differentiate S. epidermidis from S. saprophyticus:

**Novobiocin sensitivity test**

**77.** Test to differentiate Staphylococci from Enterococci:

**Catalase test**

**78.** Key test to separate S. aureus from other staphylococci:

**Coagulase test**

**79.** Bacteria that can ferment mannitol:

**S. aureus**

**80.** Most E. coli strains ferment lactose and produce indole:

**True**

**81.** E. coli shows pink/red colonies on MacConkey agar:

**True**

**82.** Properties of Enterobacteriaceae:

**Catalase-positive, Oxidase-negative, Ferment glucose**

**83.** ADH, LDC, ODC, H2S, URE tubes underlined because:

**Both B and C are correct**

**84.** Campylobacter jejuni: **Curved rod, Gram-negative, microaerophilic, thermophilic**

**85.** Which is lactose-negative:

**Proteus**

**86.** Selective medium for Enterobacter:

**MacConkey agar**

**87.** Most prevalent Enterobacteriaceae in CNS infections:

**E. coli**

**88.** Pseudomonas aeruginosa can infect plants and humans:

**True**

**89.** P. aeruginosa is motile by:

**Single polar flagella**

**90.** Differentiate classical vs El Tor cholera:

**Phage IV sensitivity, Fowl RBC agglutination, Polymyxin B sensitivity**

**91.** Antibiotic resistance in P. aeruginosa mainly due to:

**Low envelope permeability + chromosomal genes**

**92.** Organism responsible for otitis externa:

**Pseudomonas aeruginosa**

**93.** Rice water stools characteristic of:

**Cholera**

**94.** Human pathogenic bacteria include:

**All of these**

**95.** Biochemical traits of P. aeruginosa:

**All of these**

**96.** Human-to-human plague transmission due to unsanitary conditions: **False – via respiratory droplets (pneumonic plague)**

**97.** Brucellosis symptom – evening temperature rise to 40°C:

**True**

**98.** Plague prevention measures:

**All listed (Isolation, Biosafety, Rodent control, Prophylactic antibiotics)**

**99.** Disease with catarrhal, paroxysmal, convalescent stages:

**Bordetella pertussis**

**100.** Milk ring test can identify:

**Brucella (not all of these)**

**101.** 2-ME agglutination test detects:

**IgG (not IgM)**

**102.** Human transmission of Brucellae occurs by:

**All of these**

**103.** IGRA and Mantoux distinguish latent vs active TB:

**False – cannot distinguish**

**104.** Hot tubs are low risk for Legionella:

**False**

**105.** TB symptoms for caregivers:

**Cough ≥6 weeks, Night sweats, Hemoptysis, Chills, Fever**

**106.** TB treatment regimen:

**2 months HRZE, then 4 months HR**

**107.** Best test to monitor TB treatment success:

**Sputum smear**

**108.** False TB drug reaction statement: **Jaundice is common and self-limiting**

**109.** WHO-endorsed test for extrapulmonary TB:

**GeneXpert (not Mantoux)**

**110.** High-risk LTBI screening groups:

**All of the above**

**111.** Coxiella burnetii causes Rocky Mountain Spotted Fever:

**False – causes Q fever**

**112.** Rickettsia grow in yolk sacs and cell lines:

**True**

**113.** Chlamydia increases risk of:

**HIV, Cervical cancer**

**114.** Treponema spirals per organism:

**5–15**

**115.** Endemic syphilis (bejel) is transmitted via:

**Contaminated eating utensils**

**116.** Ends of Leptospira are shaped like:

**Hooks**

**117.** Causative agent of Mediterranean spotted fever:

**Rickettsia conorii**

**118.** Principal vector and reservoir of spotted fever group:

**Tick**

**I. Microbiology Foundations & Historical Contributions**

1. Francesco Redi demonstrated that maggots appeared only in decaying meat exposed to flies, supporting: **Biogenesis theory**
2. Germ theory of disease was developed by:

**Louis Pasteur**

1. Louis Pasteur’s S-neck flask experiment showed:

**All of the above – Air exchange occurred, microbes removed, food source provided, preexisting microbes killed**

1. Discovery of penicillin (first antibiotic):

**Alexander Fleming**

1. First chemotherapeutic agent (Salvarsan for syphilis):

**Paul Ehrlich**

1. Identification of the tuberculosis causative agent:

**Robert Koch**

1. One of Lister's early antiseptics:

**Carbolic acid (phenol)**

**II. Cell Structure & Classification**

1. The three domains of life:

**Bacteria, Archaea, Eukarya**

1. Bacteria that lack a cell wall:

**Mycoplasma**

1. Peptidoglycan is found in:

**Bacterial cell wall**

1. Archaea:

**Prokaryotes lacking peptidoglycan and found in extreme environments**

1. Spirilla: **Helically curved rod-shaped bacteria**
2. Structure for locomotion in bacteria:

**Flagella**

1. Adherence structure in Neisseria gonorrhoeae:

**Fimbriae**

1. Organisms that stain poorly due to lack of cell wall:

**Mycoplasma**

**III. Staining & Microscopy**

1. Gram staining differentiates based on:

**Cell wall composition**

1. Acid-fast stain and Endospore stain require:

**Heat to drive the stain**

1. Staining method for capsules:

**Negative stain**

1. Immersion oil is used to:

**Improve resolution by reducing light refraction**

1. Mycobacterium tuberculosis under microscope:

**Acid-fast rods**

**IV. Growth Conditions & Metabolism**

1. Microorganisms that grow in cold (-20 to 10°C):

**Psychrophiles**

1. Microorganisms requiring oxygen: **Obligate aerobes**
2. Grow best in low oxygen: **Microaerophiles**
3. Killed by oxygen:

**Obligate anaerobes**

1. Growth at broth surface only:

**Obligate aerobes**

1. Generation time definition:

**Time for population to double**

1. Generation time formula:

**t/n (time ÷ generations)**

1. Generation time of E. coli:

**20 minutes**

1. Chemotrophs get energy from:

**Chemical compounds**

**V. Genetics & Biochemical Properties**

1. Plasmids are:

**Separate from chromosomal DNA**

1. Plasmid-mediated traits:

**Antibiotic resistance, Enterotoxin production, Lactose fermentation**

1. Bacteria used in pest control (toxin-producing):

**Bacillus thuringiensis**

**VI. Control Methods (Sterilization, Disinfection, Antiseptics)**

1. Complete sterilization of heat-sensitive spores: **Autoclaving (steam under pressure)**
2. Boiling does not kill: **Endospores**
3. Method that removes but does not kill microbes:

**Filtration**

1. Radiation that alters DNA/proteins:

**Non-ionizing (UV) radiation**

1. Common antiseptic used on skin:

**Hydrogen peroxide**

1. Antiseptic is:

**Chemical agent applied to tissue to inhibit pathogens**

**VII. Diagnostic Techniques**

1. Bacterium confirmed by coagulase test:

**Staphylococcus aureus**

1. Bacteria associated with dental caries:

**Streptococcus mutans**

**VIII. Toxins & Pathogenesis**

1. Most toxic exotoxin known:

**Botulinum toxin**

1. Corynebacterium diphtheriae produces exotoxin that:

**Inhibits protein synthesis**

**IX. Normal Flora & Opportunism**

1. Normal flora becoming pathogenic:

**True for both resident and transient flora**

**X. Applied Microbiology Calculations**

1. 15 colonies from 1/1000 dilution = **15,000 cells/mL**

**XI. Culture Media & Growth Characteristics**

1. Media can be both selective and differential:

**True**

1. Example of selective and differential medium:

**MacConkey agar**

1. Mannitol fermentation is a trait of:

**Staphylococcus aureus**

1. MacConkey agar differentiates lactose fermenters:

**Lactose fermenters appear pink/red**

**XII. Additional Notes**

1. Psychrophiles, mesophiles, and thermophiles differ by:

**Temperature ranges for optimal growth**

1. Obligate aerobes require:

**Oxygen for growth**

1. Facultative anaerobes can:

**Grow with or without oxygen**

1. Bacterial endospores are:**Highly resistant dormant structures**
2. Normal microbiota help by:**Competing with pathogens and producing vitamins**
3. Transient flora:

**Microorganisms present for a short time without causing disease**

1. **Name the three domains of life.**  
   Answer: Bacteria, Archaea, Eukarya
2. **Name a bacterium that lacks a cell wall.**  
   Answer: Mycoplasma
3. **What is peptidoglycan and where is it found?**  
   Answer: A structural polysaccharide found in bacterial cell walls
4. **Which structure is responsible for bacterial motility?**  
   Answer: Flagella
5. **Which structure helps Neisseria gonorrhoeae adhere to host cells?**  
   Answer: Fimbriae
6. **Which type of stain is used to visualize bacterial capsules?**  
   Answer: Negative stain
7. **What does an acid-fast stain detect?**  
   Answer: Mycolic acid in the cell walls of bacteria like Mycobacterium tuberculosis
8. **Define generation time.**  
   Answer: The time required for a bacterial population to double
9. **State the formula to calculate generation time.**  
   Answer: Generation time = t/n (time interval ÷ number of generations)
10. **What is the generation time of E. coli under optimal conditions?**  
    Answer: 20 minutes
11. **Name a bacterium used as a biological pesticide.**  
    Answer: Bacillus thuringiensis
12. **Which sterilization method is best for heat-sensitive spores?**  
    Answer: Autoclaving (steam under pressure)
13. **Which microorganisms can grow at very low temperatures?**  
    Answer: Psychrophiles
14. **What is the common antiseptic used in homes that is a peroxygen compound?**  
    Answer: Hydrogen peroxide
15. **What does the coagulase test confirm?**  
    Answer: Identification of Staphylococcus aureus
16. **Which bacterium is commonly associated with dental caries?**  
    Answer: Streptococcus mutans
17. **Name the most potent exotoxin known.**  
    Answer: Botulinum toxin
18. **How many cells per mL are in a sample if 15 colonies grow from a 1/1000 dilution?**  
    Answer: 15,000 cells/mL
19. **What is a plasmid?**  
    Answer: A small, circular piece of DNA separate from chromosomal DNA
20. **Name one trait that can be plasmid-mediated.**  
    Answer: Antibiotic resistance
21. **Which bacteria are heat-resistant due to endospore formation?**  
    Answer: Bacillus and Clostridium
22. **What is the primary chemical used in Gram staining to fix the dye?**  
    Answer: Iodine (mordant)
23. **Which chemical agent is applied to tissues to destroy or inhibit pathogens?**  
    Answer: Antiseptic
24. **Which method of microbial control uses UV light?**  
    Answer: Non-ionizing radiation
25. **What does MacConkey agar differentiate?**  
    Answer: Lactose fermenters from non-fermenters

Question N1 Long hair, hanging jewelry, and loose clothing can be dangerous in a lab.

Answer: 1

Point: 0.25

Question N2 You should wear safety goggle during every science block.

Answer: 1

Point: 0.0

Question N3 When studying a chemical it is important to touch, taste, and smell it so that you know a lot about it.

Answer: 0

Point: 0.25

Question N4 Microorganisms are involved in the following processes:

Answer: smog production.

Point: 0.0

Question N5 A prokaryotic cell may possess each of the following cellular components EXCEPT

Answer: ribosomes.

Point: 0.0

Question N6 The process of complete removal of all life forms including endospores is called

Answer: Sterilization

Point: 0.34999999999999998

Question N7 In the long-term disputes among supporters of two theories, the arguments supporting spontaneous generation were finally disproved in 19th century by

Answer: Robet Koch .

Point: 0.0

Question N8 A member of a large group of unicellular microorganisms lacking organelles and an organized nucleus, including some that can cause disease is

Answer: Archea

Point: 0.0

Question N9 In classification, the taxonomic category below kingdom, members of which all have a similar general body plan, is

Answer: Phylum

Point: 0.34999999999999998

Question N12 The Gram stain differentiates between bacteria based on the composition of their nucleus.

Answer: 0

Point: 0.25

Question N13 Which of the following is true about the structure of Gram positive cell wall

Answer: periplasmic space is absent

Point: 0.29999999999999999

Question N14 Which of the following is true about the structure of Gram positive cell wall

Answer: include significant amount of teichoic and lipoteichoic acids

Point: 0.20000000000000001

Question N15 A microorganism measures 4,5 μm in length. Its length in mm would be

Answer: 0.045 mm

Point: 0.0

Question N16 Which microscope is used to see internal structures of cells in a natural state (without staining) ?

Answer: fluorescence microscope

Point: 0.0

Question N17 The framework of the bacterial cell wall is

Answer: chitin;

Point: 0.0

Question N18 Which of the following organisms contain 70S ribosomes?

Answer: Prokaryotes

Point: 0.34999999999999998

Question N19 Which of the following statements is INCORRECT regarding prokaryotic cells?

Answer: They typically have a circular chromosome.

Point: 0.0

Question N20 Media can be either selective or differential, but they cannot be both.

Answer: 1

Point: 0.0

Question N23 A spore differs from an actively replicating bacterium in that the spore

Answer: is produced during a process involving asymmetric division

Point: 0.20000000000000001

Question N24 A spore differs from an actively replicating bacterium in that the spore

Answer: is able to withstand more extreme conditions than the replicating cell

Point: 0.20000000000000001

Question N25 A spore differs from an actively replicating bacterium in that the spore

Answer: is metabolically inactive

Point: 0.10000000000000001

Question N27 A toxic anion (O2-) with an unpaired electron is

Answer: Superoxide radicals

Point: 0.34999999999999998

Question N28 Essential organic compounds an organism is unable to synthesize

Answer: Organic growth factors

Point: 0.34999999999999998

Question N29 Which of the following types of media is designed to suppress the growth of unwanted bacteria and encourage the growth of desired microbes?

Answer: Selective media

Point: 0.34999999999999998

Question N30 Use this typical bacterial growth curve to answer the following question: Which section shows a growth phase where the number of cells dying equals the number of cells dividing?

Answer: A and C

Point: 0.0

Question N31 Use this typical bacterial growth curve to answer the following question: Which section shows a growth phase where the number of cells dying exceeds the number of cells dividing?

Answer: A

Point: 0.0

Question N32 Agents which kills bacteria are called bacteriocidal and agents which only inhibited its growth are called bacteriostatic.

Answer: 1

Point: 0.25

Question N33 Disinfectants are chemical substances that destroy or inhibit the growth of microorganisms in living tissues.

Answer: 1

Point: 0.0

Question N34 3 examples of moist heat:, ,

Answer: autoclaving

Point: 0.20000000000000001

Question N35 3 examples of moist heat:, ,

Answer: boiling

Point: 0.10000000000000001

Question N36 3 examples of moist heat:, ,

Answer: pasteurization

Point: 0.20000000000000001

Question N37 Lister developed his ideas on prevention of infection during medical procedures after studying the work of

Answer: Pasteur

Point: 0.34999999999999998

Question N42 If you knew the sequence of nucleotides within a gene, you could determine with the most accuracy the secondary structure of a protein

Answer: 1

Point: 0.0

Question N43 Protein synthesis in eukaryotes is similar to the process in prokaryotes in that both eukaryotes and prokaryotes use codons to determine polypeptide sequences.

Answer: 1

Point: 0.25

Question N44 Which of the following is true about mycoplasma?

Answer: Multiplication is by binary fission

Point: 0.20000000000000001

Question N45 Which of the following is true about mycoplasma?

Answer: Resistant to antibiotics targeting cell wall synthesis

Point: 0.29999999999999999

Question N46 The Bergey’s manual of determinative bacteriology is based on the following EXCEPT

Answer: rRNA sequencing

Point: 0.34999999999999998

Question N47 If two organisms have similar rRNA sequences, you can conclude that they

Answer: will have different G-C ratios.

Point: 0.0

Question N48 Which of the following statements about archaea is FALSE?

Answer: They lack peptidoglycan in their cell walls.

Point: 0.0

Question N49 A genus can best be defined as

Answer: a taxon belonging to a species.

Point: 0.0

Question N50 Which of the following is the best evidence for a three-domain system?

Answer: There are three distinctly different types of nuclei.

Point: 0.0

Question N51 The science that deals with when diseases occur and how they are transmitted is called epidemiology.

Answer: 1

Point: 0.25

Question N52 Houseflies, as biological vectors, can transmit important diseases.

Answer: 1

Point: 0.0

Question N53 Normal microbiota can benefit the host by preventing the overgrowth of harmful microorganisms. This is called microbial antagonism.

Answer: 1

Point: 0.25

Question N54 Which of the following can contribute to postoperative infections?

Answer: using syringes more than once

Point: 0.20000000000000001

Question N55 Which of the following can contribute to postoperative infections?

Answer: normal microbiota on the operating room staff

Point: 0.10000000000000001

Question N56 Which of the following can contribute to postoperative infections?

Answer: errors in aseptic technique

Point: 0.10000000000000001

Question N57 Which of the following can contribute to postoperative infections?

Answer: antibiotic resistance

Point: 0.10000000000000001

Question N58 All of the following are used by bacteria to attach to host cells EXCEPT

Answer: capsules.

Point: 0.0

Question N59 Which of the following statements about staphylococcal enterotoxin is FALSE?

Answer: It is produced by Staphylococcus aureus growing in the host's intestines.

Point: 0.34999999999999998

Question N60 Which of the following contributes to the virulence of a pathogen?

Answer: numbers of microorganisms that gain access to a host, evasion of host defenses, and toxin production

Point: 0.34999999999999998

Question N61 Twenty-five people developed symptoms of nausea, vomiting, and diarrhea three to six hours after attending a church picnic where they ate a ham and green bean casserole with cream sauce. The most likely cause of this case of food intoxication is

Answer: erythrogenic toxin.

Point: 0.34999999999999998

Question N62 Which of the following statements about M protein is FALSE?

Answer: It is readily digested by phagocytes.

Point: 0.34999999999999998

Question N63 Antifungal drugs do not affect eukaryotic cells

Answer: 1

Point: 0.0

Question N64 Most of the available antimicrobial agents are effective against bacteria

Answer: 1

Point: 0.25

Question N65 If a microbial drug prevents microbes from growing, its action is termed bactericidal

Answer: 1

Point: 0.0

Question N66 Which of the following antibiotics are used to treat fungal infections?

Answer: polyenes

Point: 0.29999999999999999

Question N67 Which of the following antibiotics are used to treat fungal infections?

Answer: bacitracin

Point: 0.0

Question N68 Which of the following antimicrobial agents is recommended for use against fungal infections?

Answer: amphotericin B

Point: 0.34999999999999998

Question N69 In Table 1, the minimal bactericidal concentration of antibiotic X is

Answer: 15 μg/ml.

Point: 0.34999999999999998

Question N70 More than half of our antibiotics are

Answer: produced by bacteria.

Point: 0.34999999999999998

Question N71 To date, most of our natural antibiotics have been found to be produced by members of what genus?

Answer: Streptomyces

Point: 0.34999999999999998

Question N72 Which of the following is mismatched?

Answer: Florey and Chain - identification of Penicillium as the producer of penicillin

Point: 0.34999999999999998

Question N73 Patients with respiratory anthrax show flu-like symptoms, eventually causing respiratory distress.

Answer: 1

Point: 0.25

Question N74 The major virulence factor of Corynebacterium diphtheriae is diphtheria toxin: an A-B exotoxin; inhibits protein synthesis.

Answer: 1

Point: 0.25

Question N75 Which of the following properties are the characteristics of tetanospasmin?

Answer: It is a heat-labile protein

Point: 0.20000000000000001

Question N76 Which of the following properties are the characteristics of tetanospasmin?

Answer: It is a neurotoxin

Point: 0.10000000000000001

Question N77 Which of the following properties are the characteristics of tetanospasmin?

Answer: It is a heat-stable protein

Point: 0.0

Question N78 Nagler's reaction is useful for the identification of

Answer: C botulinum

Point: 0.0

Question N79 The CSF from a 2-week-old infant with meningitis shows rods with tumbling motility. These bacteria are found to be Gram-positive and do not form spores. What is the most likely agent?

Answer: Actinomyces

Point: 0.0

Question N80 A 36-year-old man presents with focal central nervous system signs. Imaging shows a brain abscess. The dominant organism is an anaerobe normally found as part of the oral flora. Which of the following best fits that description?

Answer: Pseudomonas aeruginosa

Point: 0.0

Question N81 A 30-year-old woman was hospitalized after she experienced convulsions. On examination, she was alert and oriented and complained of a fever, headache, and stiff neck. Any of the following organisms could be responsible for her symptoms EXCEPT

Answer: Listeria monocytogenes.

Point: 0.0

Question N82 Initial treatment for tetanus in an unimmunized person with a deep contaminated wound is

Answer: penicillin.

Point: 0.0

Question N83 The most common causative agent of bacterial pneumonia is Streptococcus pneumoniae.

Answer: 0

Point: 0.0

Question N84 Streptococcus pyogenes is the most common and most important bacteria responsible for pharyngitis

Answer: 1

Point: 0.25

Question N85 Vaccines are not available for streptococcal diseases other than streptococcal pneumonia because of the large number of serotypes

Answer: 1

Point: 0.25

Question N86 Which of the following condition is non-suppurative sequelae of Streptococcus pyogenes infections?

Answer: Acute glomerulonephritis

Point: 0.20000000000000001

Question N87 Which of the following condition is non-suppurative sequelae of Streptococcus pyogenes infections?

Answer: Erythema nodosum

Point: 0.10000000000000001

Question N88 Which of the following condition is non-suppurative sequelae of Streptococcus pyogenes infections?

Answer: Toxic shock syndrome

Point: 0.0

Question N89 Which of the following Staphylococcal haemolysins does not cause lysis of human RBCs?

Answer: β haemolysin

Point: 0.0

Question N90 A gram-positive coccus that grows in pairs or short chains and that is alpha-hemolytic and optochin-resistant is

Answer: Streptococcus pyogenes

Point: 0.0

Question N91 \_\_\_\_\_\_\_\_\_\_ test is used to differentiate Staphylococci from Streptococci

Answer: Coagulase test

Point: 0.0

Question N93 Which organism produces a toxin that causes scalded skin syndrome?

Answer: Staphylococcus aureus

Point: 0.34999999999999998

Question N94 S typhimurium and S enteritidis can cause gastroenteritis

Answer: 1

Point: 0.25

Question N95 Verotoxin 1 of Escherichia coli is similar to shiga toxin.

Answer: 1

Point: 0.25

Question N99 Transmission of pneumonic plague from man to man is through

Answer: inoculation

Point: 0.0

Question N100 The agent(s) which can cause plague is/are

Answer: All of these

Point: 0.0

Question N101 A major difference between EHEC and EPEC is

Answer: EPEC rearranges host cell actin and EHEC does not

Point: 0.0

Question N102 Which of the following statements about salmonellosis is FALSE?

Answer: The mortality rate is high.

Point: 0.34999999999999998

Question N103 exotoxins are produced by all of the following gastro-intestinal pathogens EXCEPT

Answer: Staphylococcus aureus

Point: 0.0

Question N104 Pseudomonas aeruginosa can infect plants as well as humans?

Answer: 1

Point: 0.25

Question N105 P. aeruginosa is motile by several peri-trichous flagellae?

Answer: 0

Point: 0.25

Question N106 The substance(s) which can be produced by strains of Pseudomonas aeruginosa is/are

Answer: Exotoxins A and S

Point: 0.20000000000000001

Question N107 The substance(s) which can be produced by strains of Pseudomonas aeruginosa is/are

Answer: Elastase

Point: 0.20000000000000001

Question N108 The substance(s) which can be produced by strains of Pseudomonas aeruginosa is/are

Answer: Haemolysins

Point: 0.10000000000000001

Question N109 Which one of the given statements is not true about Pseudomonads?

Answer: All species cause diseases in humans only

Point: 0.34999999999999998

Question N110 Pseudomonas aeruginosa produces a water-soluble blue color pigment called pyocyanin and …............ color pigment pyoverdin.

Answer: Red

Point: 0.0

Question N111 Patients with cystic fibrosis infection suffer from a chronic lung infection caused by Pseudomonas aeruginosa. The bacterial growth results in …........formation and clogs the lung airways.

Answer: Biofilm

Point: 0.34999999999999998

Question N112 Isolation of Pseudomonas aeruginosa from a mucoid sputum specimen obtained from a patient with cystic fibrosis is usually done by standard culture method. After the incubation, mucoid bacterial colonies can be seen on the agar media which have a grape-like odor, what are the best growth temperature and incubation period for the given bacteria?

Answer: 42 degree Celsius for 48 hours

Point: 0.34999999999999998

Question N113 All of the following statements for Pseudomonas aeruginosa are true, except;

Answer: It does not grow well at 42c

Point: 0.34999999999999998

Question N114 Massive human-to-human transmission of plague is usually result of unsanitary conditions

Answer: 1

Point: 0.0

Question N115 One of the characteristic symptoms of brucellosis is rise of a temperature up to 40°C each evening

Answer: 1

Point: 0.25

Question N116 What were the symptoms of the Black Death?

Answer: Black swellings the size of eggs on the armpits or groin

Point: 0.20000000000000001

Question N117 What were the symptoms of the Black Death?

Answer: Fever, headaches, and vomiting

Point: 0.20000000000000001

Question N118 What were the symptoms of the Black Death?

Answer: Dark spots on the skin

Point: 0.10000000000000001

Question N119 Brucella are

Answer: Very short rods

Point: 0.34999999999999998

Question N120 Which of the following is NOT the virulence factors responsible for the pathogenicity of Bordetella pertussis, a gram-negative coccobacillus that causes “whooping cough”?

Answer: A tracheal cytotoxin

Point: 0.0

Question N121 Which of the following bacteria is responsible for “Malta fever” in humans which is caused primarily by contact with animals or animal products?

Answer: Brucella spp

Point: 0.34999999999999998

Question N122 All of the following are the symptoms caused by the pathogenic Brucella spp, EXCEPT

Answer: Lesions on eyelids

Point: 0.34999999999999998

Question N123 Mycoplasma is the smallest of known free-living, self-replicating prokaryotic cells - 125-250 nm in size , comparable to chlamydias or large viruses.

Answer: 0

Point: 0.0

Question N124 Etiological agent for disease known as Primary Atypical Pneumonia (“Walking Pneumonia”) is Mycoplasma pneumoniae.

Answer: 1

Point: 0.25

Question N125 A patient receiving medical treatment for an active tuberculosis infection asks when she can starting going out in public again. You respond that she is no longer contagious when:\*

Answer: She has 3 negative sputum cultures

Point: 0.20000000000000001

Question N126 A patient receiving medical treatment for an active tuberculosis infection asks when she can starting going out in public again. You respond that she is no longer contagious when:\*

Answer: Her signs and symptoms improve

Point: 0.10000000000000001

Question N127 A patient receiving medical treatment for an active tuberculosis infection asks when she can starting going out in public again. You respond that she is no longer contagious when:\*

Answer: She has been on tuberculosis medications for about 3 week

Point: 0.20000000000000001

Question N128 For a two year old child with suspected TB, the best clinical specimen for pulmonary TB diagnosis is:

Answer: Sputum

Point: 0.0

Question N129 What is the minimum recommended number and timing of specimens for the diagnosis of pulmonary TB?

Answer: Two sputum specimens collected one hour apart

Point: 0.34999999999999998

Question N130 In a woman with infertility, suspected to have genito-urinary TB, which of the following specimens is important for diagnosis?

Answer: Endometrial tissue

Point: 0.34999999999999998

Question N131 Which of these statements is NOT true about chest radiology for TB diagnosis?

Answer: Treatment of TB purely on the basis of x-rays can result in significant over-treatment

Point: 0.0

Question N132 A 55 year old 40 pack year smoker consults with you for a 2 month history of cough and blood tinged sputum (no fever). He reports that his sister had TB 10 years ago. The CXR shows a cavitary mass in the RUL. What is the next step?

Answer: Send patient for a bronchoscopy

Point: 0.34999999999999998

Question N133 Ticke-borne B. recurrentis has shorter louse-borne infection.

Answer: 1

Point: 0.25

Question N135 The elementary body form of Chlamydia trachomatis infects host cells which are primarily what?

Answer: Nonciliated columnar cells

Point: 0.20000000000000001

Question N136 The elementary body form of Chlamydia trachomatis infects host cells which are primarily what?

Answer: Transitional epithelial cells

Point: 0.29999999999999999

Question N137 The Elementary body outer membrane is similar to that of Gram negative organism; most prominent component is the \_\_\_\_\_\_\_\_\_\_.

Answer: Major outer membrane protein

Point: 0.34999999999999998

Question N138 In the U.S., chlamydia occurs more often than any other sexually transmitted infection (STI). Who can be infected with chlamydia?

Answer: Any sexually active person

Point: 0.34999999999999998

Question N139 Chlamydia is called the silent disease because it often goes undetected. What portion of infected men and women have symptoms of chlamydia?

Answer: 1 in 2 men, and 4 in 5 women

Point: 0.0

Question N140 Spirochaetes exhibit

Answer: all of the above

Point: 0.34999999999999998

Question N141 Which sexually transmitted disease is caused by a spirochete?

Answer: leptospirosis

Point: 0.0