Which is not a toxemic infection?

+relapsing fever tetanus

gas gangrene botulism diphtheria

Which is not a toxemic infection?

+psittacosis tetanus

gas gangrene botulism diphtheria

Which is a toxemic infection?

+botulism psittacosis typhus tuberculosis

Which is a toxemic infection?

+diphtheria psittacosis typhus tuberculosis

Which is a toxemic infection?

+tetanus relapsing fever gonorrhea syphilis

Which genus does not have coiled bacteria?

+Francisella Treponema Borellia Campylobacter Leptospira

Which genus does not have coiled bacteria?

+Streptococcus Treponema Borrelia Campylobacter Leptospira

Which genus does not have coiled bacteria?

+Neisseria Treponema Borellia Campylobacter Leptospira

The bacteria of this genus are coiled:

+Treponema Streptococcus Staphylococcus Shigella Neisseria

The bacteria of this genus are coiled:

+Leptospira Streptococcus

Staphylococcus Shigella Neisseria

Gram-positive rods are the bacteria of the genus:

+Clostridium Esherichia Salmonella Shigella Francisella

Gram-positive rods are the bacteria of the genus:

+Corynebacterium Esherichia Salmonella Shigella Francisella

Gram-positive rods are the bacteria of the genus:

+Mycobacterium Esherichia Salmonella Shigella Francisella

Gram-positive rods are the bacteria of the genus:

+Bacillus Treponema Salmonella Shigella Neisseria

Gram-negative rods are the bacteria of the genus:

+Esherichia Clostridium Mycobacterium Corynebacterium

Gram-negative rods are the bacteria of the genus:

+Salmonella Clostridium Corynebacterium Bacillus

Gram-negative rods are the bacteria of the genus:

+Bordetella Mycobacterium Corynebacterium Bacillus

Gram-negative rods are the bacteria of the genus:

+Francisella Mycobacterium Corynebacterium Bacillus

Vaccination is administered in case of:

+anthrax relapsing fever gonorrhea psittacosis syphilis

Vaccination is administered in case of:

+pertussis relapsing fever gonorrhea psittacosis syphilis

Vaccination is administered in case of:

+diphtheria paratyphoid fever gonorrhea mycoplasmosis candidiasis

Vaccination is administered in case of:

+tetanus listeriosis scarlet fever syphilis

Vaccination is administered in case of:

+cholera gonorrhea Lyme disease

Legionnaires’ disease

Vaccination is not administered in case of:

+relapsing fever tularemia typhus

anthrax typhoid fever

Vaccination is not administered in case of:

+syphilis diphtheria typhus pertussis typhoid fever

Vaccination is not administered in case of:

+gonorrhea brucellosis plague tuberculosis

Vaccination is not administered in case of:

+scarlet fever anthrax typhus tetanus

Vaccination is not administered in case of:

+borreliosis brucellosis typhoid fever diphteria

Vaccination is not administered in case of:

+colibacillosis (E.coli infection) brucellosis

typhoid fever diphtheria

Gram-negative cocci are the bacteria of the genus:

+Veilonella Treponema Salmonella Shigella Corynebacterium

Gram-negative cocci are the bacteria of the genus:

+Neisseria Treponema Salmonella Shigella Corynebacterium

Gram-positive cocci are the bacteria of the genus:

+Streptococcus Treponema Shigella Corynebacterium Neisseria

Gram-positive cocci are the bacteria of the genus:

+Staphylococcus Salmonella Shigella Corynebacterium Neisseria

Which genus of bacteria has H-antigen?

+Salmonella Staphylococcus Shigella Corynebacterium Neisseria

Which genus of bacteria has H-antigen?

+Esherichia Staphylococcus Shigella Corynebacterium Neisseria

Which genus of bacteria has H-antigen?

+Vibrio Streptococcus Shigella Mycobacterium

Which genus of bacteria does not have H-antigen?

+Shigella Vibrio Salmonella Esherichia

Which genus of bacteria does not have H-antigen?

+Streptococcus Vibrio Salmonella Esherichia

Which genus of bacteria has K-antigen?

+Esherichia

Corynebacterium Treponema Leptospira

Which genus of bacteria has K-antigen?

+Salmonella Corynebacterium Treponema Leptospira

The bacteria of this genus are aerobes:

+Neisseria Shigella Salmonella Esherichia

The bacteria of this genus are aerobes:

+Mycobacterium Shigella Salmonella Esherichia

The bacteria of this genus are not facultative anaerobes:

+Neisseria Shigella Salmonella Esherichia

The bacteria of this genus grow as R-colonies (rough):

+Mycobacterium Shigella Salmonella Esherichia

The bacteria of this genus grow as R-colonies (rough):

+Yersinia Vibrio Streptococcus Salmonella

The bacteria of this genus grow as R-colonies (rough):

+Bacillus Bordetella Brucella Salmonella

The bacteria of this genus grow as S-colonies (smooth):

+Brucella Bacillus Mycobacterium Yersinia

The bacteria of this genus grow as S-colonies (smooth):

+Esherichia Bacillus Mycobacterium Yersinia

Bacterioscopy is used in the diagnosing procedure of:

+gonorrhea

Legionnaires’ disease colibacillosis (E.coli infection) brucellosis

Bacterioscopy is used in the diagnosing procedure of:

+syphilis

Legionnaires’ disease listeriosis

brucellosis

Bacterioscopy is used in the diagnosing procedure of:

+anthrax

Legionnaires’ disease

E.coli infection (escherichiosis) typhus

Bacterioscopy is not used in the diagnosing procedure of:

+Legionnaires’ disease anthrax

tuberculosis gas gangrene

Bacterioscopy is not used in the diagnosing procedure of:

+typhus relapsing fever

meningococcal meningitis cholera

Bacterioscopy is not used in the diagnosing procedure of:

+brucellosis anthrax plague cholera

A therapeutic serum is used to treat:

+diphtheria typhus relapsing fever cholera

A therapeutic serum is used to treat:

+tetanus tuberculosis plague

E.coli infection (escherichiosis)

A therapeutic serum is used to treat:

+botulism syphilis Lyme disease

E.coli infection (escherichiosis)

A skin test is used in the diagnosing procedure of:

+tuberculosis typhus relapsing fever

meningococcal meningitis cholera

A skin test is used in the diagnosing procedure of:

+anthrax syphilis listeriosis leptospirosis

A therapeutic vaccine is used to treat:

+gonorrhea tuberculosis plague

E.coli infection (escherichiosis)

A therapeutic serum is used to treat:

+brucellosis syphilis cholera

paratyphoid fever

Which infectious agent causes a highly hazardous infectious disease?

+Yersinia pestis Neisseria gonorrhoeae Leptospira interrogans Haemophilus influenzae

Which infectious agent causes a highly hazardous infectious disease?

+Vibrio cholerae Shigella flexneri Clostridium perfringens Bacteroides fragilis

All these infectious agents except one cause atypical pneumonia. Which one does not?

+Streptococcus pneumoniae Coxiella burnetii

Legionella pneumophila Chlamydiophila pneumonia

Dark-field microscopy is used to study:

+Treponema pallidum Escherichia coli Rickettsia Staphylococcus Chlamydia

The spore-forming bacteria are:

+Clostridia Streptococci Neisseria Salmonella Corynebacteria

Which infectious agent causes relapsing fever?

+Borrelia recurrentis Bordetella pertussis Salmonella typhi Rickettsia prowazekii Yersinia pestis

Which infectious agent causes anthrax?

+Bacillus anthracis Corynebacterium diphtheriae Bacteroides fragilis Klebsiella pneumoniae Pseudomonas aeruginosa

The first-choice medicinal drug to treat a chlamydia infection is:

+azithromycin ampicillin nystatin gentamicin clindamycin

Which bacterium produces an enterotoxin?

+Vibrio cholerae Clostridium tetani Corynebacterium diphtheriae Bacillus anthracis

According to its mechanism of action related to a target cell the Botulinum toxin is:

+a blocker of a nerve signal transmission an inhibitor of protein synthesis

an activator of the adenylate cyclase system exfoliatin

hemolysin

The diphtheria toxin is:

+a histotoxin an endotoxin a neurotoxin an enterotoxin a leukocidin

What is a characteristic feature of both chlamydia and rickettsia?

+obligate intracellular parasitism disjunctive reproduction

ability to accumulate glycogen the presence of elementary bodies

The bacteria of this genus are gram-negative rods:

+Shigella Clostridium Treponema Corynebacterium Neisseria

Vaccination is performed in case of:

+tularemia relapsing fever gonorrhea psittacosis syphilis

The bacteria of this genus are gram-positive rods:

+Corynebacterium Treponema Salmonella Shigella

Neisseria

The bacteria of this genus are gram-positive rods:

+Mycobacterium Esherichia Salmonella Shigella Francisella

Which of the following vaccines is divergent:

+tuberculosis pertussis plague cholera brucellosis

The causative agent of whooping cough is:

+Bordetella pertussis Yersinia pestis Staphylococcus аureus Bacillus anthracis

The bacteria of this genus are not gram-negative rods:

+Corynebacterium Esherichia Salmonella Shigella Francisella

Escherichia coli is grown on the following culture medium:

+Endo agar bismuth sulfite agar egg-yolk salt agar Rappaport broth alkaline agar

The cultural property of salmonella typhi growth on bismuth sulfite agar is:

+black-coloured bacterial colonies with metallic lustre yellow-coloured smooth bacterial colonies

green-coloured rough bacterial colonies transparent convex bacterial colonies

The Salmonella genus bacteria are:

+gram-negative motile rods gram-positive motile rods spore-forming

gram-negative cocci

The following is used in case of typhoid post-exposure (emergency) prevention for exposed humans:

+bacteriophage split vaccine toxoid penicillin

multivalent immunoglobulin

The vaccine for specific prevention of typhoid is:

+inactivated whole-cell vaccine chemical vaccine

combination vaccine multivalent vaccine

The Escherichia genus bacteria are:

+gram-negative motile rods gram-positive motile rods spore forming

gram-negative cocci

The feature characteristic of E.coli growth on Endo agar is:

+red-coloured bacterial colonies with metallic lustre semi-transparent bacterial colonies with uneven edges colorless smooth bacterial colonies

blue-coloured matte bacterial colonies with even edges

Salmonella pathogenicity factors are:

+endotoxin and microcapsule capsule and hyaluronidase

plasma coagulase and erythrogenin permeases

The following property helps to differentiate between pathogenic diarrhea-causing Escherichia coli and potentially pathogenic Escherichia coli:

+antigenic structure

the ability to produce endotoxin the ability to utilize lactose

the ability to produce Н2S (hydrogen sulfide)

The property which helps to single out pathogenic diarrhea-causing Escherichia coli is:

+a set of pathogenicity factors being lactose negative

the structure of the cell wall production of H2S (hydrogen sulfide)

The conditions for the cultivation of Enterobacteriaceae family bacteria are:

+at temperature +37˚С microaerophilic conditions anaerobic conditions

at room temperature

in the organisms of sensitive animals

The properties of Salmonella genus bacteria are:

+lactose negative, produce hydrogen sulfide immotile, lactose positive

motile, do not produce hydrogen sulfide; gram-positive, motile

This enrichment growth medium is used to culture salmonellas:

+selenite broth peptone water sugar broth salt broth

The properties of the Escherichia genus bacteria are:

+motile, do not produce hydrogen sulfide lactose negative, produce hydrogen sulfide immotile, lactose positive

gram-positive, motile

The following medications are used to treat bacterial intestinal infections:

+eubiotics and bacteriophages bacteriophages and vitamins antibiotics and immunoglobulins immunoglobulins and interferons

The growth medium for salmonella pure culture isolation is:

+bismuth sulfite agar meat peptone agar egg-yolk salt agar blood agar

alkaline agar

This sugar is fermented to acid by salmonellas:

+glucose sucrose lactose maltose mannitol

Escherichia coli pathogenicity factors are:

+endotoxin and microcapsule capsule and hyaluronidase

plasma coagulase and erythrogenin permeases

Shigellae pathogenicity factors are:

+invasive proteins and exotoxin Vi-antigen and endotoxin exotoxin and flagella hemolysin and endotoxin

The colonies of shigellae on Endo agar are:

+colorless, semi-transparent

blue-coloured with the smooth edge red-coloured, convex

green-coloured with a metallic sheen

All the following are the serotypes of vibrio cholerae except:

+Choleraesuis Ogawa

Inaba Hikojima

Vibrio cholerae forms:

+flagella spores capsules cysts

The selective growth medium for vibrio cholerae is:

+alkaline agar sugar agar saline agar serum agar

The morphology of shigellae is:

+gram (-) immotile rods gram (+) rods

gram (-) motile rods gram (-) immotile cocci gram (+) cocci

The following sugar is fermented to acid by shigellae:

+glucose lactose maltose sucrose

The serogroups of vibrio cholerae are differentiated according to the structure of:

+somatic antigens capsule antigens flagellar antigens exotoxins

The growth media for vibrio cholerae is:

+peptone water selenite broth

meat peptone broth salt broth

Vibrio cholerae pathogenicity factors are:

+enterotoxin and neuraminidase invasive proteins and capsule Vi-antigen and endotoxin leukocidin and endotoxin

The properties of the Shigella genus bacteria are:

+lactose negative, immotile motile, lactose positive microaerophilic

produce hydrogen sulfide

The growth medium used for shigella pure culture isolation is:

+Endo agar

Olkenitsky’s medium Rappaport broth Kligler medium

Vibrio cholerae on liquid growth media forms:

+a membrane in 6 hours diffuse opacity in 12 hours a membrane in 18 hours precipitate in 3 hours

What is a characteristic of Vibrio cholerae growth in a liquid growth media:

+forms a film, the broth remains transparent diffuse cloudiness of the broth

forms a film, the broth becomes cloudy

The test which is used to differentiate between classical and El-Tor biotypes of vibrio cholera is:

+chicken erythrocytes agglutination hemadsorption test

precipitation reaction complement fixation test

This reaction is used to define the antigenic structure of shigella:

+agglutination neutralization flocculation precipitation

This helps to differentiate between classical and El-Tor biotypes of vibrio cholerae:

+sensitivity to specific bacteriophages agglutination of sheep’s erythrocytes sensitivity to penicillin

their relation to Inaba serum

The Vibrio cholerae bacteria are:

+gram-negative curved motile rods gram-positive motile rods

gram-positive immotile rods gram-negative motile cocci

The selective growth medium for Vibrio cholerae is:

+thiosulfate-citrate-bile salts-sucrose agar (TCBS) egg-yolk salt agar

bismuth sulfite agar meat peptone agar

The growth medium for Corynebacteria pure culture isolation is:

+blood tellurite agar alkaline agar bismuth-sulfite agar egg-yolk salt agar serum agar

The property of a pertussis infectious agent (Bordetella pertussis) is:

+it needs special growth media it is biochemically active

it is resistant to environmental conditions

it grows on only simple culture media

The vaccine for specific prevention of tuberculosis is:

+live molecular whole-cell chemical

The staining method used for a tuberculosis infectious agent (Mycobacterium tuberculosis) is:

+Ziehl-Neelsen stain Aujeszky stain Gram stain

Neisser stain

The property of Bordetella pertussis is:

+gram-negative small rods large rods

gram-positive small rods gram-negative curved rods diplobacilli

The volutin granules in Corynebacterium are detected with the help of this staining method:

+Neisser stain Ziehl-Neelsen stain Burri-Gin’s stain Aujeszky stain

The medication for pre-exposure specific prevention of diphtheria contains:

+toxoid antitoxin

antibiotic substance aciclovir

The colonies of Mycobacterium tuberculosis are:

+gray with the irregular margin, non-transparent black convex

colorless, semi-transparent gray with a metallic sheen

The growth medium for Bordetella cultivation is:

+Bordet-Gengou agar Wilson and Blair medium Kitt-Tarozzi medium Shkolnikova medium

The property of Corynebacterium diphtheriae is:

+it is biochemically active

it does not need special growth media

it is sensitive to environmental conditions it grows on only simple culture media

The staining method for Bordetella pertussis is:

+Gram stain

Ziehl-Neelsen stain Aujeszky stain Neisser stain

The growth medium for Corynebacterium culturing is:

+Clauberg medium Kligler medium Hottinger medium Rappaport medium

The culture medium for culturing Bordetella is:

+Bordet-Gengou medium Endo medium

Clauberg medium Ploskirev medium

The property characteristic of Mycobacterium tuberculosis is:

+gram-positive large rods gram-positive small rods gram-negative curved rods

gram-negative small ovoid rods

The property of Mycobacterium tuberculosis is:

+it needs special growth media

it is sensitive to environmental conditions it grows on only simple culture media

The properties characteristic of Corynebacterium diphtheriae are:

+gram-positive large rods gram-positive small rods gram-negative curved rods

gram-negative small ovoid rods

The medication for specific treatment of diphtheria contains:

+antitoxin toxoid eubiotic interferon

The optimum growth medium for mycobacteria culturing is:

+Löwenstein-Jensen medium Wilson and Blair medium Kitt-Tarozzi medium

Bordet-Gengou agar

Staphylococci can affect:

+any tissue in human body skin and mucous membranes internal organs

ears, nasopharynx, sinuses

Pneumonia streptococci are:

+elongated diplococci surrounded by capsule spherical, assembled in grapes

spherical, assembled in chains

diplococci in the shape of coffee beans, Gram-negative

Meningococci are divided into serogroups according to the differences in:

+capsular antigens somatic antigens flagellar antigens cell wall antigens

Gonorrhea causing bacteria are:

+Gram-negative diplococci Gram-positive diplococci Gram-negative streptobacilli Gram-positive streptobacteria Gram-negative coccobacilli

What colonies do pathogenic streptococci form on blood agar?

+small greyish with hemolysis small yellow with hemolysis

large yellow without hemolysis large white with hemolysis

Scarlet fever causing bacteria are:

+hemolytic streptococci of serogroup A streptococci of serogroup B streptococci of serogroup C streptococci of serogroup D

Gonococcal vaccine is used for:

+vaccine treatment

creating stable antitoxic immunity creating passive immunity

Meningococcal bacteria are:

+Gram-negative ovoid diplococci Gram-positive ovoid diplococci Gram-negative rods

Gram-positive rods with volutin granules Gram-negative coccobacilli

The property of Staphylococcus aureus is the following:

+it needs special growth media it is biochemically non-active it has an H-antigen

it has a Vi-antigen

The bacteria which cause scarlet fever are:

+gram-positive, round, arranged in a chain

gram-positive diplococci of elongated shape surrounded by a capsule gram-negative, round, arranged as grapes bunches

gram-negative diplococci of coffee beans shape

The property of Neisseria gonorrhoeae is the following:

+it needs special growth media it is biochemically active

it has an H-antigen

it grows on simple culture media

Which diagnostic method is not used for diagnosing cholera?

+skin allergy test Bacteriological serological bacterioscopic

Which assay is used to determine Vibrio cholerae serovars?

+agglutination precipitation complement fixation neutralization

Which assay is used to evaluate the toxigenicity of Corynebacterium diphtheria?

+precipitation test immonofluorescence assay indirect hemagglutination assay hemagglutination assay

The test sample for the microbiological diagnosis of scarlet fever is:

+pharynx swabs blood serum urine

wound discharge feces

The 2-nd stage of colibacillosis bacteriological diagnosis includes:

+agglutination assay with the material from 10 colonies precipitation test with the material from 1 colony flocculation test with the material from 5 colonies

What do typical Corynebacterium mitis colonies look like?

+black small rough-surfaced large black flat

glossy grey small glossy black small

grayish small rough-surfaced

What do typical Corynebacterium gravis colonies look like?

+greyish large rough-surfaced large black flat

glossy grey small glossy black small

black small rough-surfaced

Specify the assay which is used to detect antibodies in case of gonorrhea:

+complement fixation test; immunofluorescence assay; indirect hemagglutination assay; precipitation test;

neutralization test.

Choose the serodiagnostic test which is used to diagnose typhoid fever:

+Widal’s

Bordet-Gengou’s Wright’s

Hedelson’s

The growth medium for shigella bacteria isolation is:

+Ploskirev’s; Olkenitsky’s; Rappaport’s; Klauberg’s.

The inoculation of gonorrhea test sample is done on:

+serum agar alkaline agar egg-yolk agar liver agar

The production of corynebacteria toxin is related to:

+lysogenization cord factor volutin granules

glucose fermentation microcapsule

Streptococci pneumonia in sputum are:

+diplococci of elongated shape surrounded by a capsule; round-shaped, arranged as grapes bunches;

round-shaped, arranged in a chain; diplococci of coffee bean shape.

The pigment of Pseudomonas aeruginosa bacterial colonies is:

+green brown black red

The immunity after diphtheria is:

+antitoxic long-term antibacterial short-term

The growth medium for culturing Pseudomonas aeruginosa is:

+meat-peptone agar egg-yolk salt agar potato charcoal agar blood-tellurite agar

Which diagnosticum is used in Widal test:

+suspended dead bacteria

sera with antibodies against O- and H-antigens phages preparations

animal RBCs

The following assay is used to define the antigenic structure of Escherichia:

+agglutination assay hemagglutination assay complement fixation test precipitation reaction

The Shigella bacteria:

+are lactose negative form spores

have H-antigen

What is the culture medium used for accumulating Vibrio cholerae when isolating it from the pathogenic material:

+alkaline peptone water sugar broth

saline broth selenite broth

What is the growth medium for culturing streptococci?

+blood agar beef-extract agar

egg-yolk salt agar casein-charcoal agar hepatic agar

In case of typhoid fever the source of infection is:

+sick people domestic animals the environment

Which bacterium does not belong to the main representatives of genus Staphylococcus:

+pyogenes аureus еpidermidis saprophyticus

All these mycobacteria cause tuberculosis in humans **except**:

+М. kansasii

M. tuberculosis

M. avium

M. bovis

M. africanum

Staphylococci phage typing is aimed at:

+detecting the source and the transmission ways of the infection

isolating a pure culture identifying staphylococci detecting antibiotic sensitivity

Which medium is not used to detect the saccharolytic activity of microorganisms?

+Muller Kliegler Levin Endo

Which material for microbiological study should be taken from a patient with suspected diphtheria?

+mucus from the oropharynx rectal swabs

urine cerebrospinal fluid

The pathogenicity of Mycobacterium tuberculоsis is related to:

+proteins of the cell wall hemolysin

flagella neuraminidase

The 3-rd stage of cholera diagnosis includes:

+serotypes differentiation inoculation on specific growth media

evaluation of the growth features on MacConkey’s medium detection of motility

The 1-st stage of tuberculosis diagnosis includes:

+inoculation on specific growth media phage typing

biochemical properties evaluation electron microscopy

The morphological characteristic of Pseudomonаs aeruginosa is:

+they are motile they are immotile

they are large gram-positive rods they are spore-producing

The morphological characteristic of Pseudomonаs aeruginosa is:

+they are gram-negative rods of a medium size they are immotile

they are large gram-positive rods they are spore-producing

Point out the characteristic property of Neisseria gonorrhoeae:

+it ferments glucose it ferments sucrose

it is resistant in the environment it produces hydrogen sulfide

The study material for the bacteriological diagnosis of shigellosis is:

+rectal swabs blood

urine

wound discharge sputum

The study material for the bacteriological diagnosis of shigellosis is:

+feces blood urine

wound discharge sputum

Which preparation is used for the serological diagnosis of typhoid fever:

+Vi-diagnosticum bacteriophages

adsorbed monoreceptor serum non-adsorbed serum

The rapid test for cholera diagnosis is:

+immunofluorescence assay compliment fixation test indirect hemagglutination assay precipitation test hemagglutination assay

The rapid test for cholera diagnosis is:

+polymerase chain reaction compliment fixation test indirect hemagglutination assay precipitation test hemagglutination assay

This preparation is used for pertussis prevention:

+combination vaccine attenuated vaccine divergen vaccine bacteriophages eubiotics

The morphological characteristic of Yersinia pseudotuberculоsis is:

+they are gram-negative rods of a medium size they produce spores

they are gram-negative cocci they are gram-positive rods

The antigen of Esherichia coli is:

+somatic ribosomes

proteins of the cell wall polypeptides of the capsule mycolic acids

The antigen of Esherichia coli is:

+polysaccharides of the capsule ribosomes

proteins of the cell wall polypeptides of the capsule mycolic acids

Point out the pathogenicity factor of Legionella pneumophila:

+superoxide dismutase enterotoxin

capsule lecithinase peroxidase

Point out the pathogenicity factor of Legionella pneumophila:

+endotoxin enterotoxin capsule lecithinase peroxidase

The material for bacteriological diagnosis of listeriosis is:

+cerebrospinal fluid urine

bile

wound discharge

The material for bacteriological diagnosis of listeriosis is:

+blood urine bile

wound discharge

The following assay is used for typhoid fever serodiagnosis:

+enzyme-linked immunosorbent assay complement fixation test

precipitation test hemagglutination assay neutralization test

The following feature is studied during the 2-nd stage of the bacteriological diagnosis for scarlet fever:

+the properties of hemolysis motility

sensitivity to bacteriophages saccharolytic properties

Point out Streptococcus pneumoniae pathogenicity factor:

+M protein flagella enterotoxin endotoxin

Point out Streptococcus pneumoniae pathogenicity factor:

+capsule flagella enterotoxin endotoxin

This feature is studied during the 3-rd stage of the staphylococcal infection diagnosis:

+saccharolytic properties

the smears of the study material the properties of hemolysis

the growth features on egg-yolk salt agar the catalase test results

This feature is studied during the 3-rd stage of the staphylococcal infection diagnosis:

+phage types (phagovars)

the smears of the study material the properties of hemolysis

the growth features on egg-yolk salt agar the catalase test results

The growth media for Yersinia enterocolitica culturing is:

+MacConkey agar Wilson and Blair’s Kitt-Tarozzi’s Mueller-Hinton agar

Point out the antigen of Salmonella genus bacteria:

+polysaccharides of the capsule ribosomes

proteins of the cell wall polypeptides of the capsule

mycolic acids

Point out the antigen of Salmonella genus bacteria:

+somatic ribosomes

proteins of the cell wall polypeptides of the capsule mycolic acids

The study material for pertussis bacteriological diagnosis is:

+nasopharyngeal swabs rectal swabs

wound discharge cerebrospinal fluid

The study material for pertussis bacteriological diagnosis is:

+sputum rectal swabs

wound discharge cerebrospinal fluid

The preparation used for the staphylococcal infection treatment is:

+antibiotics

genetically engineered vaccine antiseptics

toxoids eubiotics

The preparation used for the post-exposure (urgent) prevention of diphtheria is:

+immunoglobulin combination vaccine attenuated vaccine bacteriophages eubiotics

Point out the property characteristic of Yersinia pseudotuberculоsis:

+it is a psychrophile

it needs only special growth media it is resistant to heating

it has mycolic acids

Point out the property characteristic of Yersinia pseudotuberculоsis:

+it has H-antigen

it needs only special growth media it is resistant to heating

it has mycolic acids

The following is not the antigen of Neisseria gonorrhoeae:

+flagella

lipopolysaccharides of the outer membrane proteins of the outer membrane

pili capsules

The following feature is studied at the 2-nd stage of listeriosis bacteriological diagnosis:

+hemolysis characteristics sensitivity to bacteriophages saccharolytic properties

the catalase test results

The following feature is studied at the 2-nd stage of listeriosis bacteriological diagnosis:

+pure culture smear sensitivity to bacteriophages

saccharolytic properties the catalase test results

The preparation for the staphylococcal infection prevention is:

+immunoglobulins combination vaccine eubiotics

divergent vaccine

The preparation for the staphylococcal infection prevention is:

+toxoids combination vaccine eubiotics

divergent vaccine

The study materials for the bacteriological diagnosis of typhoid fever are all the following except:

+saliva blood urine bile feces

The study materials for the bacteriological diagnosis of typhoid fever are all the following except:

+wound discharge blood

urine bile feces

The assay for the serodiagnosis of Legionnaires’ disease is:

+immunofluorescence assay precipitation test hemadsorption assay hemagglutination assay neutralization test

The assay for the serodiagnosis of Legionnaires’ disease is:

+enzyme-linked immunosorbent assay precipitation test

hemadsorption assay hemagglutination assay neutralization test

The following feature is studied at the 2-nd stage of pertussis bacteriological diagnosis:

+the pure culture smear motility

sensitivity to bacteriophages saccharolytic properties

the results of the neutralization test

The following feature is studied at the 2-nd stage of pertussis bacteriological diagnosis:

+the results of the agglutination test motility

sensitivity to bacteriophages saccharolytic properties

the results of the neutralization test

The following feature is evaluated at the 3-rd stage of colibacillosis diagnosis:

+antigenic properties

the smears of the study material

the growth features on bismuth sulfite agar the growth features on Endo agar

the pure culture smear

The following feature is evaluated at the 3-rd stage of colibacillosis diagnosis:

+biochemical properties

the smears of the study material

the growth features on bismuth sulfite agar the growth features on Endo agar

the pure culture smear

Point out the preparation which is used for the treatment of the meningococcal infection:

+antibiotics antiseptics toxoids eubiotics bacteriophages

Point out the characteristic property of Bordetella pertussis:

+they form S–colonies in 3-5 days psychrophiles

they form R–colonies in 48 hours it is resistant to heating thermophiles

Point out the antigen of Yersinia enterocolitica:

+somatic

proteins of the capsule proteins of the pili mycolic acids

The 1-st stage of Legionnaires’ disease diagnosis includes:

+infecting chicken embryos inoculation on chocolate agar inoculation on meat-peptone agar neutralization test

The following feature is studied at the 3-rd stage of shigellosis diagnosis:

+the growth features on Kligler’s medium the smear of the study material

the growth features on MacConkey’s medium the pure culture smear

the results of the precipitation test

The following feature is studied at the 3-rd stage of shigellosis diagnosis:

+the results of the agglutination test the smear of the study material

the growth features on MacConkey’s medium the pure culture smear

the results of the precipitation test

The growth media for the culturing of Salmonella genus bacteria is:

+Rappaport’s medium Monsur’s medium Korthof’s medium Kitt-Tarozzi’s medium

Which growth medium is used to isolate Typhoid fever blood culture?

+Rappaport medium beef-extract agar egg-yolk salt agar Endo medium

Point out the biological properties of Staphylococcus aureus:

+ferments mannitol it is a strict anaerobe

microaerophile psychrophile catalase-negative

The following procedure is held at the 2-nd stage of typhoid fever bacteriological diagnosis:

+agglutination assay precipitation test flocculation test detection of phage types

The following procedure is held at the 2-nd stage of typhoid fever bacteriological diagnosis:

+microscopy of the pure culture smear precipitation test

flocculation test detection of phage types

The 3-rd stage of cholera diagnosis includes:

+serotypes differentiation

evaluation of the growth features on Monsur’s medium evaluation of the growth features on MacConkey’s medium detection of motility

detection of bacteria’s shape

The 3-rd stage of cholera diagnosis includes:

+biotypes differentiation

evaluation of the growth features on Monsur’s medium evaluation of the growth features on MacConkey’s medium detection of motility

detection of bacteria’s shape

Point out the preparation which is used for shigellosis treatment:

+antibiotics antiseptics antitoxins toxoids vaccines

Point out the preparation which is used for shigellosis treatment:

+bacteriophages antiseptics antitoxins toxoids vaccines

Point out the characteristic property of Escherichia coli:

+it forms S-colonies in 24 hours psychrophile

it does not grow on simple culture media it forms R-colonies in 72 hours

The material for Legionnaires’ disease diagnosis is:

+sputum vaginal swab

wound discharge rectal swab

ear swab

The 1-st stage of the staphylococcal infection diagnosis includes:

+inoculation on blood agar infecting chicken embryos inoculation on meat-peptone agar agglutination assay

dark-field microscopy

The 1-st stage of the staphylococcal infection diagnosis includes:

+inoculation on egg-yolk salt agar infecting chicken embryos inoculation on meat-peptone agar agglutination assay

dark-field microscopy

This feature is considered at the 2-nd stage of tuberculosis bacteriological diagnosis:

+the speed of the culture growth sensitivity to bacteriophages saccharolytic properties hemolysis features

sensitivity to antibiotics

This feature is considered at the 2-nd stage of tuberculosis bacteriological diagnosis:

+morphological characteristics of the culture sensitivity to bacteriophages

saccharolytic properties hemolysis features sensitivity to antibiotics

Which microbiological method is **not** used to diagnose tuberculosis?

+biological bacterioscopic bacteriological skin allergy tests serological

Point out the preparation which is used for the treatment of the salmonella-caused infection:

+antibiotics antiseptics antitoxins toxoids

antifungal (antimycotic) medications

Point out the biological properties of Corynebacterium diphtheria:

+it produces cystinase psychrophile

it have 5 serotypes it is aerotolerant

The study material for tuberculosis diagnosis is:

+sputum vaginal swab

wound discharge rectal swab

ear swab

The preparation for meningococcal meningitis prevention is:

+molecular vaccine attenuated vaccine

divergent (closely-related, cross-protective) vaccine toxoid

antibiotics

The following features are studied at the 3-rd stage of salmonellosis diagnosis:

+antigenic properties

the growth features on bismuth-sulfite agar the smears of the study materials

the growth features on Endo agar

Point out the pathogenicity factor of Yersinia enterocolitica:

+cytotoxin

invasion/ aggression enzymes neuraminidase

erythrogenin

Point out the pathogenicity factor of Yersinia enterocolitica:

+enterotoxin

invasion/ aggression enzymes neuraminidase

erythrogenin

Meningococci are cultured on:

+serum agar egg-yolk agar blood agar alkaline agar

Bacillus anthracis is:

+gram+ rod-shaped gram+ coccus

gram- rod-shaped gram- coccus

gram+ coccibacterium

The pathogenicity factors of Yersinia pestis are:

+exotoxin and hemolysins hyaluronidase and endotoxin endotoxin and flagella capsule and fibrinolysin

The property of Francisella tularensis is:

+it needs special growth media it is biochemically active

it has H-antigen

it grows on only simple culture media

The peculiarity of Bacillus anthracis pure culture grown on meat-peptone agar is:

+the absence of capsule the absence of flagella formation of flagella

the absence of peptidoglycan

Pathogenicity factors of Bacillus anthracis are:

+exotoxin and capsule hyaluronidase and endotoxin endotoxin and flagella capsule and fibrinolysin

Brucella bacteria are:

+gram- rods; gram+ cocci; gram+ rods; gram- cocci.

Yersinia pestis forms the following structures in a sick person’s body:

+capsules spores flagella cysts druses

The growth medium for Francisella tularensis pure culture isolation is:

+egg-yolk agar

liver agar serum agar potato agar

The growth medium for Bacillus anthracis cultivation is:

+meat-peptone agar egg-yolk salt agar alkaline agar chocolate agar serum agar

Brucella pathogenicity factors are:

+capsule and endotoxin exotoxin and hemolysins endotoxin and flagella neuraminidase and exotoxin

Yersinia pestis is:

+gram- rod of ovoid shape gram+ rod with blunt ends gram+ coccus

gram- coccus

gram+ coccibacterium

The property of Bacillus anthracis is:

+it ferments gelatin

it doesn’t ferment glucose it doesn’t ferment starch it is motile

The property of Yersinia pestis is:

+it forms rough colonies it is aerobic

it grows only at 37С it is aerotolerant

Brucella species are all the following except:

+В. saprophyticus В. melitensis

В. abortus В. suis

The growth medium for Yersinia pestis pure culture isolation is:

+meat-peptone agar egg-yolk salt agar potato charcoal agar blood-tellurite agar

Francisella tularensis is:

+gram- rod gram+ coccus gram+ rod gram- coccus

Lyme disease is transmitted through the bites of:

+Ixodidae (hard) ticks fleas

Argasidae (soft) ticks mosquitoes

Treponema pallidum (causing syphilis) has this property:

+it stains pale-pink with Romanovsky-Giemsa stain it is gram+

it has 20-40 primary coils it has 5-6 primary coils

Leptospira bacteria:

+are thin light-coloured spiral filaments with hook-like bent ends have 8-12 coils

stain pale-pink with Romanovsky-Giemsa stain form spores

Borrelia bacteria:

+are spiral-shaped with 3-8 coils

are thin light-coloured spiral filaments with hook-like bent ends stain red with Ziehl-Neelsen stain

are gram+ microorganisms

Leptospira bacteria have the following peculiarities on liquid growth media:

+no visible changes diffuse opacity membrane and precipitate

membrane, transparent broth precipitate, transparent broth

Treponema pallidum has the following type of motion:

+all mentioned here bending motion forward linear motion pendulum-like motion corkscrew motion

Treponema pallidum resistance in the environment:

+they are rather resistant to low temperature in humid conditions they are not sensitive to heating

they are resistant to sunlight they are not sensitive to drying

The serotypes of Leptospira are differentiated according to the specificity of:

+lipopolysaccharide antigen protein antigen

flagellar antigen Vi-antigen

This microscopy technique is used to detect relapsing fever causative agents:

+dark field electron fluorescence light (optical)

The growth media for Leptospira cultivation is:

+Korthof’s Clauberg’s Kligler’s Rappaport’s

The differential staining method for Spirochaete bacteria is:

+Romanovsky-Giemsa Burri-Gin’s

Ziehl-Neelsen Neisser

Borrelia in the environment are:

+sensitive to drying not sensitive to heating

not sensitive to disinfectants

persistent in soil for a long time

Treponema pallidum pathogenicity factors are:

+outer membrane proteins and endotoxin erythrogenic toxin and hemolysins endotoxin and spores

capsule and endotoxin

The causative agent of epidemic relapsing fever is:

+B. recurrentis

B. burgdorferi В. melitensis В. pertussis

The property of leptospirosis pathogen is:

+they form secondary coils they have “seagull wing” bends

they grow on simple culture media they form capsules

What assay is used as a screening test for syphilis:

+compliment fixation test immunofluorescence assay hemadsorption assay hemagglutination assay neutralization test

Ascoli thermal precipitation test is used to diagnose:

+anthrax plague tularaemia brucellosis

The following procedure is held during the rapid test of leptospirosis:

+detection of antibodies with the help of the enzyme-linked immunosorbent assay detection of antigens in blood with the help of the hemagglutination inhibition assay detection of antigens in blood with the help of the enzyme-linked immunosorbent assay detection of antibodies with the help of the precipitation test

All these methods are used to diagnose relapsing fever **except**:

+bacteriological bacterioscopic bioassay serological

The causative agent of endemic relapsing fever is:

+B. duttonii

B. burgdorferi В. melitensis

B. recurrentis В. pertussis

The 2-nd stage of anthrax diagnosis includes:

+the evaluation of the sensitivity to bacteriophages the microscopy of the “hanging drop” preparation saccharolytic properties evaluation

inoculation on meat-peptone agar flocculation test

The 1-st stage of brucellosis diagnosis includes:

+infecting laboratory animals inoculation on chocolate agar inoculation on meat-peptone agar

neutralization test

The preparation for anthrax prevention is:

+immunoglobulins toxoid

molecular vaccine bacteriophages eubiotics

The preparation for anthrax prevention is:

+live vaccine toxoid

molecular vaccine bacteriophages eubiotics

Which reaction is used for the serological diagnosis of brucellosis:

+Wright test Widal test Ascoli test Wassermann test

How is the disease caused by Treponema palladium transmitted:

+vertically (from mother to child) through food

through water

Anthrax bacteria are:

+large blunt-pointed rods

ovoid rods, exhibiting bipolar staining small Gram-positive rods

Which microscopy method is used to detect the causative agent of syphilis:

+darkfield microscopy electron microscopy Ziehl-Neelsen staining

Romanowsky-Giemsa staining

Which arthropods transmit plague:

+fleas ticks bedbugs lice

What is used for Burnet test:

+brucellin pestin anthraxin tularin

What morphological properties do spirochetes have:

+they are curved they are diplobacteria

they are branching bacteria they form of spores

What is used for specific prevention of plague:

+live vaccine inactivated vaccine toxoid

multipartial vaccine

specific prevention is not performed

This assay is used for Lyme disease serodiagnosis:

+indirect immonofluorescence assay complement fixation test

indirect hemagglutination assay neutralization test

This assay is used for Lyme disease serodiagnosis:

+enzyme-linked immunosorbent assay complement fixation test

indirect hemagglutination assay neutralization test

Which assay is used as a screening test for syphilis:

+microprecipitation agglutination hemagglutination inhibition neutralization

Which assay is used for the serological diagnosis of anthrax:

+Ascoli test Wright test Widal test Wassermann test

Which serologic assay is used to diagnose brucellosis:

+Heddelson test Bordet-Gengou test Wassermann test Widal reaction

Treponema pallidum forms the following structures in a sick person’s body:

+cysts spores flagella capsules

The property of leptospirosis pathogen is:

+it needs special growth media it is biochemically active

it has Vi-antigen

it grows on simple culture media

Point out the antigen of Brucella melitensis:

+somatic antigen ribosomal antigen cell wall antigen flagellar antigen

Point out the antigen of Brucella melitensis:

+capsule antigen ribosomal antigen cell wall antigen flagellar antigen

The following procedure is performed at the 3-rd stage of plague diagnosis:

+biochemical properties evaluation bacterioscopy of study material smears toxigenicity evaluation

antibodies detection electron microscopy

The following procedure is performed at the 3-rd stage of plague diagnosis:

+phage typing

bacterioscopy of study material smears toxigenicity evaluation

antibodies detection electron microscopy

This preparation is used for anthrax treatment:

+antibiotics

genetically engineered vaccine toxoids

antiseptics bacteriophages

This preparation is used for anthrax treatment:

+immunoglobulin

genetically engineered vaccine toxoids

antiseptics bacteriophages

The preparation for plague prevention is:

+antibiotics combination vaccine divergent vaccine bacteriophages eubiotics

The preparation for plague prevention is:

+atennuated vaccine combination vaccine divergent vaccine bacteriophages eubiotics

This preparation is used for leptospirosis treatment:

+immunoglobulin

genetically engineered vaccine toxoids

eubiotics bacteriophages

This preparation is used for leptospirosis treatment:

+antibiotics

genetically engineered vaccine toxoids

eubiotics bacteriophages

Point out the pathogenicity factor of Francisella tularensis:

+endotoxin erythrogenin enterotoxin superoxide dismutase M protein

Point out the assay which is not used for syphilis serodiagnosis:

+hemagglutination assay immonofluorescence assay complement fixation test indirect hemagglutination assay

enzyme-linked immunosorbent assay

The morphological characteristic of Leptospira genus bacteria is:

+they are gram-negative

they form capsules they produce spores they are branched

The morphological characteristic of Leptospira genus bacteria is:

+they form cysts they form capsules they produce spores they are branched

Point out the antigens of Yersinia pestis:

+somatic ribosomal lipoteichoic flagellar

The study material for syphilis diagnosis is:

+blood serum pleural cavity fluid wound discharge feces

The study material for syphilis diagnosis is:

+lymph node aspirate pleural cavity fluid wound discharge feces

The rapid test for leptospirosis diagnosis is:

+enzyme-linked immunosorbent assay immunofluorescence assay compliment fixation test

indirect hemagglutination assay precipitation test hemagglutination assay

The rapid test for leptospirosis diagnosis is:

+polymerase chain reaction immunofluorescence assay compliment fixation test indirect hemagglutination assay precipitation test hemagglutination assay

The study material for brucellosis diagnosis is:

+blood serum lymph node aspirate pleural cavity fluid wound discharge feces

The rapid test for plague diagnosis is:

+polymerase chain reaction compliment fixation test indirect hemagglutination assay precipitation test hemagglutination assay

The rapid test for plague diagnosis is:

+immunofluorescence assay compliment fixation test indirect hemagglutination assay precipitation test

hemagglutination assay

The 1-st stage of anthrax diagnosis includes:

+inoculation on meat-peptone agar inoculation on chocolate agar infecting chicken embryos infecting monkeys

This assay is used to detect antibodies in case of relapsing fever:

+enzyme-linked immunosorbent assay complement fixation test

indirect hemagglutination assay hemagglutination inhibition assay

This assay is used to detect antibodies in case of relapsing fever:

+indirect immunofluorescence assay complement fixation test

indirect hemagglutination assay hemagglutination inhibition assay

Point out the preparation which is used for leptospirosis prevention:

+vaccines bacteriophages antiseptics eubiotics antitoxins

All these are the components of a spirochete cell **except**:

+spores

cytoplasmic cylinder cell wall

fibrillar motility apparatus

The cultural property of Brucella genus bacteria is:

+they form smooth colonies they form rough colonies

they grow on simple culture media they are psychrophiles

The 1-st stage of plague diagnosis includes:

+inoculation on meat-peptone agar inoculation on egg-yolk salt agar infecting chicken embryos

dark-field microscopy

This feature is considered at the 3-rd stage of anthrax diagnosis:

+sensitivity to antibiotics

the growth features on blood agar

the results of the dark-field microscopy spores position

Brill-Zinsser disease is:

+endogenous relapse reinfection superinfection secondary infection

Rickettsia differ from the majority of bacteria by:

+the ability to multiply only in living cells

the absence of the membrane which surrounds the nucleoid the presence of mesosomes

the presence of the internal axial filament

Chlamydia have the following property:

+they are gram–

they have a branched shape they are eukaryotes

they cause opacity on liquid growth media.

Mycoplasma have the following property:

+they are able to grow on culture media they form reticular bodies

they have a cell wall

they belong to eukaryotes

Rickettsia are:

+gram– immotile rods gram+ motile rods gram– branched bacteria gram– cocci

The property of rickettsia is:

+they are obligate intracellular parasites they are gram+

they have cocci shape they are eukaryotes

The property of chlamydia is:

+they form elementary bodies they have a thick cell wall

they are able to grow on solid culture media they have a coiled shape

Mycoplasma differ from the majority of bacteria by:

+the absence of the cell wall

the absence of the membrane which surrounds the nucleoid the presence of mesosomes

the ability to multiply only in living cells the presence of the internal axial filament

Chlamydia psittaci is a causative agent of:

+ornithosis trachoma

respiratory chlamydia infection urogenital chlamydia infection

Chlamydia trachomatis is a causative agent of:

+urogenital infection ornithosis

relapsing fever endemic typhus fever

Mycoplasma resistance in the environment:

+they are sensitive to disinfectants

they are not sensitive to ultraviolet radiation they are not sensitive to heating

they persist in the environment for a long time

The staining method to detect rickettsia is:

+Zdrodovsky stain Loeffler stain Neisser stain Aujeszky stain

The property of mycoplasma is:

+they have cocci shape

they are gram+ they are eukaryotes

they are obligate intracellular parasites

Rickettsia are cultured:

+in chicken embryos on blood agar

in the anaerobic culture apparatus on serum media

The morphology of mycoplasma is examined with the help of:

+phase-contrast microscopy light microscopy fluorescence microscopy

Chlamydia differ from the majority of bacteria by:

+the ability to multiply only in living cells the absence of the cell wall

the absence of the membrane which surrounds the nucleoid the presence of mesosomes

the presence of the internal axial filament

The basic diagnostic method of chlamydia-caused urogenital infection is:

+serodiagnostic method bacteriological method allergy skin test

Which insects do not transmit rickettsia infection?

+mosquitoes lice

ticks fleas

How are chlamydiae cultured?

+on cell cultures

on special culture media on blood media

The property of Rickettsia is:

+thin cell wall coiled shape eukaryotes they are gram+

What is the causative agent of endemic typhus?

+Rickettsia typhi Rickettsia prowazekii Leptospira interrogans Serratia marcessens

The morphological characteristic of Mycoplasma genus bacteria is:

+they are gram-negative they form a capsule they form flagella

they are gram-positive

Point out the pathogenicity factor of Rickettsia prowazekii:

+adhesins flagella neuraminidase spores plasmids

Point out the pathogenicity factor of Rickettsia prowazekii:

+microcapsule flagella neuraminidase spores plasmids

The morphological feature of Chlamydia trachomatis is:

+they are gram-negative cocci they produce spores

they are gram-positive rods they form flagella

Point out the pathogenicity factors of Rickettsia typhi:

+microcapsule flagella neuraminidase spores plasmids

Point out the pathogenicity factors of Rickettsia typhi:

+adhesins flagella neuraminidase spores plasmids

The assay used for psittacosis serodiagnosis is:

+enzyme-linked immunosorbent assay precipitation test

complement fixation test neutralization test

The assay used for psittacosis serodiagnosis is:

+immunofluorescence assay precipitation test complement fixation test neutralization test

These features are considered at the 2-nd stage of the bacteriological diagnosis of the mycoplasma infection:

+cultural properties sensitivity to bacteriophages saccharolytic properties sensitivity to antibiotics

The conditions for Mycoplasma pneumoniae culturing are:

+3 days at37◦С

1-2 weeks at 25◦С 24 hours at 37◦С 5 days at 43◦С

2-3 weeks at 8◦С

The cultural property of Mycoplasma genus bacteria growth on a nutrient agar is:

+colonies with a raised center

black-coloured bacterial colonies with a metallic sheen yellow-coloured smooth bacterial colonies

green-coloured rough bacterial colonies

The vaccine for specific prevention of epidemic typhus is:

+live molecular whole-cell chemical

What is used for specific prevention of endemic typhus?

+specific prevention is not performed live vaccine

inactivated vaccine toxoid

multipartial vaccine

What is used for specific prevention of psittacosis?

+specific prevention is not performed live vaccine

inactivated vaccine toxoid

multipartial vaccine

What is used for specific prevention of mycoplasma infection?

+specific prevention is not performed live vaccine

inactivated vaccine toxoid

multipartial vaccine

The morphological characteristic of Mycoplasma pneumoniae is:

+they are polymorphic (multiform) they form a capsule

they form flagella they are gram-positive they produce spores

The study material for psittacosis microbiological diagnosis is:

+blood serum urine

wound discharge feces

The assay used for a chlamydia infection serodiagnosis is:

+enzyme-linked immunosorbent assay precipitation test

complement fixation test neutralization test

The property of Mycoplasma pneumonia is:

+the absence of peptidoglycan formation of flagella formation of spores

the absence of ribosomes

The following procedure is held during the rapid test of Mycoplasma pneumonia infection:

+detection of antigens in sputum with the help of the immunofluorescence assay detection of antibodies with the help of the hemagglutination inhibition assay

detection of antigens in blood with the help of the enzyme-linked immunosorbent assay detection of antibodies with the help of the precipitation test

Chlamydia trachomatis forms:

+reticular bodies flagella

spores capsules

The property of Chlamydia is:

+it is not sensitive to environmental conditions it is biochemically active

it does not need special growth media

it grows on only simple culture media

Which diagnostic method is **not** used to diagnose mycoplasma infection?

+skin allergy test bacteriological serological

polymerase chain reaction

The preparation used for chlamydia infection treatment is:

+antibiotics

genetically engineered vaccine antiseptics

toxoids eubiotics

The preparation used for mycoplasma infection treatment is:

+antibiotics

genetically engineered vaccine antiseptics

toxoids eubiotics

Clostridia are:

+Gram-positive spore-forming rods Gram-negative spore-forming rods Gram-positive spore-forming cocci Gram-negative spore-forming cocci Gram-positive non-sporeforming rods

The preparation used for botulism treatment is:

+antitoxic serum killed vaccine toxoid

antimicrobial serum.

Which assay is used to detect clostridia toxigenicity?

+neutralization agglutination precipitation complement fixation immunofluorescence

Transmission route of tetanus is:

+contact airborne fecal-oral

through blood

Clostridia isolation from the intact material is conducted on:

+bismuth sulfite agar alkaline agar

egg-yolk salt agar serum agar

What is typical of botulism bacteria:

+look like tennis rackets small rods

large thick rods thin curved rods

look like drumsticks

The test material in case of gas gangrene is:

+wound discharge

cerebrospinal fluid feces

urine

The basic microbiological diagnostic method of botulism is:

+serological bacterioscopic bacteriological skin allergy test

Cl. botulinum serotypes are differentiated according to the structure of:

+exotoxins flagellar antigens somatic antigens capsular antigens

Clostridia isolation from the biomaterial is performed on:

+Kitt-Tarozzi medium Olkenitsky’s medium Clauberg medium Kligler medium

What is a pathogenicity factor of tetanus bacteria:

+exotoxin capsule endotoxin pili

Choose a rapid test which is used for botulism diagnosis:

+enzyme-linked immunosorbent assay immonofluorescence assay complement fixation test hemagglutination assay

precipitation test

This staining method is used to detect the spores of Clostridium bacteria:

+Aujeszky stain Neisser stain Burri-Gin’s stain Gram stain

Pre-exposure (scheduled) mass immunization is held in case of this clostridia-caused infection:

+tetanus botulism

gas gangrene

Clostridium difficile infection

Transmission route of botulism is:

+fecal-oral airborne vector-borne parenteral

What is used for specific prevention of botulism?

+toxoid live vaccine

multipartial vaccine antiseptics bacteriophages

What is the toxin of tetanus bacteria?

+tetanolysin fibrinolysin

erythrolysin plasma coagulase

Cl. perfringens serovars are distinguished according to the structure of:

+exotoxins flagellar Ag somatic Ag capsular Ag

Which growth medium is used for the culturing of anaerobes:

+thioglycolate medium egg-yolk salt agar peptone water

serum agar

What conditions are necessary for the culturing of anaerobic bacteria:

+the absence of oxygen in the air

the presence of 10% carbon dioxide in the air the presence of nitrogen

the presence of 5% oxygen in the air

This feature is considered at the 3-rd stage of botulism diagnosis:

+the results of the neutralization test the results of the agglutination test inoculation on blood broth inoculation on liver agar

The following preparation is used for tetanus treatment:

+antitoxins vaccines toxoids antiseptics bacteriophages

The following preparation is used for tetanus treatment:

+antibiotics vaccines toxoids antiseptics bacteriophages

Choose a rapid test which is used for tetanus diagnosis:

+enzyme-linked immunosorbent assay complement fixation test hemagglutination assay

precipitation test

Point out the preparation which is used for botulism treatment:

+polyvalent sera antiseptics toxoids eubiotics bacteriophages

Point out the biological property of Clostridium tetani:

+resistance to the environmental factors the ability to form cysts

high biochemical activity they are gram-negative

the temperature of culturing is 20°С

Point out the biological property of Clostridium tetani:

+anaerobes

the ability to form cysts high biochemical activity they are gram-negative

the temperature of culturing is 20°С

The morphological characteristic of Clostridium tetani pathogens is:

+they produce spores they are branched they form cysts

they are gram-negative cocci they are gram-negative rods

Point out the pathogenicity factors of Clostridium perfringens:

+exotoxins endotoxins pili

cysts

The preparations for tetanus prevention is:

+toxoids bacteriophages antibiotics antiseptics

This feature is considered at the 3-rd stage of botulism diagnosis:

+the results of the neutralization test; the results of the agglutination test; the growth features on blood agar;

the growth features on Kitt-Tarozzi;s medium; spores position

The morphological characteristic of Clostridium perfringens bacteria is:

+they are gram-positive rods they are gram-positive cocci they are gram-negative cocci they are gram-negative rods

The preparation used for gas gangrene treatment is:

+antibiotics vaccines toxoids antiseptics bacteriophages

antifungal (antimycotic) medications eubiotics

The preparation used for gas gangrene treatment is:

+antitoxins vaccines toxoids antiseptics bacteriophages

antifungal (antimycotic) medications eubiotics

Which epidemiological feature is **not** typical of leprosy?

+the source is rodents

the source is a sick person it is transmitted by contact airborne

Which biological models can be used for culturing leprosy pathogen?

+armadillos

guinea pigs rabbits

golden hamsters

The class of higher fungi is:

+Ascomycetes Chitridiomycetes Oomycetes Hyphochitridiomycetes

The class of imperfect fungi is:

+Deuteromycetes Basicliomycetes Ascomycetes Zigomycetes

The morphological (structural) property characteristic of higher fungi is:

+septate mycelium

they produce zygospores nonseptate mycelium they form mesosomes

The pathogenic agents of dermatophytoses belong to the following genus:

+Microsporum Aspergillus Candida Histoplasma Mucor

The class of lower fungi is:

+Zigomycetes Basicliomycetes Ascomycetes Deuteromycetes

The free spores formed during asexual reproduction of fungi are called:

+conidia sterigmata oospores teleomorphs

The property characteristic of fungi is:

+they are gram-positive they are prokaryotes

they have no Golgi apparatus they are gram-negative

they have axostyle

The pathogenic agents of dermatophytoses belong to the following genus:

+Trichophyton Aspergillus Candida Histoplasma Mucor

The growth medium for fungi culturing is:

+Czapek medium Klauberg’s medium Kligler medium Ploskirev’s medium Olkenitsky’s medium

The class of fungi which does not cause human diseases is:

+Hyphochitridiomycetes Basicliomycetes Ascomycetes Zigomycetes

The structures which are formed during sexual reproduction of fungi are called:

+teleomorphs sterigmata sporangia conidia

The morphological (structural) property characteristic of lower fungi is:

+nonseptate mycelium septate mycelium

they produce ascospores they form mesosomes.

The growth medium for fungi culturing is:

+Sabouraud agar Klauberg’s medium Ploskirev’s medium Shkolnikova medium Olkenitsky’s medium

The conditions for dermatophytes culturing are:

+1-2 weeks at 25◦С 24 hours at 37◦С

5 days at 43◦С

2-3 weeks at 8◦С

Typhoid fever is caused by:

+S. typhi

S. paratyphi

S. schottmuelleri

S. typhimurium

Scarlet fever is caused by:

+Streptococcus pyogenes Chlamydia trachomatis Mycoplasma pneumonia Streptococcus pneumonia

Q fever is caused by:

+Coxiella burnetii Escherichia coli Leptospira interrogans Shigella flexneri

Gas gangrene is caused by:

+Clostridium perfringens Bacteroides fragilis Legionella pneumophila Clostridium botulinum

The taxonomic status of the epidemic meningitis bacterium is:

+genus Neisseria, species N. meningitidis genus Streptococcus, species S. meningitidis genus Neisseria, species N.perflava

genus Streptococcus, species S. flexneri

The causative agent of botulism forms:

+flagella capsules

cysts druses

The causative agent of scarlet fever forms:

+capsules flagella cysts druses

The causative agent of Lyme disease forms:

+fibrils cysts capsules druses

Which diagnostic preparation is used in the Wright test?

+suspended dead bacteria

sera with anti-O and anti-H antibodies phages preparations

animal RBCs

Which diagnostic preparation is used in the Ascoli test?

+sera with antibodies suspended dead bacteria phages preparations animal RBCs

Which diagnostic preparation is used in the Wassermann test?

+treponemal antigen sera with antibodies suspended dead bacteria phages preparations human RBCs

What is a characteristic feature of Escherichia coli growth in liquid culture media?

+diffuse cloudiness of the broth

forms a film, the broth remains transparent forms a film, the broth becomes cloudy

forms a precipitate without clouding the broth

What is a characteristic feature of Shigella flexneri growth in liquid culture media?

+diffuse cloudiness of the broth

forms a film, the broth remains transparent forms a film, the broth becomes cloudy

forms a precipitate without clouding the broth

What is a characteristic feature of Salmonella typhi growth in liquid culture media?

+diffuse cloudiness of the broth

forms a film, the broth remains transparent forms a film, the broth becomes cloudy

forms a precipitate without clouding the broth

Which preparation is used for the Mantoux test?

+tuberculin pestin anthraxin tularin brucellin

The preparation used for the Diaskintest contains:

+antigens of mycobacteria treponemal antigen

sera with antibodies

suspended dead bacteria

The conditions for the culturing of Streptococcus bacteria are:

+microaerophilic conditions anaerobic conditions

at room temperature at temperature +4˚С

in the organisms of sensitive animals

The conditions for the culturing of Clostridium bacteria are:

+anaerobic conditions microaerophilic conditions at room temperature

at temperature +4˚С

in the organisms of sensitive animals

The conditions for the culturing of Yersinia bacteria are:

+at temperature +28˚С microaerophilic conditions anaerobic conditions

at room temperature

in the organisms of sensitive animals

The conditions for the culturing of Neisseria bacteria are:

+microaerophilic conditions anaerobic conditions

at room temperature at temperature +4˚С

in the organisms of sensitive animals

The conditions for the culturing of Mycobacterium bacteria are:

+aerobic conditions microaerophilic conditions anaerobic conditions

at room temperature at temperature +4˚С

The conditions for the culturing of Staphylococcus bacteria are:

+aerobic conditions anaerobic conditions at room temperature at temperature +4˚С

The conditions for the culturing of Chlamydia bacteria are:

+in the organisms of sensitive animals microaerophilic conditions

anaerobic conditions at room temperature at temperature +4˚С

Neisseria pathogenicity factors are:

+an endotoxin and a polysaccharide capsule a polypeptide capsule and an exotoxin plasma coagulase and erythrogenin permeases

The pathogenicity factors of the scarlet fever causative agent are:

+leucocidin and erythrogenin

an endotoxin and a microcapsule a capsule and hyaluronidase permeases

Corynebacterium diphtheria pathogenicity factors are:

+an exotoxin and a microcapsule an endotoxin and spores

plasma coagulase and erythrogenin permeases end leucocidin

Bordetella pertussis pathogenicity factors are:

+an endotoxin and an exotoxin plasma coagulase and hyaluronidase leucocidin and erythrogenin permeases

Leptospira pathogenicity factors are:

+plasma coagulase and fibrinolysin spores and a capsule

leucocidin and erythrogenin permeases

The pathogenicity factors of the epidemic meningitis causative agent are:

+hyaluronidase and pili

plasma coagulase and erythrogenin permeases and an exotoxin

spores and leucocidin

Cl. botulinum pathogenicity factors are:

+an exotoxin and hemolysins

an endotoxin and a microcapsule a capsule and hyaluronidase

plasma coagulase and erythrogenin

The antigen of Streptococcus pyogenes is:

+a polysaccharide of the cell wall proteins of the outer membrane ribosomes

polypeptides of the capsule mycolic acids

The antigen of Streptococcus pneumonia is:

+a polysaccharide of the capsule ribosomes

lipopolysaccharides of the outer membrane mycolic acids

The antigen of Bordetella pertussis is:

+somatic ribosomes

proteins of the cell wall mycolic acids

The antigen of Bacillus anthracis is:

+polypeptides of the capsule ribosomes

lipopolysaccharides of the outer membrane mycolic acids

The antigen of Francisella tularensis is:

+somatic ribosomes

proteins of the cell wall mycolic acids

The antigen of Clostridium tetani is:

+flagella ribosomes

lipopolysaccharides of the outer membrane mycolic acids

The study material for the microbiological diagnosis of gonorrhea is:

+urine sediment cerebrospinal fluid wound discharge feces

The study material for the microbiological diagnosis of leptospirosis is:

+urine pharyngeal swabs rectal swabs wound discharge feces

The study material for the microbiological diagnosis of salmonellosis is:

+feces pharyngeal swabs

cerebrospinal fluid urine

wound discharge

The study material for the microbiological diagnosis of epidemic meningitis is:

+cerebrospinal fluid rectal swabs

urine

wound discharge feces

The study materials for the microbiological diagnosis of anthrax are all the following ones except:

+cerebrospinal fluid blood

urine sputum

wound discharge feces

The study material for the microbiological diagnosis of cholera is:

+feces pharyngeal swabs

cerebrospinal fluid sputum

wound discharge

The study material for the microbiological diagnosis of tetanus is:

+blood serum pharyngeal swabs urine

sputum feces

The rapid test for scarlet fever diagnosis is:

+enzyme-linked immunosorbent assay (ELISA) compliment fixation test

indirect hemagglutination assay precipitation test hemagglutination assay

The rapid test for tuberculosis diagnosis is:

+polymerase chain reaction compliment fixation test indirect hemagglutination assay

precipitation test hemagglutination assay

The rapid test for epidemic meningitis diagnosis is:

+latex agglutination assay immunofluorescence assay compliment fixation test indirect hemagglutination assay precipitation test

The rapid test for tularemia diagnosis is:

+immunofluorescence assay compliment fixation test indirect hemagglutination assay precipitation test hemagglutination assay

The rapid test for typhus diagnosis is:

+enzyme-linked immunosorbent assay (ELISA) precipitation test

hemagglutination assay hemadsorption assay neutralization test

The assay for the serodiagnosis of pertussis is:

+agglutination assay immunofluorescence assay precipitation test hemadsorption assay neutralization test

The assay for the serodiagnosis of epidemic meningitis is:

+indirect hemagglutination assay precipitation test

hemadsorption assay hemagglutination assay neutralization test

The assay for the serodiagnosis of tularemia is:

+indirect hemagglutination assay precipitation test

hemadsorption assay hemagglutination assay neutralization test

The assays for the serodiagnosis of typhus are all the ones mentioned below except:

+precipitation test

indirect hemagglutination assay agglutination assay compliment fixation test

enzyme-linked immunosorbent assay (ELISA)

The preparation for gonorrhea prevention is:

+specific prevention is not performed a combination vaccine

eubiotics

a divergent vaccine toxoids

The preparation for scarlet fever prevention is:

+specific prevention is not performed a combination vaccine

eubiotics

a divergent vaccine toxoids

The preparation for the pneumococcal infection prevention is:

+an inactivated vaccine immunoglobulins eubiotics

a divergent vaccine toxoids

The preparation for pertussis prevention is:

+an inactivated vaccine immunoglobulins eubiotics

a divergent vaccine

specific prevention is not performed

The preparation for syphilis prevention is:

+specific prevention is not performed a combination vaccine

eubiotics

a divergent vaccine toxoids

The preparation for salmonellosis prevention is:

+bacteriophages

an inactivated vaccine a multipartial vaccine immunoglobulins

The preparation for shigellosis prevention is:

+bacteriophages immunoglobulins toxoids antiseptics

a divergent vaccine

The preparation for brucellosis prevention is:

+a live vaccine

specific prevention is not performed toxoids

antiseptics

The preparation for tularemia prevention is:

+a live vaccine

specific prevention is not performed toxoids

eubiotics antiseptics

The preparation for cholera prevention is:

+an inactivated vaccine eubiotics

a divergent vaccine

specific prevention is not performed a toxoid (anatoxin)

The preparation for relapsing fever prevention is:

+specific prevention is not performed a combination vaccine

eubiotics

a divergent vaccine toxoids

Point out the preparation which is used for scarlet fever treatment:

+antibiotics antiseptics toxoids vaccines

Point out the preparation which is used for pertussis treatment:

+antibiotics antiseptics eubiotics toxoids vaccines

Point out the preparation which is used for tuberculosis treatment:

+antibiotics antiseptics eubiotics toxoids vaccines

Point out the preparation which is used for shigellosis treatment:

+bacteriophages immunoglobulins toxoids antiseptics

a divergent vaccine

Which is not a toxemic infection?

+relapsing fever tetanus

gas gangrene botulism diphtheria

Which is not a toxemic infection?

+psittacosis tetanus

gas gangrene botulism diphtheria

Which is a toxemic infection?

+botulism psittacosis typhus tuberculosis

Which is a toxemic infection?

+diphtheria psittacosis typhus tuberculosis

Which is a toxemic infection?

+tetanus relapsing fever gonorrhea syphilis

Which genus does not have coiled bacteria?

+Francisella Treponema Borellia Campylobacter Leptospira

Which genus does not have coiled bacteria?

+Streptococcus Treponema Borrelia Campylobacter Leptospira

Which genus does not have coiled bacteria?

+Neisseria Treponema Borellia Campylobacter Leptospira

The bacteria of this genus are coiled:

+Treponema Streptococcus Staphylococcus Shigella Neisseria

The bacteria of this genus are coiled:

+Leptospira Streptococcus

Staphylococcus Shigella Neisseria

Which is a bacterial infection?

+scarlet fever rabies

yellow fever chickenpox

tick-borne encephalitis

Which is a bacterial infection?

+pertussis rabies

hemorrhagic fever with renal syndrome chickenpox

tick-borne encephalitis

Which is a bacterial infection?

+relapsing fever rabies

yellow fever measles

tick-borne encephalitis

Which is a bacterial infection?

+anthrax influenza yellow fever chicken pox

tick-borne encephalitis

Which is a bacterial infection?

+syphilis

infectious mononucleosis yellow fever

chicken pox

tick-borne encephalitis

Which is a bacterial infection?

+typhoid fever rabies

yellow fever chicken pox rubella

Which is a bacterial infection?

+Q-fever poliomyelitis yellow fever

Crimean-Congo hemorrhagic fever tick-borne encephalitis

Which is a bacterial infection?

+Lyme disease AIDS

yellow fever smallpox

tick-borne encephalitis

Which is a bacterial infection?

+tularemia rubella

measles chickenpox rabies

Which is a bacterial infection?

+parapertussis rabies

yellow fever chickenpox

tick-borne encephalitis

Which is not a bacterial infection?

+rabies scarlet fever pertussis typhus

relapsing fever

Which is not a bacterial infection?

+chickenpox typhoid fever pertussis typhus

Which is not a bacterial infection?

+yellow fever Boutonneuse fever parapertussis relapsing fever

Which is not a bacterial infection?

+tick-borne encephalitis meningococcal meningitis tuberculosis

anthrax

Which is not a bacterial infection?

+rubella pertussis listeriosis

Legionnaires’ disease

Which is not a bacterial infection?

+poliomyelitis syphilis gonorrhea typhus relapsing fever

Which is not a bacterial infection?

+influenza tuberculosis diphtheria pertussis

Which is not a bacterial infection?

+infectious mononucleosis meningococcal meningitis botulism

gas gangrene

Which is not a bacterial infection?

+mumps

meningococcal meningitis relapsing fever

tick-borne rickettsial disease

Gram-positive rods are the bacteria of the genus:

+Clostridium Esherichia Salmonella Shigella Francisella

Gram-positive rods are the bacteria of the genus:

+Corynebacterium Esherichia Salmonella Shigella Francisella

Gram-positive rods are the bacteria of the genus:

+Mycobacterium Esherichia Salmonella Shigella Francisella

Gram-positive rods are the bacteria of the genus:

+Bacillus Treponema Salmonella Shigella Neisseria

Gram-negative rods are the bacteria of the genus:

+Esherichia Clostridium Mycobacterium Corynebacterium

Gram-negative rods are the bacteria of the genus:

+Salmonella Clostridium Corynebacterium Bacillus

Gram-negative rods are the bacteria of the genus:

+Bordetella Mycobacterium Corynebacterium Bacillus

Gram-negative rods are the bacteria of the genus:

+Francisella Mycobacterium Corynebacterium Bacillus

Vaccination is administered in case of:

+anthrax relapsing fever gonorrhea psittacosis syphilis

Vaccination is administered in case of:

+pertussis relapsing fever gonorrhea psittacosis syphilis

Vaccination is administered in case of:

+diphtheria paratyphoid fever gonorrhea mycoplasmosis candidiasis

Vaccination is administered in case of:

+tetanus listeriosis scarlet fever syphilis

Vaccination is administered in case of:

+cholera gonorrhea Lyme disease

Legionnaires’ disease

Vaccination is not administered in case of:

+relapsing fever tularemia typhus

anthrax typhoid fever

Vaccination is not administered in case of:

+syphilis diphtheria typhus pertussis typhoid fever

Vaccination is not administered in case of:

+gonorrhea brucellosis plague tuberculosis

Vaccination is not administered in case of:

+scarlet fever anthrax typhus tetanus

Vaccination is not administered in case of:

+borreliosis brucellosis typhoid fever diphteria

Vaccination is not administered in case of:

+colibacillosis (E.coli infection) brucellosis

typhoid fever diphtheria

Gram-negative cocci are the bacteria of the genus:

+Veilonella Treponema Salmonella Shigella Corynebacterium

Gram-negative cocci are the bacteria of the genus:

+Neisseria Treponema Salmonella Shigella Corynebacterium

Gram-positive cocci are the bacteria of the genus:

+Streptococcus Treponema Shigella Corynebacterium Neisseria

Gram-positive cocci are the bacteria of the genus:

+Staphylococcus Salmonella Shigella Corynebacterium Neisseria

Which genus of bacteria has H-antigen?

+Salmonella Staphylococcus Shigella Corynebacterium Neisseria

Which genus of bacteria has H-antigen?

+Esherichia Staphylococcus Shigella Corynebacterium Neisseria

Which genus of bacteria has H-antigen?

+Vibrio Streptococcus Shigella Mycobacterium

Which genus of bacteria does not have H-antigen?

+Shigella Vibrio Salmonella Esherichia

Which genus of bacteria does not have H-antigen?

+Streptococcus Vibrio Salmonella Esherichia

Which genus of bacteria has K-antigen?

+Esherichia

Corynebacterium Treponema Leptospira

Which genus of bacteria has K-antigen?

+Salmonella Corynebacterium Treponema Leptospira

The bacteria of this genus are aerobes:

+Neisseria Shigella Salmonella Esherichia

The bacteria of this genus are aerobes:

+Mycobacterium Shigella Salmonella Esherichia

The bacteria of this genus are not facultative anaerobes:

+Neisseria Shigella Salmonella Esherichia

The bacteria of this genus grow as R-colonies (rough):

+Mycobacterium Shigella Salmonella Esherichia

The bacteria of this genus grow as R-colonies (rough):

+Yersinia Vibrio Streptococcus Salmonella

The bacteria of this genus grow as R-colonies (rough):

+Bacillus Bordetella Brucella Salmonella

The bacteria of this genus grow as S-colonies (smooth):

+Brucella Bacillus Mycobacterium Yersinia

The bacteria of this genus grow as S-colonies (smooth):

+Esherichia Bacillus Mycobacterium Yersinia

Bacterioscopy is used in the diagnosing procedure of:

+gonorrhea

Legionnaires’ disease colibacillosis (E.coli infection) brucellosis

Bacterioscopy is used in the diagnosing procedure of:

+syphilis

Legionnaires’ disease listeriosis

brucellosis

Bacterioscopy is used in the diagnosing procedure of:

+anthrax

Legionnaires’ disease

E.coli infection (escherichiosis) typhus

Bacterioscopy is not used in the diagnosing procedure of:

+Legionnaires’ disease anthrax

tuberculosis gas gangrene

Bacterioscopy is not used in the diagnosing procedure of:

+typhus relapsing fever

meningococcal meningitis cholera

Bacterioscopy is not used in the diagnosing procedure of:

+brucellosis anthrax plague cholera

A therapeutic serum is used to treat:

+diphtheria typhus relapsing fever cholera

A therapeutic serum is used to treat:

+tetanus tuberculosis plague

E.coli infection (escherichiosis)

A therapeutic serum is used to treat:

+botulism brucellosis Lyme disease

E.coli infection (escherichiosis)

A skin test is used in the diagnosing procedure of:

+tuberculosis typhus relapsing fever

meningococcal meningitis cholera

A skin test is used in the diagnosing procedure of:

+anthrax syphilis listeriosis leptospirosis

A therapeutic vaccine is used to treat:

+gonorrhea tuberculosis plague

E.coli infection (escherichiosis)

A therapeutic serum is used to treat:

+brucellosis diphtheria cholera paratyphoid fever

Which infectious agent causes a highly hazardous infectious disease?

+Yersinia pestis Neisseria gonorrhoeae Leptospira interrogans Haemophilus influenzae

Which infectious agent causes a highly hazardous infectious disease?

+Vibrio cholerae Shigella flexneri Clostridium perfringens Bacteroides fragilis

All these infectious agents except one cause atypical pneumonia. Which one does not?

+Streptococcus pneumoniae Coxiella burnetii

Legionella pneumophila Chlamydiophila pneumonia

Dark-field microscopy is used to study:

+Treponema pallidum Escherichia coli Rickettsia Staphylococcus Chlamydia

The spore-forming bacteria are:

+Clostridia Streptococci Neisseria Salmonella Corynebacteria

Which infectious agent causes relapsing fever?

+Borrelia recurrentis Bordetella pertussis Salmonella typhi Rickettsia prowazekii Yersinia pestis

Which infectious agent causes anthrax?

+Bacillus anthracis Corynebacterium diphtheriae Bacteroides fragilis Klebsiella pneumoniae Pseudomonas aeruginosa

The first-choice medicinal drug to treat a chlamydia infection is:

+azithromycin ampicillin nystatin gentamicin clindamycin

Which bacterium produces an enterotoxin?

+Vibrio cholerae Clostridium tetani Corynebacterium diphtheriae Bacillus anthracis

According to its mechanism of action related to a target cell the Botulinum toxin is:

+a blocker of a nerve signal transmission an inhibitor of protein synthesis

an activator of the adenylate cyclase system exfoliatin

hemolysin

The diphtheria toxin is:

+a histotoxin an endotoxin a neurotoxin an enterotoxin a leukocidin

Which are viral infections?

+yellow fever and tick-borne encephalitis Lyme disease and scarlet fever

pertussis and meningococcal meningitis psittacosis and typhus

Which are not viral infections?

+Lyme disease and scarlet fever mumps and measles

rabies and poliomyelitis

yellow fever and tick-borne encephalitis

What is a characteristic feature of both chlamydia and rickettsia?

+obligate intracellular parasitism disjunctive reproduction

ability to accumulate glycogen the presence of elementary bodies

Which scientist is the founder of the physiological approach in microbiology?

+L. Pasteur

A. van Leeuwenhoek

L.A. Zilber

P. Ehrlich

D. I. Ivanovsky

Which scientist is the founder of the physiological approach in microbiology?

+R .Koch

I. I. Mechnikov

P. Ehrlich

A.A. Smorodintsev

N.A. Krasilnikov

Which scientist is the founder of immunology?

+I.I. Mechnikov

L. Pasteur

L.A. Zilber R.Koch

D. I. Ivanovsky

Which scientist is the founder of immunology?

+P. Ehrlich

E. Jenner

H.M. Temin

A. van Leeuwenhoek

N.A. Krasilnikov

Who discovered microbes?

+A. van Leeuwenhoek Hippocrates

Lucretius

L. Pasteur R.Koch

Who developed the bacteriological method (the technique of growing bacteria) and introduced it into the field of microbiology?

+R.Koch

A. van Leeuwenhoek

L. Pasteur

Z.V. Yermolyeva

I.I. Mechnikov

A. van Leeuwenhoek is known for:

+the invention of the first microscope the discovery of viruses

the discovery of fermentation the discovery of phagocytosis producing a rabies vaccine

Preventive vaccines against the smallpox were firstly invented by:

+E. Jenner

L. Pasteur

A. van Leeuwenhoek Hippocrates

R. Koch.

Who discovered Vibrio cholerae?

+Koch Hansen Loeffler Pasteur Eberth

Who discovered the typhoid bacillus?

+Eberth Hansen Loeffler Koch Pasteur

Who discovered the tuberculosis pathogen?

+R. Koch

I.I. Mechnikov

F. Loeffler

L. Pasteur

N.A. Krasilnikov

Who introduced heating up to 120 °С in a steam generator as a sterilization technique?

+L. Pasteur

R. Koch

Sh. Kitasato

J. Lister

N.I. Pirogov

Fermentation was discovered by:

+L. Pasteur

A. van Leeuwenhoek

I.I. Mechnikov R.Koch

D.I. Ivanovsky

Which scientist is known for developing vaccine production techniques as well as prevention methods against anthrax and rabies?

+L. Pasteur

A. van Leeuwenhoek

I.I. Mechnikov R.Koch

D.I. Ivanovsky

Who introduced the theory of normal microflora?

+I.I. Mechnikov

P.V. Tsiklinskaya

L.G. Peretz

R. Koch

D.I. Ivanovsky

D.I. Ivanovsky is known for:

+the discovery of viruses

the discovery of fermentation

the invention of the first microscope the discovery of phagocytosis

the production of the rabies vaccine

Louis Pasteur is known for:

+the production of the rabies vaccine the discovery of phagocytosis

the introduction of the pure bacterial culture isolation technique the invention of the first microscope

the discovery of viruses

The microbial nature of fermentation was discovered by:

+L. Pasteur

E. Haeckel

R. Hooke

I.I. Mechnikov R.Koch

Who developed the production of attenuated (weakened) microorganisms strains?

+L. Pasteur

E. Jenner R.Koch

P. Ehrlich

D. Bergey

Who introduced the differential staining technique based on the cell wall composition?

+H. Gram

A. van Leeuwenhoek R.Koch

L. Pasteur

I.I. Mechnikov

Who discovered antibiotics?

+A. Fleming

L. Pasteur

R. Koch

D.K. Zabolotny

D.I. Ivanovsky

Who introduced chemotherapy first?

+Ehrlich Domagk Woodson Pasteur

Bacteria are measured in:

+micrometres millimetres nanometres centimetres angstroms

The resolving power of an optical microscope is:

+the capacity to show the separate images of two points which are close together the capacity to observe the movement of an object

the capacity to determine the size of an object

the indicator of the refraction of the immersion system the indicator of the magnification of an object

The magnification of an optical microscope equals:

+the magnification of the objective lens multiplied by the magnification of the eyepiece

the difference between the magnification of the objective lens and the magnification of the eyepiece the sum of the magnification of the objective lens and the magnification of the eyepiece

the magnification of the objective lens the magnification of the eyepiece

The optical components of an optical microscope include everything except:

+tube condenser objective lens eyepiece collector

Which microorganisms are gram-negative?

+meningococci streptococci corynebacteria actinomyces bacilli

Which microorganisms are gram-negative?

+gonococci staphylococci clostridia mycoplasma fungi

Which microorganisms are gram-negative?

+chlamydia pneumococci bifidobacteria mycobacteria actinomyces

Which microorganisms are gram-positive?

+streptococci meningococci borrelia

Vibrio cholerae E.coli

Which microorganisms are gram-positive?

+mycobacteria chlamydia spirochetes gonococci mycoplasma

Which microorganisms are gram-positive?

+pneumococci treponema shigella rickettsiach gonococci

The distinctive feature of gram-negative bacteria is:

+they stain red in the Gram-staining method there are teichoic acids in their cell wall

they stain the blue-violet in the Gram-staining method the basic component of their cell wall is a peptidoglycan there are lipoteichoic acids in their cell wall

The distinctive feature of gram-positive bacteria is:

+ they stain the blue-violet in the Gram-staining method they stain red in the Gram-staining method

the basic component of their cell wall is a lipopolysaccharide their cell wall is O-antigen

they do not have a multilayered peptidoglycan

The structure which prevents discoloration in gram-positive bacteria is a:

+cell wall

outer membrane lipopolysaccharide plasma membrane capsule

The basic taxonomic unit in microbiology is:

+species kingdom class order family

The basic taxon of prokaryotes is:

+species strain clone genus family

What is the proper order of taxonomic units from the largest to the smallest:

+kingdom, order, class, family, genus, species kingdom, species, family, class, order kingdom, family, order, genus, species kingdom, species, genus, family, class, order

The basic principle of Bergey’s identification of bacteria is:

+according to the composition of the cell wall and Gram-staining according to the virulence degree

according to the antibiotic sensitivity according to the relation to molecular oxygen according to the presence of the nucleus

What is the strain of microorganisms?

+an identified pure culture of a certain microorganism species

the total number of offspring which have been grown from one microbial cell the total number of bacteria which have grown on a growth medium

the total number of bacteria which are visible during the microscopy of native material a population of microorganisms which inhabit one biotope

A clone is:

+a genetically homogenous pure culture of microorganisms which have originated from one cell a set of phenotypically and genetically similar strains of microbes

an archival strain

a set of microbes with low heterogeneity degree which have the same origin

a population of one bacterial species which has been grown on the same growth medium in an isolated colony

A pure culture is a bacterial population of one:

+species morphovar biovar serotype chemotype

A species is a population of microorganisms which are similar in everything except:

+sexual reproduction morphology biochemical activity antigenic properties pathogenicity

A population of microorganisms which has been grown from one cell on a solid growth medium is a:

+colony strain biovar

pure culture serotype

A population of microorganisms of one species is a:

+pure culture strain

colony biovar serotype

A population of microorganisms produced from one microbial cell is a:

+clone strain colony

pure culture phagovar

A variation within a species of microorganisms is a/an:

+serotype strain clone isolate domain

The basic shapes of microorganisms are:

+cocci, rods, spiral, branching bacilli, bacteria

cocci, rods, mycoplasma

diplococci, streptococci, staphylococci clostridia, bacilli

Spiral bacteria include:

+borrelia

bacilli actinomyces streptococci pseudomonas

Spiral bacteria include:

+spirilla clostridia mycobacteria staphylococci

E. coli

Spiral bacteria include all the ones mentioned below except:

+rickettsia treponema borrelia leptospira

Diplococci include:

+meningococci

Preudomonas aeruginosa (blue-pus bacillus) bacilli

mycobacteria shigella

Diplococci include:

+gonococci E.coli clostridia listeria staphylococci

All the bacteria mentioned below are rod-shaped except:

+streptococci bacilli clostridia coccobacteria enterobacteria

All the bacteria mentioned below are spherical except:

+coccobacteria staphylococci streptococci pneumococci sarcinae

Which bacteria are arranged as grape-like clusters?

+staphylococci meningococci streptococci tetracocci pneumococci

Streptoccci are:

+chain-forming cocci grape-like clusters of cocci packet-forming cocci defective cocci

gram-negative cocci

Streptococci are:

+gram-positive cocci arranged in pairs and in a chain gram-negative cocci arranged in pairs and in a chain

gram-positive cocci arranged as grape-like clusters gram-negative cocci arranged as grape-like clusters spore-forming gram-positive cocci

Sarcinae are:

+packet-forming cocci grape-like clusters of cocci chain-forming cocci

cocci arranged in pairs gram-negative cocci

Bacteria whose cells divide in two perpendicular planes forming packets of 8, 16, 32 bacteria are known as:

+sarcinae tetracocci micrococci staphylococci streptococci

Diplococci are:

+cocci arranged in pairs

cocci arranged as grape-like clusters chain-forming cocci

packet-forming cocci monococci

Staphylococci are:

+ cocci arranged as grape-like clusters spiral cells with 8-12 coils

chain-forming cocci

cells which look like bent rods (comma-like shape) chain-forming rods

Vibrions are:

+ cells which look like bent rods (comma-like shape) cocci arranged as grape-like clusters

spiral cells with 8-12 coils chain-forming cocci

chain-forming rods

All the groups of pathogens mentioned below are infectious for humans except:

+viroids viruses prions fungi bacteria

Class Mollicutes includes:

+mycoplasma rickettsia chlamydia spirochetes actinomyces

Bacteria are:

+unicellular prokaryotes multicellular prokaryotes unicellular eukaryotes multicellular eukaryotes acellular

Prokaryotic microorganisms include:

+spirochetes mold fungi

viuses prions

Prokaryotic microorganisms include:

+chlamydia

yeasts of Candida genus protozoa

blue-green algae

Which microorganisms studied by Microbiology are not prokaryotic?

+viruses actinomyces bacteria mycoplasma chlamydia

The basic structural difference of eukaryotes is:

+a well-defined nucleus the presence of a cell wall

peptidoglycan in the cell wall a nucleoid

ribosomes 70S

L-forms of bacteria are:

+the way to escape immune surveillance gram-positive

formed under the influence of aminoglycosides the causative agents of acute infections sensitive to β-lactam antibiotics

The morphological properties of bacteria are:

+shape, size, combination

the capacity to take up different stains the way they grow on growth media conditions for culturing

the presence of a nucleoid

Plasmids:

+are extrachromosomal factor of heredity participate in the cell division

are formed with accumulation of metabolites are intracellular inclusions

are a virulence factor of microorganisms

Sterilization is:

+a complete removal of all the types of microorganisms and their spores from the objects of the environment a complete removal of all the pathogenic microorganisms from the objects of the environment

a complete removal of all the potentially pathogenic (opportunistic) and pathogenic microorganisms from the objects of the environment

a partial removal of all the pathogenic microorganisms from the objects of the environment

Disinfection is:

+ elimination of pathogenic and potentially pathogenic (opportunistic) microorganisms on the objects of the environment

elimination of pathogenic microorganisms in the organs and tissues of the body elimination of pathogenic microorganisms and their spores

elimination of potentially pathogenic (opportunistic) microorganisms with chemical substances preventing microorganisms from contaminating wounds, medicinal drugs and other objects

Antibiotics are:

+chemotherapeutic substances of natural, semi-synthetic or synthetic origin which in small concentrations inhibit the reproduction or cause the death of sensitive microorganisms and tumor cells inside a macroorganism biologically active substances synthesized by plants

antibiotic-like substances of bacterial origin which inhibit the reproduction of homologous and similar species chemotherapeutic substances of synthetic origin which in small concentration cause the inhibition or death of microorganisms and tumor cells

any substance preventing the growth of microorganisms

A gene is a:

+fragment of DNA molecule specific protein chromosome

nucleotide triplet plasmid

A genotype is the total number of:

+the gene of a bacterial cell

all the traits and properties of a bacterial cell the genes of all the species in a population

A genotype (choose one wrong statement):

+includes the nucleotide sequences of mitochondrial DNA is the total number of all the genes in a bacterial cell provides phenotypical variability within normal limits

participates in the realization of genetic information depending on environmental conditions is passed to daughter cells

Phenotype is the total number of:

+all the traits and properties of a bacterial cell the genes of a bacterial cell

the genes of all the species in a population the genes of a bacterial cell and plasmids

Phenotype:

+is the total number of all the traits and properties of a bacterial cell is the total number of the genes of a bacterial cell

changes in strict correspondence with the change of the genotype is inherited

realizes all the genetic opportunities of a cell

A mutation is:

+a change of a nucleotide sequence in DNA

the transfer of isolated DNA from a donor cell to a recipient cell

the transfer of a DNA segment from cell to cell with the help of a bacteriophage the transfer of plasmids

the repair of damaged genetic material

Mutations are:

+a stable hereditary change of a trait

the transfer of genetic material with the help of a bacteriophage the repair of damaged DNA segments

Recombination is:

+the production of bacterial offspring which has the traits of both a donor and a recipient the transfer of genetic material with the help of a bacteriophage

the repair of damaged DNA segments a stable hereditary change of a trait

Conjugation is:

+the exchange of genetic material between the bacterial cells of different gender the repair of damaged DNA

the transfer of genetic material with the help of highly polymerized DNA the transfer of genetic material with the help of temperate bacteriophages

Transduction is:

+the transfer of a DNA segment from one bacterial cell to another with the help of a bacteriophage

the transfer of plasmids

the transfer of genetic material with the help of F-pilli

the determination of the primary sequence of nucleic acids

Transformation is:

+the transfer of genetic material with the help of highly polymerized DNA the exchange of genetic material between bacterial cells of different gender the repair of damaged DNA

the transfer of genetic material with the help of temperate bacteriophages

The transfer of genetic information with the help of a phage is:

+transduction transformation viropexis lysogeny

phage conversion

Transposons:

+are mobile genetic elements

independent replicons which are extrachromosomal inheritance factors participate in DNA repair

participate in specific transduction

Transposons:

+are nucleotide sequences are amino acid sequences

are able to change their position within only one replicon are able to replicate in an autonomous state

Plasmids:

+are independent replicons which are extrachromosomal inheritance factors participate in DNA repair

participate in specific transduction are mobile genetic elements

A polymerase chain reaction (PCR) is:

+a multicycle process of DNA replication a bacterial genome sequencing

a multicycle process of protein sequences used for bacterial phage typing

measured by photocolorimetry

What is not true for antigens?

+normal microbiota species are not antigens they are substances, cells

they are genetically foreign they cause the immune response

they interact with the products of the immune response

Antigens as substances are:

+proteins lipids

polysaccharides nucleic acids salts

Antigenicity is:

+capacity to stimulate antibodies production immunologic affinity

capacity to cause an infectious disease

the capacity of macrophages to participate in phagocytosis production of interferon

Monotrichous microbes have:

+one flagellum at the pole of a cell a bundle of flagella at one pole flagella covering the whole surface flagella at both poles

no flagella

Lophotrichous microbes have:

+a bundle of flagella at one pole one flagellum at the pole of a cell flagella covering the whole surface flagella at both poles

no flagella

Amphitrichous microbes have:

+ flagella at both poles

a bundle of flagella at one pole one flagellum at the pole of a cell flagella covering the whole surface no flagella

Atrichous microbes have:

+ no flagella

flagella at both poles

a bundle of flagella at one pole one flagellum at the pole of a cell flagella covering the whole surface

Peritrichous microbes have:

+ flagella covering the whole surface no flagella

flagella at both poles

a bundle of flagella at one pole one flagellum at the pole of a cell

Bacterial spores are:

+dormant reproductive cells intracellular inclusions

a form of reproduction a virulence factor plasmids

Branching microorganisms include:

+actinomyces spirilla vibrions spirochetes bacilli

Autotrophs are the microbes whose source of carbon is:

+only СО 2

polyphosphates lipids

different organic compounds carbohydrates

Phototrophs are the microbes whose source of energy is:

+solar energy redox reactions

penetrating radiation X-rays

electricity

The cultural properties of bacteria are:

+the speed and type of growth of cultures on growth media the morphology of bacteria

capacity to take up stains type of metabolism

type of respiration

The cultural properties of bacteria are:

+the morphology of colonies the morphology of bacteria capacity to cause a disease type of metabolism

intensity of metabolism

The bacteriological diagnosing method (the microbiological culture technique) is used to:

+isolate and identify the bacteria which are the causative agents of diseases detect antibodies in a patient’s blood serum

detect antigens in the test material

isolate and identify the viruses which are the causative agents of diseases

Normal microflora (microbiota) is an open microbiocoenosis of:

+the human body cavities which have a connection with the external environment all the body cavities of the human

the body cavities which do not have a connection with the external environment anaerobic microorganisms which inhabit different biotopes

potentially pathogenic (opportunistic) microorganisms which inhabit different biotopes

A biofilm is:

+a structured assemblage of microbes on the surface of mucous membranes the growth of isolate colonies

the bacterial lawn growth on agar the growth of bacteria in broth

secretory IgA on the surface of mucous membranes

The most correct and complete definition of dysbiosis (dysbacteriosis) is:

+the changes in the species and number of the biotope normal microbiota which are outside the physiological normal limits

the decrease in the number of typical coliform bacteria in a certain biotope in the body the increase of the total number of putrefying and spore-forming bacteria in the biotope short-time changes in the microbiota of the intestine

the decrease of the counter-regulatory and enzymatic activity of the typical coliform bacteria

Dysbiosis (dysbacteriosis) is:

+ the changes in the species and number of the human normal microbiota which are outside the physiological normal limits

the disruption in the human normal microbiota

the numerical disruption in the human normal microbiota the presence of pathogenic microbiota

Dysbiosis (dysbacteriosis) is:

+the disruption in the number and species content of microbiota a hospital-acquired infection

transmitted through contact an infectious disease inherited

Dysbiosis (dysbacteriosis):

+is always secondary is an infectious disease

does not affect human health is always primary

does not have any clinical manifestations

The dysbiosis of the intestine is accompanied with all the following manifestations **except**:

+the increase of colonization resistance

the decrease in the number of bifidobacteria the presence of hemolyzing E.coli

the presence of a great amount of Candida species yeast

the increase in the number of potentially pathogenic (opportunistic) microorganisms

Bacteriophages are:

+obligatory bacterial parasites obligatory viral parasites prokaryotes

eukaryotes

infectious agents causing human diseases

Bacteriophages are:

+the viruses of bacteria macrophages prokaryotes

eukaryotes prions

Phage (lysogenic) conversion is:

+the change in the properties of bacteria which occurs when bacteria acquire additional genetic information brought by the genome of a temperate phage

a stage of the interaction between a virulent bacteriophage and a bacterial cell

the transfer of genes from a donor cell to a recipient cell with the help of a virulent bacteriophage the transfer of genes from a donor cell to a recipient cell with the help of a temperate bacteriophage the interaction between a temperate bacteriophage and a bacterial cell

The titer of a bacteriophage is:

+the maximal dilution of phage-containing material in which the complete lysis of sensitive culture is still observed

the minimal dilution of phage-containing material in which the complete lysis of sensitive culture is still observed

the maximal dilution of phage-containing material in which the complete lysis of sensitive culture is not observed any longer

the minimal dilution of phage-containing material in which the complete lysis of sensitive culture is not observed any longer

the maximal dilution of the indicator strain of bacteria in which the lytic activity of phage-containing material is still observed

A prophage is:

+the DNA of a temperate phage integrated into a bacterial chromosome

the precursor of a phage particle at the stage of the phage offspring assembly the DNA of a virulent phage integrated into bacterial chromosome

the DNA of a virulent bacteriophage a defective phage

Commensalism is a type of symbiosis during which:

+one organism lives benefiting from the other while not causing any harm to it

one organism continues the process caused by the other relieving it from metabolites the coexistence of microbes and a macroorganism which is beneficial for both

one organism benefits from the other while causing harm to it

the coexistence of two microorganisms which is beneficial for both

Mutualism is:

+ the coexistence of different organisms which is beneficial for both

one organism continues the process caused by the other relieving it from metabolites

one organism lives benefiting from the other while not causing any harm to it

the intensification of physiological functions and properties of bacteria which occurs if they are cultured together

the stimulation of a microbe multiplication by another species which occurs if they are cultured together

Microbiocoenosis is:

+a community of microorganisms’ populations which inhabit a certain biotope a place of a microbial population’s habitation

the total number of the individuals of one species which inhabit a certain biotope the cooperative functioning different biocoenoses

the coexistence of microbes and a microorganism beneficial for both

Biotope is:

+a place of habitation of a microbial population

the total number of the individuals of one species which inhabit a certain biotope a community of microorganisms’ populations which inhabit a certain biotope the cooperative functioning different biocoenoses

the total number of the individuals of one species which inhabit a certain biocoenosis

An infectious process is:

+a process of penetration and multiplication of microbes in a microorganism accompanied by the damage done to the tissue and organs and the development of adaptive defense response

a process of penetration of a microbe into an organism the inflammation caused by microbes or their toxins

a process which occurs when microbes fill an ecological niche in an organism the imbalance between pathogens and resident microbiota

A potential capacity of a microorganism to cause an infectious process in a macroorganism that is sensitive to it is known as:

+pathogenicity antigenicity agressiveness toxigenicity adhesiveness

A recurrence of an endogenous infection is known as a:

+relapse (recidivism) superinfection reinfection

mixed infection autoinfection

A reinfection:

+is a subsequent infection caused by the same microbe after a complete recovery

the appearance of the manifestations of the same disease after a seeming recovery caused by the pathogen which have remained in the body

occurs when a new infection process caused by another microbe joins the existing infectious process an infectious disease caused by one pathogenic species

a long persistence of dormant microbes in the body

The infections caused during medical procedures are known as:

+iatrogenic anthroponotic superinfections opportunistic focal infections

Bacteremia occurs when:

+a pathogen is present in blood but does not multiply in it

blood becomes the place of habitation and multiplication of microbes distant purulent foci appear in the internal organs

bacterial toxins get into blood

a great number of bacteria and their toxins get into blood

Toxigenicity of microorganisms is the:

+capacity to produce exotoxins capacity to produce endotoxins capacity to produce bacteriocins capacity to produce beta-lactamase capacity to produce lipids

DLm is a unit of measurement of:

+virulence of microbes infectivity

toxigenicity immunogenicity

Serotyping is an/a:

+identification of an unknown culture of a microorganism with the help of a known diagnostic serum detection of specific antibodies in a patient’s blood serum with the help of a known antigen determination of a microorganism’s serotype with the help of a known antigenic diagnosticum

detection of unknown antibodies in a patient’s blood serum with the help of an erythrocyte antigenic diagnosticum

detection of antibodies in a patient’s blood serum with the help of a diagnostic serum

Serodiagnostic assay is:

+detetion of unknown antibodies in a patient’s blood serum with the help of a known antigenic diagnosticum detection of specific antibodies in a patient’s blood serum with the help of a known monospecific serum identification of the microbial species isolated from a patient

diagnosis of an infectious disease with the detection of microbial antigens in a patient’s blood serum identification of a serotype of a microorganism with the help of a known monospecific serum

Tinctorial properties of bacteria are:

+the capacity to retain stains

the resistance to environmental and chemical factors the belonging to a particular genus or species antibiotic sensitivity

sensitivity to bacteriophages

Antigens of microorganisms can be everything **except**:

+isoantigenic somatic capsule flagellar toxins

Н-antigen of bacteria is located in the:

+flagella cell wall capsule

outer membrane

К-antigen of bacteria is located in the:

+capsule cell wall

outer membrane flagella

Vi-antigen of bacteria is located in:

+capsule cell wall

outer membrane flagella

О-antigen of gram-negative bacteria is located in:

+outer membrane

mesosomes capsule flagella

Immunobiological preparations include everything **except**:

+antibiotics vaccines immune sera

immunoglobulin preparations immunomodulators

The national vaccination schedule includes a compulsory vaccine against:

+diphtheria leptospirosis typhoid fever

haemophilus influenzae infections rabies

The national vaccination schedule includes a compulsory vaccine against:

+tetanus

meningococcal infection yellow fever

plague hepatitis A

The national vaccination schedule includes a compulsory vaccine against:

+hepatitis B

tick-borne encephalitis cholera

herpes viruses brucellosis

The national vaccination schedule includes a compulsory vaccine against:

+pertussis plague tularemia

Pseudomonas aeruginosa hepatitis C

The national vaccination schedule includes a compulsory vaccine against:

+measles

haemophilus influenzae infection meningococcal infection salmonella infection

dysentery

The national vaccination schedule includes a compulsory vaccine against:

+mumps brucellosis smallpox chickenpox yersiniosis

The national vaccination schedule includes a compulsory vaccine against everything **except**:

+rotavirus infection tetanus

diphtheria tuberculosis rubella

The infectious diseases that can be prevented by vaccines in Russia are all the following **except**:

+salmonella infection diphtheria

pertussis measles polyomyelitis

A live attenuated vaccine is used to prevent:

+tuberculossis botulism tetanus cholera diphtheria

Which preparation is used for the pre-exposure (scheduled) prophylaxis (prevention) of diphtheria:

+DPT vaccine BCG vaccine

diphtheria antitoxin serum diphtheria exotoxin

a cephalosporin antibiotic

Which vaccine is used for the specific pre-exposure (scheduled) prevention of hepatitis B:

+genetically engineered live

inactivated subunit adsorbed

The immunity which is produced by DPT vaccine is:

+antitoxic (to diphtheria and tetanus) and antimicrobial (to pertussis) antimicrobial (to tetanus and diphtheria)

antitoxic and antimicrobial (to diphtheria and tetanus)

antitoxic (to pertussis) and antimicrobial (to diphtheria and tetanus) antitoxic (to pertussis and tetanus)

Which vaccine is multivalent?

+DPT BCG

plague vaccine mumps vaccine

According to the Russian vaccination schedule newborns should be vaccinated in the first 24 hours of their life against:

+hepatitis B tuberculosis pertussis diphtheria tetanus

Vaccines can be of all these types **except**:

+semi-synthetic live (attenuated) killed (inactivated) toxoids (anatoxins)

genetically engineered

Vaccines contain:

+microorganisms

microorganisms’ metabolic by-products immune complexes

immunocompetent cells cytokines

Vaccines contain everything **except**:

+live pathogenic microorganisms killed pathogenic microorganisms

live attenuated strains of microorganisms inactivated toxins of microorganisms protective antigens

What do vaccines cause to produce in the human body?

+active immunity post-serum immunity passive immunity species immunity tolerance state

The immunity which is produced by vaccines is:

+active artificially acquired innate

active naturally acquired passive naturally acquired passive artificially acquired

Vaccines should comply with all these requirements **except**:

+tolerogenicity

high immunogenicity they should be harmless

they should not be reactogenic minimal sensitization

Live vaccines contain the strains of microorganisms:

+with a decreased virulence with an initial virulence

with changed antigenic properties with an increased virulence inactivated by UV-rays

The advantage of live vaccine is:

+high immunity level high reactogenicity

the immunity is formed straight after the vaccination they provide a life-long immunity

they are easy to produce

Which groups of people are forbidden to receive live vaccines?

+people with both primary and acquired immunodeficiencies newborns

teenagers

people with chronic diseases people over 50 and older

Live vaccines have all these properties **except**:

+a life-long immunity high immunogenicity residual virulence

the capacity to multiply in the human body the absence of prominent adverse reactions

Chemical vaccines:

+contain protective antigens contain whole microbial cells contain haptens

possess an immunosuppressive effect are administered only once

The vaccine which is used for the specific prevention of measles is:

+live

genetically engineered

killed chemical adsorbed

What does not belong to corpuscular vaccines?

+toxoids (anatoxins) subcellular vaccines subvirion cells whole cell vaccines

What is the name of live vaccines which are produced with the use of weakened strains of microorganisms?

+attenuated divergent vector recombinant molecular

The production of the attenuated strains of microorganisms includes everything **except**:

+selecting high-virulence strains selectiong low-virulence strains culturing in unfavorable conditions

serial passage by infecting resistant animals

The production of live attenuated vaccines involves:

+the decrease of the virulence of microorganisms while culturing them in unfavorable conditions the treatment of exotoxins with 0.4 % formalin solution

the extraction of protective antigens from a microbial cell

the inactivation of highly immunogenic strains of microorganisms though heating or chemical treatment chemical synthesis

The production of these vaccines involves the transfer of genes controlling necessary antigenic determinants into the genome of other microorganisms which start synthesizing a corresponding antigen:

+genetically engineered chemical

anti-idiotypic attenuated inactivated

Vaccines with an adjuvant are known as:

+adsorbed recombinant vector inactivated

toxoids (anatoxins) live attenuated

What is the effect produced by adjuvants on the immune system?

+non-specific activation non-specific suppression specific suppression specific activation

Chemical vaccines are produced:

+from protective antigens extracted from a microbial cell

by the transfer of the genes controlling necessary antigenic determinants into the genome of other microorganisms which start synthesizing a corresponding antigen

from the strains of highly immunogenic microorganism which are inactivated with physical methods with the use of anti-idiotypic antibodies

Killed vaccines are produced:

+ from the strains of highly immunogenic microorganism which are inactivated with physical and chemical methods

the treatment of exotoxins with 0.4 % formalin solution with the use of anti-idiotypic antibodies

by the decrease of the virulence of microorganisms while culturing them in unfavorable conditions with the use of an adjuvant

The production of diagnostic agglutinating sera involves:

+hyperimmunization of laboratory animals with a corresponding antigen vaccination of a healthy person

an agglutination reaction

non-specific desensitization of the organism it is taken from sick people

What is the aim of using antigenic diagnosticums?

+to detect specific antibodies to determine a serotype

to detect precipitinogen

to produce a hemolytic serum

Antitoxic immunity is provided by:

+immunization with a toxoid (anatoxin) injection of an endotoxin

application of an antimicrobial serum immunization with any protein

using subunit viral vaccines

What is used for the serotherapy of infectious diseases?

+immune sera toxoids (anatoxins) chemical drugs vaccines antibiotics

Immune sera and immunoglobulins contain:

+specific antibodies vaccine strains

killed microorganisms adjuvants

toxoids (anatoxins)

Immune sera and immunoglobulins are used in case of infectious diseases for:

+seroprophylaxis, serotherapy serotherapy, vaccine therapy

vaccine therapy, vaccine prophylaxis vaccine prophylaxis, serotherapy seroprophylaxis, vaccine therapy

Homologous immune sera are produced:

+from vaccinated people, from donated and placental blood

by the hyperimmunization of horses with a corresponding toxoid (anatoxin) with the use of antiidiotypic antibodies

by the treatment of exotoxins with 0.4 % formalin solution

by hyperimmunization of rabbits with a corresponding antigen

Heterologous sera and immunoglobulins are produced:

+by hyperimmunization of horses from donors’ blood

from abortion blood from placental blood

by the attenuation method

Toxoids (anatoxins) contain:

+inactivated bacterial exotoxins a somatic antigen

inactivated bacterial endotoxins bacterial exotoxins

antitoxins

The immunity produced by a diphtheria toxoid is:

+antitoxic antibacterial anti-idiotypic antiviral mixed

The production of antitoxic sera involves:

+ the hyperimmunization of horses with a corresponding toxoid (anatoxin) the treatment of exotoxins with 0.4 % formalin solution

the use of antiidiotypic antibodies

hyperimmunization of rabbits with a corresponding antigen serial passage by infecting resistant animals

To produce an antitoxic serum laboratory animals are immunized with:

+a toxoid (anatoxin)

the suspended matter of 24 hour bacterial culture antitoxins

an exotoxin antibodies

Immune sera are used for:

+immunotherapy and post-exposure (urgent) immunoprophylaxis pre-exposure (scheduled) immunoprophylaxis

producing an artificial active immunity vaccination and revaccination producing a natural immunity

The criterion for the evaluation of serological tests with paired sera from a patient is:

+the increase of the antibody titer the norm of controls

avidity of antibodies

the time of collecting the serum the diagnostic titer

The duration of the immunity produced by sera and immunoglobulins depends on:

+the half-life of Ig

the spectrum of activity of the drug the manufacturer

the body reactivity a patient’s age

According to their composition antibodies are:

+glycoproteins lipopolysaccharides nucleoproteins gamma-globulins albumins

If a serum is administered intravenously the effect of the drug begins:

+immediately in 12 hours

in 48 hours

in 10 days

starting from the 3-rd week

The properties of bacteria studied with the help of microscopy are:

+morphological and tinctorial cultural

antigenic toxigenic

biochemical

The aim of bacterioscopy is:

+to examine the morphology of microorganisms to produce the pure culture of microorganisms to create the model of an infectious process

to detect microbial antigens

to detect the DNA of a pathogen in a biological sample

Which properties of bacteria is studied with the help of microscopy are:

+morphological cultural antigenic biochemical

antibiotic sensitivity

Which **is not** a kind of optical microscopy?

+electron microscopy phase-contrast microscopy dark-field microscopy

oil immersion microscopy

Which type of microscopy is used to study the motility of bacteria by the hanging drop method?

+dark-field fluorescent oil immersion electron

Which technique is used to study the motility of microorganisms in a native sample?

+dark-field microscopy fuchsine staining fluorochrome treatment Loeffler stain

Morozov silver stain

Which type of microscopy is used to examine the ultrastructure of bacteria and viruses?

+electron fluorescent dark-field phase-contrast oil immersion

Native non-stained samples are prepared for this type of microscopy:

+phase contrast optical fluorescent electron

oil immersion

Which type of microscopy is used to detect the antigens of microorganisms with the help of labeled antibodies?

+fluorescent phase contrast optical electron

oil immersion

Which type of sample is prepared to determine the motility of living bacteria?

+ a “squashed drop” sample an impression smear

twin smears a Burri smear

Dark-field microscopy is based on:

+the diffraction of light while the object is illuminated from the side the fluorescence of an object in the visible spectrum

the interference of light waves

the absorption of light by an object the transmission of light by an object

Fluorescent microscopy is based on:

+the capacity of some substances to emit light under the influence of short-wave length radiation

the decrease of the intensity of object illumination by means of lowering the condenser and narrowing the diaphragm

the conversion of phase oscillations into amplitude oscillations by optical devices

the submersion of an immersion objective lens into immersion oil to prevent additional diffraction of a light beam

the examination of microorganisms in fixed stained specimens

What **is not** the advantage of microscopy as a method of infectious diseases diagnosis?

+the determination of virulence the possibility of rapid testing simplicity and availability

it can have an independent diagnostic significance

it helps to determine a clinically significant quantity of potentially pathogenic microorganisms

The advantage of the immersion system is:

+the increase of the resolving power of an optical microscope a 3D image of an object

a higher magnification of the objective lens a higher magnification of the eyepiece

the use of UV-rays

Which procedure is compulsory before the staining of a sample?

+the fixation of a sample

treating a sample with a developer drying a sample

rinsing a sample with water

treating a sample with immersion oil

Aniline dyes include all the ones mentioned below **except:**

+Lugol’s iodine fuchsine methylene blue crystal violet neutral red

The method to detect chlamydia is:

+Giemsa staining Zdrodovsky staining Gram staining methylene blue staining Morozov silver staining

Acid-fast bacteria are:

+mycobacteria mycoplasma streptococci Pseudomonas aeruginosa meningococci

What is the correct order of using the reagents in Ziehl-Neelsen staining technique?

+carbol fuchsine, sulfuric acid, methylene blue methylene blue, carbol fuchsine, sulfuric acid sulfuric acid, carbol fuchsine, methylene blue carbol fuchsine, methylene blue, sulfuric acid methylene blue, sulfuric acid, carbol fuchsine

What is the correct order of the basic stages in Aujeszky’s staining technique?

+hydrochloric acid, heating until vapor appears, fixation of a sample, Ziehl-Neelsen staining fixation of a sample, Neisser staining, heating until vapor appears, hydrochloric acid fixation of a sample, hydrochloric acid, heating until vapor appears, Neisser staining fixation of a sample, hydrochloric acid, heating until vapor appears, Ziehl-Neelsen staining hydrochloric acid, fixation of a sample, Lugol’s iodine staining, heating until vapor appears

What is the correct order of using the reagents in Burri-Gins staining technique?

+a drop of India ink, fixation of a sample with alcohol, heating, Pfeiffer fuchsine fixation of a sample with alcohol, heating, a drop of India ink, Pfeiffer fuchsine fixation of a sample with alcohol, a drop of India ink, heating, methylene blue

a drop of India ink, heating, fixation of a sample with alcohol, methylene blue fixation of a sample with alcohol, heating, basic fuchsine, a drop of India ink

Which dyes are used in Giemsa staining technique?

+ methylene blue, azure, eosin

crystal violet, azure and methylene blue crystal violet, eosin and basic fuchsine methylene blue and vesuvine

methylene blue, azure and basic fuchsine

Which staining technique is used to detect inclusions in bacteria:

+Neisser stain Aujeszky stain Giemsa stain Burri-Gins stain Zdrodovsky stain

Dark-field microscopy is used to examine:

+Treponema pallidum E.coli

staphylococci chlamydia rickettsia

Phase-contrast microscopy is used to examine:

+mycoplasma E.coli staphylococci pneumococci mycobacteria

Giemsa stain is used to detect:

+borrelia actinomyces mycoplasma staphylococci clostridia

Zdrodovsky stain is used to detect:

+rickettsia corynebacteria gonococci Vibrio cholerae pneumococci

Ziehl-Neelsen stain is used to detect:

+mycobacteria shigella actinomyces corynebacteria clostridia

Neisser stain is used to detect:

+ corynebacteria mycobacteria salmonella borrelia streptococci

Morozov silver stain is used to detect:

+treponema Vibrio cholerae chlamydia mycoplasma fungi

The morphology of bacteria depends on:

+the structure of the cell wall

the consistency of the growth medium the composition of the growth medium the stains which are used

the fixation technique

If we know the structure of bacteria we can do all the things mentioned below **except**:

+evaluate the immune status of a macroorganism identify bacteria

produce vaccines

study pathogenicity factors

develop disinfection and sterilization techniques

Which bacterial structures **are not** the targets for antimicrobial drugs?

+capsules the cell wall

the plasma membrane ribosomes

The obligate organelles of a prokaryotic cell are all the ones mentioned below **except**:

+plasmids mesosomes the nucleoid the cell wall ribosomes

The detection of these structures is significant for a differential diagnosis:

+spores

the nucleoid

the plasma membrane ribosomes mesosomes

Spore-forming bacteria are:

+bacilli spirilla cocci

enterobacteria chlamydia

Spore-forming bacteria are:

+clostridia spirochetes coccobacteria sarcinae rickettsia

For some prokaryotes the formation of spores is:

+the way they react to any harmful effect produced on the cell the way of reproduction

the accumulation of certain nutrients

an obligatory stage of the microbial life cycle the protection of the cell from phagocytosis

Which structure of a bacterial cell if facultative?

+a flagellum

the plasma membrane nucleoid

ribosomes

What belongs to the additional structures of bacteria?

+villi

the periplasm

the plasma membrane the nucleoid

What belongs to the surface structures of bacteria?

+capsules the cell wall

the plasma membrane the periplasm plasmids

Which structures belong to intracellular inclusions of bacteria?

+glycogen granules mitochondria ribosomes plasmids

nucleoli

Which structures belong to intracellular inclusions of bacteria?

+volutin granules contractile vacuoles ribosomes

the nucleoid mesosomes

The presence of volutin granules is a diagnostic characteristic of:

+Corynebacterium diphtheriae E.coli

clostridia botulism

Bacillus anthracis shigella

Which microbes do not have a cell wall?

+mycoplasma actinomyces spirochetes chlamydia rickettsia

The rigidity of the cell wall is provided by:

+peptidoglycan proteins teichoic acids

lipopolysaccharides phospholipids

The bacterial cell wall possesses all the properties mentioned below **except**:

+it participates in protein synthesis

it contains the basic antigens of a microbial cell it determines the shape of a bacterium

it protects from environmental effects

it can determine the result of Gram staining

The cell wall of gram-negative bacteria does not include:

+teichoic acids peptidoglycan

proteins of the outer membrane lipopolysaccharide

The basic structural component of the cell wall in gram-negative bacteria is:

+lipopolysaccharides teichoic acids lipoteichoic acids mycolic acids proteins

The basic structural component of the cell wall in gram-positive bacteria is:

+peptidoglycan teichoic acids mycolic acids lipopolysaccharides lipids

What is contained only in the cell wall of gram-positive bacteria?

+a teichoic acid lipopolysaccharide murein

protein peptidoglycan

The function of lipopolysaccharide is:

+О-antigen enzymatic exotoxin messenger protein synthesis

A property of lipopolysaccharide is:

+it is an endotoxin it is thermolabile

it contains peptidoglycan it is an exotoxin

it stores the nutrients of a cell

Where is lipopolysaccharide located in a bacterial cell?

+in the outer membrane of gram-negative bacteria in the plasma membrane

in the outer membrane of gram-positive bacteria in mesosomes

in the capsule

What is contained in the cell wall of gram-positive bacteria?

+multilayered peptidoglycan, teichoic and lipoteichoic acids

single-layered peptidoglycan, lipopolysaccharide in the outer membrane a phospholipid bilayer, teichoic and lipoteichoic acids lipopolysaccharide in the outer membrane

multilayered peptidoglycan, lipopolysaccharide in the outer membrane

What is contained in the cell wall of gram-negative bacteria?

+ single-layered peptidoglycan, lipopolysaccharide in the outer membrane

multilayered peptidoglycan, teichoic and lipoteichoic acids single-layered peptidoglycan, teichoic and lipoteichoic acids single-layered peptidoglycan and cord factor

a phospholipid bilayer, teichoic and lipoteichoic acids

Which structure of the bacterial cell wall enables bacteria to attach to the surface of cells?

+microvilli (pili) spores

flagella mesosomes О-antigen

Bacteria which have lost their cell wall completely under the influence of some factor but are able to restore their original shape are known as:

+protoplasts spheroplasts mycoplasma mycobacteria stable L-forms

Bacteria which retain part of their cell wall and are able to restore their original shape are known as:

+ spheroplasts protoplasts mycoplasma mycobacteria stable L-forms

Bacteria which have lost their capacity to synthesize peptidoglycan but are able to reproduce are known as:

+L-form bacteria mycoplasma protoplasts spheroplasts chlamydia

The absence of the cell wall is genetically predetermined in these microorganisms:

+ mycoplasma protoplasts spheroplasts chlamydia

L-form bacteria

L-form bacteria have a disruption in the synthesis of:

+the cell wall the capsule mesosomes

the plasma membrane flagella

Which process leads to the L-form transformation of bacteria:

+the disruption of peptidoglycan synthesis spore formation

the conjugation of bacteria division

a completed phagocytosis

L-form bacteria have all the properties mentioned below **except**:

+they cause acute infections

they cause chronic relapsing infections

they are the form of the persistence of bacteria in the organism

they are formed due to the inadequate treatment by chemotherapeutic drugs they are gram-negative as a rule

The shape of a bacterium is determined by the structure of its:

+cell wall

plasma membrane murein

spore capsule

What makes the structure of the bacterial plasma membrane different from the plasma membranes of other living beings:

+it forms mesosomes it is three-layered

it contains cholesterol

it forms the endoplasmic reticulum

The proteins of the plasma membrane are subdivided into:

+transport and metabolic purines and pyrimidines basic and acidic complete and incomplete

glycoproteins and chromoproteins

Which structure carries bacterial antigens?

+flagella

the plasma membrane mesosomes

plasmids mitochondria

Which structure carries bacterial antigens?

+the capsule a spore

the cytoplasm volutin granules cord factor

Unlike the cytoplasm of other living beings the bacterial cytoplasm does not contain:

+the endoplasmic reticulum inclusions

ribosomes RNA DNA

Where is genetic information located in a bacterial cell?

+in the nucleoid

in the plasma membrane in mesosomes

in ribosomes

in mitochondria

The function of the plasma membrane is:

+it participates in energy metabolism it determines the shape of bacteria

it participates in the synthesis of biologically active substances drug resistance

protection from phagocytosis

The function of ribosomes is:

+protein synthesis

storage and realization of genetic information protection

shape determination toxicity

A capsule is a distinguishing characteristic of:

+klebsiella streptococci meningococci salmonella Vibrio cholerae

A capsule is a distinguishing characteristic of:

+pneumococci gonococci staphylococci spirochetes shigella

What is characteristic of the microcapsule?

+it is formed in the majority of bacteria

it is visible through the optical microscope it makes bacteria acid-fast

it is the framework of a bacterial cell

it protects from the majority of antibiotics

What is the function of fimbriae (pili) in bacteria?

+the attachment to the substrate motility

protection enzymatic

What is the function of fimbriae (pili) in bacteria?

+the exchange of genetic information sexual reproduction

motility trophic

All these are the functions of bacterial fimbriae (pili) **except**:

+motility

the attachment to the substrate

the exchange of genetic information

the participation in the water-salt metabolism

The organelles of motility in bacteria are:

+flagella pili pseudopods plasmids druses

Bacterial flagella:

+are made of flagellin protein

participate in the transfer of genetic material are typical mostly for gram-positive bacteria are obligate structure of a cell

participate in spore formation

Which ones are motile microorganisms?

+Escherichia coli staphylococci mycoplasma actinomyces streptococci

Which structure enables a bacterial cell to persist in the environment for a long time?

+an endospore the cell wall the nucleoid

the capsule a plasmid

The pathogenicity factor of bacteria is:

+the capsule a mesosome the nucleoid a spore inclusions

The pathogenicity factor of bacteria is:

+a flagellum

the plasma membrane a plasmid

a ribosome volutin granules

The microorganisms reproducing with spores are:

+fungi chlamydia spirochetes protozoa viruses

The function of bacterial endospores is:

+persistence (survival) in unfavorable conditions reproduction in favorable conditions

protection from phagocytosis and antibodies prevention of the osmotic lysis of a cell adhesion to susceptible host cells

Bacterial endospores are:

+thermostable thermolabile

sensitive to disinfectants used to control disinfection formed in the host organism

Bacterial endospores:

+are resistant to disinfectants are thermolabile

are sensitive to antibiotics perform a reproductive function

Bacterial endospores have all the properties mentioned below **except**:

+sensitivity to antibiotics thermostability

resistance to disinfectants

they are used to control the sterilization of the autoclave they are formed in unfavorable environmental conditions

Which microorganisms produce spores:

+clostridia enterobacteria staphylococci viruses vibrions

Which bacteria produce spores which are bigger than bacterial cells?

+clostridia mycoplasma bacilli spirochetes

yersiniae

Which bacteria produce spores which are not bigger than bacterial cells?

+bacilli campylobacter clostridia spirochetes brucellae

Which phase of the cell cycle involves spore formation?

+stationary phase lag phase

log phase (exponential) death phase

Which bacteria form a capsule while being cultured in artificial growth media?

+klebsiella pneumococci gonococci mycoplasma bacilli

The function of the bacterial capsule is:

+antiphagocytic locomotive reproductive excretory protein synthesis

The bacterial capsule:

+is a virulence factor

is an organelle of locomotion is an obligatory structure

is an extrachromosomal genetic component possesses the properties of an exotoxin

Cytoplasmic bacterial inclusions are:

+stored nutrients extrachromosomal DNA endosymbionts intracellular parasites transposons

Which microorganisms have an axostyle?

+spirochetes rickettsia actinomyces mycoplasma viruses

Which morphological properties do spirochetes have:

+a helically coiled shape they are diplobacteria they branching bacteria they are gram-positive

Which morphological properties do spirochetes have:

+they are gram-negative they are diplobacteria they are gram-positive they branching bacteria

All these types of motion are characteristic of spirochetes **except**:

+saltation (jump-like) rotation

flexing stepwise

cork-screw motion

Borrelia have:

+3–8 large coils

8–12 small coils

more than 20 equal-size coils 2–3 large coils

½ coil

The order Spirochaetales does not include the genus:

+Rickettsia Treponema Borrelia Leptospira

The characteristic feature of all spirochetes is:

+motility

they are obligate intracellular parasites the absence of peptidoglycan

they are cell membrane parasites

The characteristic feature of mycoplasma is:

+the absence of the cell wall they are not fastidious

they are the largest among prokaryotic microorganisms

they are not capable of independent metabolism and reproduction a stable shape

The characteristic feature of chlamydia is:

+they are obligate intracellular parasites they have volutin granules

they are eukaryotes

they have axial filaments

Outside the host cells chlamydia exists as:

+elementary bodies initial bodies reticular bodies chromatin granules

Which prokaryotes are obligate intracellular parasites and cannot synthesize ATP thus getting energy only from a host cell:

+chlamydia actinomyces rickettsia mycoplasma spirochetes

Obligate intracellular parasites include:

+chlamydia bacilli actinomyces meningococci mycoplasma

Obligate intracellular parasites include:

+rickettsia clostridia listeria

gonococci

L-form bacteria

The characteristic feature of rickettsia is:

+they are gram-negative they are coccus-shaped they are eukaryotes

they are able to form a capsule

they are motile thanks to their flagella

What is not characteristic of rickettsia?

+they grow on simple growth media they are obligate intracellular parasites they are prokaryotes

they take up the red dye when stained by Zdrodovsky’s method they are polymorphic

Mycoplasma differ from L-form bacteria as they do not have:

+a genetic programme of the cell wall synthesis chromosomes

histones

a phenotypic character – the cell wall

a capacity to reproduce in the organism

Which prokaryotes form druses in an affected organism?

+actinomyces mycoplasma chlamydia rickettsia listeria

Which microorganisms are acellular?

+viruses prokaryotes protozoa fungi

algae

All these factors influence the growth of pathogenic bacteria **except**:

+light

oxygen concentration

the presence of growth factors carbon dioxide concentration temperature

Bacteria multiply by:

+transverse fission longitudinal fission replication exospores filterable forms

Which structural component is characteristic of viruses?

+capsid differential nucleus ribosome

the plasma membrane inclusions

What is the distinguishing feature of complex viruses?

+the presence of a viral envelope the presence of plus-strand RNA formation of a capsid

presence of a core

Which viruses are resistant to ether?

+the ones which do not have a viral envelope RNA-containing

the ones which have a viral envelope DNA-containing

The microorganisms which use organic substance as the source of energy and carbon are known as:

+chemoheterotrophs chemolithoheterotrophs phototrophs photolithotrophs autotrophs

The microorganisms which need growth factors in addition to the basic source of carbon are known as:

+auxotrophs autotrophs prototrophs heterotrophs lithotrophs

Which nutrition-based type of microorganisms is clinically significant?

+chemoheteroorganotrophs photoheterotrophs chemoautotrophs photoautotrophs

facultative anaerobes

The demand of microorganisms in growth factors is:

+auxotrophy aerotolerance parasitism prototrophy infectivity

Clinically significant species of microorganisms are mostly:

+auxotrophs anaerobes metatrophs phototrophs autotrophs

The transfer of nutrients into a bacterial cell is carried out by all these ways of transport **except**:

+simple transport simple diffusion facilitated diffusion active transport group translocation

The transport of substances into a bacterial cell which does not require energy is:

+simple diffusion active transport group translocation phagocytosis endocytosis

Which type of transport requires the participation of permeases?

+facilitated diffusion active transport passive diffusion pinocytosis

Which type of transport requires the participation of permeases?

+translocation of radicals active transport

passive diffusion phagocytosis

Bacteria multiply by:

+binary fission mitosis meiosis reproduction

longitudinal fission

Bacteria multiply by:

+binary fission replication spore formation apoptosis

L-form transformation

The majority of bacteria multiply by:

+simple division of a cell sexual reproduction vegetative reproduction spore formation

budding

Which process occurs during the lag phase of a bacterial population growth?

+the balancing between the reproduction rate and death rate a fast reproduction of microorganisms

the adaption of microorganisms to the growth medium a fast death of microorganisms

a slow growth of microorganisms

Bacteria are biochemically active mostly during the:

+log phase (exponential) lag phase

stationary phase death phase

spore formation phase

Bacteria are antibiotic sensitive mostly during the:

+log phase (exponential) lag phase

stationary phase death phase

spore formation phase

According to the optimum growth temperature microorganisms can be all these **except**:

+piezophiles mesophiles psychrophiles thermophiles

The majority of pathogenic mesophilic bacteria grow at temperature:

+30–37 °С

15–20 °С

20–30 °С

50–55 °С

25–30 °С

The optimum temperature for the culturing of most clinically significant bacteria is:

+37 °С

10 °С

22 °С

28 °С

45 °С

Which types of microorganisms are clinically significant?

+mesophiles psychrophiles thermophiles saprophytes archaea

The type of metabolism of obligate anaerobes is:

+fermentative oxidative inducible constitutive

The type of metabolism of most clinically significant microorganism species is:

+oxidative, fermentative only oxidative

only fermentative inducible constitutive

The microorganisms which can grow both with and without oxygen are:

+facultative anaerobes obligate aerobes obligate anaerobes capnophiles microaerophiles

According to the type of respiration clinically significant microorganisms are mostly:

+facultative anaerobes microaerophiles obligate anaerobes obligate aerobes lithotrophs

What are the requirements for the culturing of microaerophiles?

+low concentration of oxygen and increased level of carbon dioxide growth media containing antibiotics

growth media containing human blood anaerobic conditions

growth media with low рН

Which microorganisms need the concentration of О 2 lower than its concentration in the air?

+microaerophiles strict aerobes strict anaerobes

facultative anaerobes auxotrophs

The capacity of anaerobic microorganisms to live in the presence of free О 2 is called:

+aerotolerance lipophilicity auxotrophy prototrophy saprotrophy

Which conditions are required to culture anaerobic bacteria?

+the absence of oxygen in the air

a complete absence of light

the presence of 10% of carbon dioxide in the air the presence of nitrogen

the presence of 5% of oxygen in the air

Which physical method is used to create anaerobic conditions?

+anaerobic jar

gas-generating sachets Fortner method thermostat

Kitt-Tarozzi medium

What is the basic requirement for the isolation of anaerobes pure culture?

+using an anaerobic jar using complex growth media the proper culturing time optimum temperature

Which microorganisms are obligate anaerobes?

+clostridia staphylococci pseudomonas enterobacteria bacilli

Which microorganisms do not have the catalase system to protect themselves from the toxic products of molecular oxygen?

+strict anaerobes facultative anaerobes aerobes microaerophiles

Which groups of bacterial enzymes catalyze intramolecular conversions?

+isomerases glucosidases carboxylases dehydrogenases

Which group of enzymes do anaerobic bacteria lack?

+superoxide dismutases dehydrogenases flavoproteins lecithinases

Which enzymes are being constantly synthesized in a cell and are not dependent on the presence of a specific substrate?

+constitutive enzymes inducible (adaptive) enzymes endoenzymes

exoenzymes invasive enzymes

The synthesis of these enzymes depends on the presence of a substrate:

+ inducible (adaptive) constitutive exoenzymes endoenzymes substrate

The capacity of a microbe to penetrate and spread in the tissues of the organism is provided by the presence of this enzyme:

+hyaluronidase plasma coagulase

lecithinase neuraminidase integrase

The cultural properties of bacteria do not include:

+the shape of the cells of microorganisms the size of a colony

the margin of a colony the surface of a colony the colour of a colony

What is a cultural property of a bacterial pure culture?

+the appearance of a colony

the shape of the cells of microorganisms tinctorial properties

the combination of the cells of microorganisms

What is a cultural property of a bacterial pure culture?

+ the margin of a colony

the shape of the cells of microorganisms tinctorial properties

growth rate

All of these **except** one are the requirements for collecting a test sample for bacteriological testing. Choose the one which is not correct:

+if a test sample cannot be delivered to the laboratory promptly it should be frozen a test sample is taken from affected areas and adjacent tissues

a test sample is placed into a sterile laboratory container

a test sample should be taken before antimicrobial therapy a test sample should be sent to the laboratory immediately

The choice of a test sample for a bacteriological culture depends on:

+the clinical manifestations and pathogenesis of a disease a patient’s complaints

the capacity of a laboratory the severity of a disease

a doctor’s skills

The bacteriological culture method is used in surgery:

+to monitor the pathogens causing suppurative inflammatory complications as well as their antibiotic resistance to prevent infections among the medical staff

for screening in a healthcare facility

to study the microbial landscape of environmental objects for sanitary and bacteriological screening of visitors

The method which is used for the isolation and identification of pure bacterial culture is a:

+bacteriological (microbial) culture method biological method

serological method microscopy method molecular-biological method

The growth media in microbiology are used for everything **except** (choose the wrong answer):

+to determine the immunogram to culture microorganisms

to study the biochemical properties of microorganisms to preserve archival cultures of microorganisms

to determine the antibiotic sensitivity of cultures

The choice of growth media for microbial cultures depends on the:

+physiology of microorganisms antigenic structure of microorganisms phage sensitivity of microorganisms

morphology of microorganisms virulence of microorganisms

All these techniques are used to isolate a pure culture **except** one (choose the wrong one):

+a lawn culture streaking

a microbial culture on selective growth media infecting susceptible laboratory animals heating a test sample to isolate bacilli

The aim of the bacterial culture method in the diagnosing procedure is:

+isolation and identification of a pure culture and determining its antibiotic sensitivity detection and identification of a pathogen

determination of the virulence of a pathogen determination of the immunity level separation of microbial cells

All these but one are test materials which can be used in the bacterial culture method. Which one **cannot** be used?

+serum sputum blood pus urine

The aim of the 1-st stage of the bacterial culture (bacteriological) method is:

+growing isolated colonies

the inoculation of a test sample the microscopy of a test sample identification of a culture enrichment of a pure culture

Which technique is used to determine the amount of bacteria in a test sample?

+serial dilution

inoculation with a streaking rod a biological method

Fortner method

Which method of a pure culture isolation does not include mechanical separation?

+a biological models method innoculation with a streaking rod a streaking culture

Koch method (serial dilution)

The aim of the 2-nd stage of the bacterial culture (bacteriological) method is:

+enrichment (accumulation) of a pure culture identification of a pure culture

examining the biochemical activity

determining the antibiotic sensitivity of a test culture bacterial typing

The aim of passaging isolated colonies to an agar slant is:

+accumulation of a pure culture identification of bacteria separation of bacteria

growing isolated colonies accumulation of anaerobic bacteria

The aim of the 3-rd stage of the bacterial culture (bacteriological) method is:

+identification of a pure culture growing isolated colonies

detection of a pathogen in a test sample accumulation of a test culture

determining the purity of an isolated culture

The necessary condition for the identification of an isolated culture is:

+the purity of a culture the presence of a culture

the availability of required growth media in a laboratory a patient’s condition

a doctor’s recomendation

All these procedures are performed during the 3-rd stage of the bacterial culture (bacteriological) method

# except:

+isolation of a pure culture

the examination of the purity of an isolated culture the examination of a biochemical activity

the determination of motility

the determination of the antibiotic sensitivity

All these procedures are performed during the 3-rd stage of the bacterial culture (bacteriological) method

# except:

+the determination of a genotype the identification of a pure culture the determination of a serotype the determination of motility

the determination of phagovar

The aim of microscopy during the 3-rd stage of the bacterial culture (bacteriological) method is to determine:

+morphological and tinctorial homogeneity virulence

antigenic properties biochemical activity a genotype

The smears taken from isolated colonies are examined under the microscope in order to:

+study morphological and tinctorial properties study cultural properties

determine a genotype

determine the phagovar of an isolated culture determine the bacteriocin sensitivity

What proves the purity of a culture during the 3-rd stage of the bacterial culture (bacteriological) method?

+the homogeneity of growth and the uniformity of microorganisms in a smear: the growth rate

the generation time

the duration of the lag-phase the duration of the log-phase

Which of the stages of the bacterial culture (bacteriological) method is devoted to the examination of antigenic and toxigenic properties?

+3-rd 1-st

2-nd 4-th

The determination of the antibiotic sensitivity and resistance of cultures is performed because:

+microorganisms have acquired drug resistance microorganisms have a natural drug resistance new antibiotics have been produced

there is a possibility of complications a patient wants this

The microbiological aim of the antibiotic resistance examination is to:

+determine an acquired resistance identify a culture

determine the spectrum of activity of a drug determine the long-range efficacy of treatment determine natural resistance

The clinical aim of the antibiotic resistance examination is to:

+determine the long-range efficacy of treatment determine the purchase volume of medicinal drugs choose the route of a medication administration choose the dosage of a medicinal drug

determine natural resistance

The result of the bacterial culture (bacteriological) testing is given by the bacteriological laboratory:

+on the 4-5-th day within1-2 hours

on the 2-nd or 3-rd day on the 3-rd or 4-th day on the 7-10-th day

The time of the bacterial culture (bacteriological) testing result depends on:

+the generation time of a pathogen the time of collecting samples

the duration of samples delivery

the financial capability of a laboratory the professional competence of the staff

The determination of bacterial biochemical activity implies:

+determining intermediate and final metabolic products separation of microbial cells

culturing in Hiss sugar media culturing in meat-peptone broth selecting a growth medium

What is **not** used to examine the biochemical properties of microorganisms?

+cell culture Hiss sugar media multitest media

differential diagnostic media

Which requirement should synthetic growth media comply with?

+optimal рH

the presence of agar-agar the presence of blood serum the presence of an indicator

Which requirement should synthetic growth media comply with?

+isotonicity

the absence of oxygen

the presence of antibiotics stability

Which requirement should synthetic growth media comply with?

+sterility

the presence of native proteins selectivity

saturation with oxygen

Which growth media are used to produce isolated colonies by inoculating test material?

+solid liquid dry

semi-solid (semi-liquid)

All these are the characteristics of microbial growth in liquid growth media **except**:

+the growth of isolated colonies diffuse turbidity

biofilms on the surface of a growth medium the bottom growth

the growth on the walls of a test-tube

the absence of any changes of a growth medium observed with an unaided eye

R-colonies of bacteria are:

+rough smooth

slimy (mucous) regular pigmented

S-colonies of bacteria are:

+smooth bumpy rough dry

pigmented

Which growth media are used to isolate the pure culture of a certain pathogen?

+selective multi-purpose

differential diagnostic simple

transport

Which growth media are used to stimulate the growth a certain microorganism while inhibiting the growth of others?

+enrichment growth media differential diagnostic multi-purpose

simple transport

Which growth media stimulate a fast and massive growth of one microbial species?

+enrichment growth media differential diagnostic growth media meat-peptone agar

basic growth media blood agar

The basic components of a differential diagnostic growth medium are:

+indicator, a chemical substrate in relation to which microorganisms are distinguished, meat-peptone agar indicator, a selective factor to determine a certain bacterial species, meat-peptone agar

indicator, serum, meat-peptone agar

indicator, antibiotics, a chemical substrate in relation to which microorganisms are distinguished

The preserving growth medium is used:

+to prevent the death of pathogenic bacteria and inhibit the growth of saprophytes for the first culturing of the material

for the indication of separate groups of bacteria to accumulate a particular group of bacteria

The enrichment growth medium is used:

+ to accumulate a particular group of bacteria for the first culturing of the material

for the indication of separate groups of bacteria

to prevent the death of pathogenic bacteria and inhibit the growth of saprophytes The selective growth medium is used:

+ for the first culturing of the material or for the subculturing of the material taken from preserving or enrichment growth media

for the indication of separate groups of bacteria

to prevent the death of pathogenic bacteria and inhibit the growth of saprophytes to accumulate a particular group of bacteria

The differential growth medium is used:

+ for the indication of separate groups of bacteria for the first culturing of the material

to prevent the death of pathogenic bacteria and inhibit the growth of saprophytes to accumulate a particular group of bacteria

Endo agar is used:

+to examine the saccharolytic properties of bacteria as an enrichment growth medium

as a growth medium to accumulate bacteria for the identification of a diphtheria agent to determine motility

A semi-liquid (semi-solid) agar is used:

+to determine motility

to examine the saccharolytic properties of bacteria as an enrichment growth medium

as a growth medium to accumulate bacteria for the identification of a diphtheria agent

Liquid growth media include:

+meat-peptone broth meat-peptone agar Endo agar

blood agar

salt egg-yolk agar

All these are types of growth media differentiated according to their purpose **except**:

+blood medium differential diagnostic transport

selective enrichment medium

Blood agar is:

+used to determine the hemolytic activity of bacteria blood serum

a differential diagnostic growth medium a selective growth medium

hemolyzed blood

Which growth media is used to determine the hemolytic properties of bacteria?

+blood agar bismuth sulfite agar salt egg-yolk agar Levin medium Endo agar

What is used to detect plasma coagulase?

+citrate plasma rabbit plasma blood

egg yolk

Which growth medium is used to detect lecithinase of staphylococci:

+salt egg-yolk agar blood agar

milk-salt agar salt agar

What are differential diagnostic growth media used for?

+to examine the properties of certain bacteria to inhibit the growth of saprophytes

to stimulate the growth of a certain species of bacteria while inhibiting the growth of others to accumulate bacteria

What indicates the saccharolytic activity of bacteria?

+the formation of acidic and gaseous metabolic products the presence of growth

the type of growth

the formation of alkaline and gaseous metabolic products the formation of neutral and gaseous metabolic products

Which growth medium is used to determine the saccharolytic activity of microorganisms?

+Hiss media blood agar

meat-peptone agar meat-peptone broth salt egg-yolk agar

Which phenomenon is observed in semi-solid Hiss media during the fermentation of carbohydrates with the production of acid?

+the change in the colour of the indicator in the medium gas bubbles emission in the semi-solid medium

the change in the colour of the indicator and gas bubbles emission

the colour of the medium remains unchanged, gas bubbles are not emitted turbidity of the medium and precipitate formation

Chemically enzymes are:

+metabolites substrates isotopes cofactors prions

The differentiative factor of salt egg-yolk agar is:

+lecithin

the salts of bile acids 10 % NaCl

lactose sucrose

Which growth medium is often used to isolate no-fastidious bacteria?

+meat-peptone agar Bordet-Gengou agar salt egg-yolk agar casein-charcoal acid serum agar

The differentiative factor of Endo agar is:

+lactose glucose maltose fructose mannitol

The growth of colorless colonies on Endo agar proves that the microorganism cannot:

+ferment lactose ferment glucose produce indole

produce hydrogen sulfide produce ammonia

The growth of blue colonies on Levine growth medium proves that microorganism can:

+ferment lactose ferment glucose produce H2S produce indole produce ammonia

Which phenomenon indicates the proteolytic properties of bacteria on meat-peptone broth?

+production of hydrogen sulfide and indole production of amino acids

the presence and type of growth formation of acidic metabolic products production of proteases

Which growth medium is used to culture obligate anaerobes?

+Wilson-Blair agar bile broth

Endo agar selenite broth Ploskirev medium

Which growth medium is used to accumulate a pure culture of anaerobes?

+thioglycollate medium Zeissler blood agar meat-peptone agar meat-peptone broth

Which growth medium is used to culture anaerobes?

+Kitt-Tarozzi medium salt egg-yolk agar peptone water

Endo agar Clauberg agar

All these are growth media used for culturing anaerobes **except**:

+bile broth

Kitt-Tarozzi medium thioglycollate medium Wilson-Blair agar

Which of those methods does not provide a complete sterilization of an object?

+pasteurization gamma radiation dry heat autoclaving calcination

Simple growth media are sterilized by:

+sterilization with steam under pressure in an autoclave calcination

tyndallization dry heat pasteurization

Sera are sterilized by:

+ tyndallization calcination boiling

dry heat autoclaving

The normal human microflora:

+is numerous

is formed during the prenatal development is present in all organs and tissues includes only prokaryotes

does not change during lifetime

The normal human microflora:

+produces biofilms

is formed during the prenatal development is present in all organs and tissues includes only prokaryotes

does not change during lifetime

The basic form of existence of normal microflora:

+a biofilm

a nonculturable form an L-form

a spore

a hybridoma

All these are the properties of the microbes in a biofilm **except**:

+they disrupt the absorption of nutrients they form microcolonies

they are encapsulated in a polymeric matrix (glycocalyx) they are more resistant to antimicrobial drugs

they have a system of connections

All these are the causes of gastrointestinal dysbacteriosis (dysbiosis) **except**:

+consumption of probiotics gastrointestinal diseases endocrine disorders hormonal therapy antimicrobial therapy

A person should be tested for intestinal dysbacteriosis:

+if he suffers from a long-time intestinal dysfunction

before entering an educational institution (a kindergarten, a school, a university) if he works in the foodservice industry

if he works in kindergartens and schools before donating blood

All these are the factors which contribute to the development of dysbiosis (dysbacteriosis) **except**:

+consumptions of vitamins infectious diseases

chronic non-infectious diseases consumption of immunosuppressive drugs consumption of antibiotics

All these are the exogenous factors which influence normal human microflora (microbiota) **except**:

+gender

consumption of antibiotics dietary pattern

pollution of the environment drug addiction

What is an endogenous factor which influences normal human microflora (microbiota)?

+gender

consumption of antibiotics dietary pattern

season ecology

All these are the functions of normal microflora **except**:

+formation of new species

production of biologically active substances

participation in the metabolism of proteins, carbohydrates and lipids, etc. detoxification

the pool of plasmid and chromosomal genes

Which one is a positive function of normal microflora?

+antagonistic carcinogenic toxigenic mutagenic

stimulation of autoimmune processes

All these are the positive functions of normal human microflora **except**:

+toxigenic secretory antagonistic immunizing vitamin-producing

The colonization resistance of epithelium is provided by:

+normal microflora pathogenic microflora hemophilic E.coli putrefactive microorganisms

Which microbes participate in the formation of the colonization resistance of intestinal microflora?

+E.coli

yeasts of the Candida genus Proteus species Staphylococcus aureus

The negative role of normal microflora is:

+it causes autoinfections immunizing

stimulation of lymphoid tissue formation anticarcinogenic

antimutagenic

The normal microflora in the large intestine of an adult includes all these microorganisms **except**:

+rickettsia bacteroides bifidobacteria enterococci enterobacteria

Which microbes participate in the formation of the colonization resistance of intestinal microflora?

+non-sporeforming anaerobes yeasts of the Candida genus Proteus species Staphylococcus aureus

Which intestinal microflora prevails during the breast-feeding period?

+bifidobacteria staphylococci E.coli enterococci enterobacteria

The normal intestinal microflora of a baby during the breast-feeding period:

+includes bifidobacteria

develops at the end of the first month is not sensitive to antibiotics includes thermophiles

colonizes all the parts

The formation of the normal microflora of a baby is determined by all these factors **except**:

+a type of anaesthetic administered to a mother during the childbirth the maturity of a fetus

a method of delivery

the microflora in a mother’s birth canals the type of feeding

All these are the risk factors which can cause dysbacteriosis in newborn babies **except**:

+the first-time delivery bacterial vaginosis of a mother late breast-feeding

high-risk pregnancy premature delivery

All these are the risk factors which can cause dysbacteriosis in toddlers **except**:

+probiotics administration immunodeficiency disorders early bottle-feeding

an infectious pathology a somatic pathology

The normal vaginal microflora depends on all these factors **except**:

+the body type

the hormonal status age

the type of contraception the phase of the menstrual

The normal vaginal microflora includes mostly:

+lactobacilli bacteroides fusobacteria veillonellas mobiluncus

All these microorganisms belong to the normal vaginal microflora **except**:

+clostridia lactobacteria streptococci bacteroides

All these are the factors which provide the protective role of the normal vaginal microflora **except**:

+phagocytosis of pathogenic microorganisms blockage of receptors

production of antimicrobial substances induction of the immune response detoxification of xenobiotics

Bacterial vaginosis is:

+a non-inflammatory syndrome related to vaginal dysbacteriosis a sexually-transmitted infection

a highly contagious disease is inherited

is a hospital-acquired infection

All these conditions can be provoked by bacterial vaginosis **except**:

+cardio-vascular diseases

the diseases of the uterus and epoophora

pathological conditions during pregnancy activation of a viral infection

sexually-transmitted infections

Which technique is used during the diagnosing procedure of bacterial vaginosis?

+microscopy bacterial culture serology

gas chromatography polymerase chain reaction

Which organ is normally sterile in a healthy person?

+lungs

eye conjunctiva vagina nasopharynx small intestine

Which organ is normally sterile in a healthy person?

+uterus

eye conjunctiva vagina nasopharynx small intestine

All these microorganisms belong to the normal oral microflora **except**:

+gonococci streptococci actinomyces veillonellas fusobacteria

The normal microflora of the upper respiratory tract includes:

+streptococci respiratory viruses brucellas

Vibrio cholerae E.coli

The disruption of the normal intestinal microflora leads to:

+dysbacteriosis hypervitaminosis autoimmune diseases acute food poisoning

the increase of antibodies titer

All these are the properties of normal intestinal microflora **except**:

+it includes mostly aerobes

it determines the colonization resistance it has antagonistic properties

it is the most numerous it is the most diverse

The basic method of dysbacteriosis diagnosis is:

+bacterial culture (bacteriological) clinical

biochemical chromatography

Which method of testing is used to diagnose intestinal dysbacteriosis?

+microbiological culture (bacteriological) method serological tests

allergy tests

laboratory animals testing a patient’s story

What is the basis of dysbacteriosis treatment?

+elimination of the cause of dysbacteriosis immunoglobulins intake

a sensible antimicrobial therapy boosting the immunity

a healthy diet

All these means are used to treat dysbacteriosis **except** one, which one is wrong?

+antibiotics probiotics prebiotics bacteriophage

food products enriched with probiotics

Probiotics are:

+normal microflora species vaccines

allergens vitamins bacteriophages

Which one is the characteristic of bacteriophages?

+they are obligate intracellular parasites they have a nucleus

they have a cellular structure they have a bacterial origin

they have intracellular inclusions

Bacteriophages are:

+resistant to antibiotics gram-positive

gram-negative fastidious

pathogens which cause hospital-acquired infections

Which one is the property of bacteriophages?

+lytic or lysogenic activity the absence of specificity bacterial nature

cellular structure

capacity for binary fission

Which property of bacteriophages enables their use in treatment and diagnosing procedures?

+specificity antigenicity immunogenicity virulence transmissibility

What is the result of interaction between a virulent bacteriophage and a bacterial cell?

+lysis of a bacterial cell lysogenization

the increase of cell division rate formation of a defective bacteriophage phage conversion

All these are the stages of the interaction between virulent bacteriophages and a bacterial cell **except**:

+a log phase

the adsorption of a bacteriophage on a cell

the penetration of a phage nucleic acid into a bacterial cell the assembly of a bacteriophage (morphogenesis)

the exit of a bacteriophage from a host cell

The first stage of a virulent bacteriophage reproduction is:

+the adsorption of a bacteriophage on a susceptible cell the penetration of a bacteriophage into a host cell

the injection of phage DNA into the nucleoid of a host cell the synthesis of the structural components of a bacteriophage the assembly of phage components

The interaction between a temperate bacteriophage and a bacterial cell involves:

+the integration of phage DNA with the genome of a cell chemotaxis

adsorption of a phage on a bacterial cell binary fission

the exit of mature phages from a bacterial cell

The type of interaction between a temperate bacteriophage and a bacterial cell is:

+integrative abortive productive spontaneous induced

The type of interaction between a virulent bacteriophage and a bacterial cell is:

+productive integrative abortive spontaneous induced

Bacteriophages are cultured:

+in bacterial cultures in cell cultures

in laboratory animals in chicken embryos on growth media

Which factor indicates the reproduction of virulent bacteriophages?

+the formation of negative colonies

the positive result of the hemadsorption assay the turbidity in a growth medium

the change of colour of a growth medium the growth of isolated colonies

Diagnostic bacteriophages are used:

+for the identification of bacteria to treat infectious diseases

for the prophylaxis of infectious diseases as immune drugs

The transfer of genetic material from some bacteria to others with the help of phages is also known as:

+transduction transformation conjugation replication modification

All these are the ways to use bacteriophages **except one** (choose the wrong answer):

+to determine the phagocytic activity for phage typing

to determine the source and transmission factors of an infection

in phage therapy

for phage differentiation

Which bacteriophages are components of therapeutic and preventive drugs?

+virulent defective typical temperate conjugative

Which exotoxin inhibits protein synthesis?

+diphtheria toxin pneumolysin hemolysin cholera toxin hyaluronidase

Which one is a neurotoxin?

+botulinum toxin exfoliatin pneumolysin streptolysin O dermonecrotoxin

Exotoxins are produced by:

+both gram-positive and gram-negative bacteria only gram-negative bacteria

only gram-positive bacteria viruses

prions

Bacterial exotoxins appear in the environment as a result of:

+the living activities of bacteria capsule formation

spore formation destruction of bacteria

unfavorable environmental conditions

Which microorganisms produce endotoxins?

+ gram-negative bacteria gram-positive bacteria

both gram-positive and gram-negative bacteria viruses

prions

The species of this family of DNA-containing viruses cause acute respiratory viral infections (ARVI):

+adenoviruses picornaviruses rhabdoviruses hepadnaviruses

Which one is a rapid test used for the laboratory diagnosis of acute respiratory viral infections (ARVI)?

+immunofluorescence assay hemagglutination assay agglutination assay precipitation test

Which medicinal drugs are used to treat acute respiratory viral infections (ARVI)?

+interferons antibiotics bacteriophages eubiotics

Which family do RNA-containing viruses causing acute respiratory viral infections (ARVI) belong to?

+Paramyxoviridae Retroviridae Togaviridae Rhabdoviridae

Which family do RNA-containing viruses causing acute respiratory viral infections (ARVI) belong to?

+Picornaviridae Bunyaviridae Retroviridae Rhabdoviridae

Which one is a rapid test used for the laboratory diagnosis of ARVI (acute respiratory viral infections)?

+rhinocytoscopy

dark-field microscopy phase-contrast microscopy

microscopy of Gram-stained smears

The outer envelope of the influenza virus includes:

+hemagglutinin, neuraminidase M-protein

RNA-polymerase endonuclease

The genome of the influenza virus is:

+fragmented RNA

double-stranded DNA molecule non-fragmented RNA

single-stranded DNA plus-strand RNA

What is the property of influenza viruses?

+RNA-containing no surface antigens

the absence of the viral envelope (supercapsid) cuboidal symmetry

The property of Influenzavirus A is:

+it has no reverse transcriptase it has no hemagglutinin

it has no viral envelope it has no neuraminidase

The property of Influenzavirus С is:

+it has no neuraminidase

non-segmented RNA

it has no hemagglutinin it has no viral envelope

Which antigens determine the subtype of the influenza virus?

+surface antigens a fusion protein hemolysin

a core antigen

The core antigen of the influenza virus is:

+type-specific subtype-specific

contains liposaccharides

is detected in the precipitation test

Which test samples are used for the virological testing (viral culture) of influenza?

+nasopharyngeal swabs sputum

rectal swabs ear swabs

Which assay is used for the indication of the influenza virus?

+hemagglutination assay complement fixation test passive hemagglutination assay

hemagglutination inhibition assay

What is a specific feature of the influenza virus serodiagnosis?

+two blood serum samples taken on the 5-th and 15-th days of the disease are examined serodiagnosis is a rapid test

both blood serum samples are stored at room temperature

paired blood serum samples taken on the 5-th and 30-th days of the diseases are examined

The medications to treat influenza are:

+immunoglobulins antibiotics vaccines bacteriophages

The preparation used for specific pre-exposure (scheduled) prophylaxis of influenza is:

+a subvirion vaccine a divergent vaccine interferon

a toxoid

The antigens of the influenza virus are all the ones mentioned below except:

+hyaluronidase hemagglutinin a core antigen neuraminidase

Which assay is used for the identification of the influenza virus?

+hemagglutination inhibition assay radioimmunoassay

precipitation test agglutination assay

Which one is the characteristic of rhinoviruses?

+spherical shape bullet-like shape a viral envelope hemagglutinin

The taxonomic status of the mumps virus is:

+family Paramyxoviridae, genus Rubulavirus family Paramyxoviridae, genus Coronavirus family Orthomyxoviridae, genus Pneumovirus family Reoviridae, genus Rhinovirus

The mumps virus:

+has helical symmetry

does not have a viral envelope contains hemagglutinin

is DNA-containing

Rapid diagnostic testing for mumps includes:

+detection of the virus in sputum by the immunofluorescence assay

detection of the virus in nasopharyngeal swabs samples cultured in cell cultures detection of the virus in sputum by the hemagglutination inhibition assay detection of the virus in a blood sample cultured in white mice

What is used for the specific prevention (prophylaxis) of mumps?

+live culture vaccine molecular vaccine toxoid

prophylaxis is not administered

The taxonomic status of the parainfluenza virus is:

+family Paramyxoviridae, genus Rubulavirus family Paramyxoviridae, genus Coronavirus family Orthomyxoviridae, genus Pneumovirus family Reoviridae, genus Rhinovirus

What is used for the specific prophylaxis (prevention) of parainfluenza?

+prophylaxis is not administered toxoid

immunoglobulin a split vaccine

The viruses of the genus Mastadenovirus:

+are spherical are bullet-shaped

have a viral envelope have hemagglutinin

The biological characteristic of adenoviruses is:

+they are simple they contain RNA they are complex

they have a viral matrix protein

Which air-droplet transmitted infection is followed by a durable life-long immunity?

+rubella influenza parainfluenza

rhinovirus infection

The taxonomic status of the measles virus is:

+family Paramyxoviridae, genus Morbillivirus family Paramyxoviridae, genus Coronavirus family Orthomyxoviridae, genus Pneumovirus family Reoviridae, genus Rhinovirus

The biological properties of the measles virus are:

+complex, helical symmetry

simple, helical symmetry simple, icosahedral symmetry complex, icosahedral symmetry

Measles virus is cultured:

+in cultured cells with the formation of syncytia in cultured cells without any cytopathic effect

in laboratory mice with characteristic clinical manifestations in special growth media

Which rapid diagnostic test is used to detect measles virus?

+agglutination inhibition assay precipitation test

agglutination assay hemagglutination assay

Which medical preparation is used for the pre-exposure scheduled prophylaxis (prevention) of measles?

+live vaccine killed vaccine toxoid immunoglobulin heterologous serum

The taxonomic status of the rubella virus is:

+family Togaviridae, genus Rubivirus family Paramyxoviridae, genus Rubivirus family Rhabdoviridae, genus Morbillivirus family Picornaviridae, genus Paramyxovirus

The virological diagnostic method (virus culture/isolation) of rubella involves:

+isolating the virus from a nasopharyngeal swab in cultured cells isolating the virus from bile in a chicken embryo

indication in the immunofluorescence assay indication in the agglutination assay

What is used for the scheduled pre-exposure prophylaxis of rubella?

+attenuated vaccine whole-cell vaccine specific immunoglobulin

genetically engineered vaccine

The structure of herpesviruses is:

+linear double-stranded DNA, a spherical virion with a viral envelope double-stranded RNA, a spherical virion with a viral envelope

single-stranded DNA, a spherical virion without a viral envelope single-stranded RNA, a spherical virion without a viral envelope

What is a characteristic feature of Herpesviridae family viruses?

+they replicate in the nucleus they replicate in the cytoplasm they exit a cell by budding they have a simple structure

The viruses of Herpesviridae family are cultured:

+in cultured cells with the formation of distinctive giant cells in cultured cells without any cytopathic effect

they do not reproduce in chicken embryos in special growth media

Which rapid test is used to diagnose herpesvirus infections?

+polymerase chain reaction hemagglutination inhibition assay indirect hemagglutination assay

radioimmunoassay

Which method is used to diagnose a cytomegalovirus infection?

+saliva cytoscopy

the isolation of viruses in cell cultures

the detection of antibodies by the precipitation test

the detection of antigens by the polymerase chain reaction

Beta herpesviruses include:

+cytomegalovirus Herpes simplex virus 1 Herpes simplex virus 2 Epstein-Barr virus Varicella zoster virus

Which rapid test is used to diagnose measles?

+ELISA

hemagglutination inhibition assay сomplement fixation test precipitation test

Which assay is used to diagnose a herpesvirus infection?

+immunofluorescence assay precipitation test agglutination assay

radial hemolysis assay

Gamma herpesviruses include:

+Epstein-Barr virus Herpes simplex virus 2 cytomegalovirus Varicella zoster virus Herpes simplex virus 1

Which preparation is used for the scheduled pre-exposure prophylaxis of measles?

+live attenuated vaccine inactivated vaccine toxoid

heterologous serum

The mumps virus is:

+complex, RNA-containing simple, RNA-containing simple, DNA-containing complex, DNA-containing

All these biological materials are used to diagnose influenza except:

+urine blood serum sputum

nasopharyngeal swabs

All these are antigens of the measles virus except:

+neuraminidase hemagglutinin nucleocapsid protein matrix protein

The viruses of Paramyxoviridae family affect:

+the respiratory system the gastrointestinal tract the cardiovascular system the urogenital system

the nervous system

All these are the diseases caused by the viruses of Paramyxoviridae family except:

+West Nile fever parainfluenza

human respiratory syncytial virus infection measles

mumps

All these virus families can cause gastroenteritis except:

+Paramyxoviridae Noroviruses Rotaviruses Astraviridae Coronaviridae

What are the properties of Сoronaviridae family viruses?

+complex with icosahedral symmetry simple with helical symmetry

they have hemagglutinating properties resistant to ether

What are the properties of Astroviridae family viruses?

+simple with icosahedral symmetry complex with helical symmetry

they have hemagglutinating properties resistant to ether

The antigenic variation of influenza A virus is provided by:

+fragmented viral RNA helical symmetry

high reproduction rate

the presence of a viral envelope

The genetic mechanisms of influenza A virus antigenic variation are:

+antigenic shift and antigenic drift alternative splicing

conjugation transformation transduction

All these methods are used for the laboratory diagnosis of influenza except:

+allergy tests viral culture tests serologic tests rapid tests

All these preparation are used for the prophylaxis of influenza except:

+antibiotics vaccines rimantadine immunoglobulin interferon

All these are the properties of adenoviruses except:

+RNA-containing DNA-containing icosahedral symmetry

they have no viral envelope

All these are the indication methods of the measles virus in infected cell cultures except:

+destruction type cytopathic effect

cytopathic effect with the formation of syncytia

formation of intracellular inclusion bodies hemadsorption test

hemagglutination test

The characteristic feature of the rubella virus is:

+teratogenicity antigenic heterogeneity high variability

inability to reproduce independently

A multivalent influenza serum is used for:

+rapid testing

scheduled (pre-exposure) prophylaxis serodiagnosis

treatment

The influenza virus reproduces:

+in the epithelial cells of the respiratory tract

in the cells of the lymph nodes in the respiratory tract in the macrophages of the lymph nodes

in RBCs (erythrocytes)

The cytopathic effect produced by alpha herpesviruses is:

+intranuclear inclusions cytoplasmic inclusions cell destruction formation of a symplast

What is a property of influenza viruses?

+helical symmetry they have one serotype

they have no viral envelope DNA-containing

Measles viruses are cultured:

+in cultured cells with the formation of syncytia in cultured cells without any cytopathic effect in hepatocytes

in chicken embryos

The family Picornaviridae includes:

+ЕСНО viruses hepatitis С viruses reoviruses hepatitis Е viruses

The family Picornaviridae includes:

+Coxsackieviruses rubella viruses Epstein-Barr viruses rotaviruses

The structure of enteroviruses is:

+RNA, a spherical virion without a viral envelope RNA, a spherical virion with a viral envelope

linear DNA, a spherical virion with a viral envelope

single-stranded DNA, a spherical virion without a viral envelope

The reproduction of enteroviruses can occur:

+in cell cultures with non-specific cell degeneration in cell cultures with the formation of syncytia

in the body of guinea-pigs with distinctive clinical manifestations in chicken embryos

The viral culture (virological) testing for enterovirus infections includes:

+infecting cell cultures infecting chicken embryos

indication of the virus by the hemagglutination assay identification of the virus by its cytopathic effect

Serodiagnostic testing of enterovirus infections involves:

+testing the blood serum samples taken from a patient twice isolation and indication of viruses

detection of antigens in a patient’s urine identification of isolated viruses

The basic sample material used for the laboratory diagnosis of fecal-orally transmitted viral hepatitis is:

+feces

liver biopsy samples urine

sputum

The basic sample material used for the laboratory diagnosis of fecal-orally transmitted viral hepatitis is:

+blood serum

liver biopsy samples sputum

urine

Which assay is used to detect the antigens of viral hepatitis pathogens in feces?

+ELISA

agglutination assay

indirect hemagglutination assay flocculation test

Which assay is used to detect viral hepatitis infectious agents in feces?

+polymerase chain reaction agglutination assay precipitation test flocculation test

Which assay is used to detect the antigens of viral hepatitis pathogens in feces?

+immune electron microscopy hemagglutination assay indirect hemagglutination assay flocculation test

Hepatitis A viruses belong to the family:

+Picornaviridae Hepadnoviridae Flaviviridar Deltaviridae Caliciviridae

What is a property of hepatitis A virus?

+plus-strand single-stranded RNA double-stranded RNA

bullet-like shape a viral envelope

What is a property of hepatitis A virus?

+it exits a cell by bursting it has three serotypes

it is cultured in chicken embryos

it produces a distinctive cytopathic effect with the formation of syncytia Hepatitis A virus can be detected:

+in feces in sperm

in vaginal discharge in urine

The preparation used for the prevention of viral hepatitis A is:

+a killed (inactivated) vaccine bacteriophages

a live vaccine eubiotics

The preparation used for the prevention of viral hepatitis A is:

+immunoglobulin a bacteriophage

a live vaccine

a divergent vaccine

The taxonomic status of hepatitis E virus is:

+Caliciviridae family, Hepevirus genus Paramyxoviridae family, Coronavirus genus Orthomyxoviridae family, Pneumovirus genus Paramyxoviridae family, Paramyxovirus genus

What is a property of hepatitis E virus?

+RNA-containing a viral envelope bullet-like shape

it is cultured in chicken embryos

The diagnosing procedure of viral hepatitis E includes:

+detection of the virus in blood serum by PCR

detection of the virus in blood serum by the hemagglutination inhibition assay detection of antibodies by the neutralization test

detection of antibodies by the precipitation test

Rotaviruses belong to the family:

+Reoviridae Picornaviridae Rhabdoviridae Caliciviridae

The morphology of rotaviruses is:

+simple, RNA-containing complex, DNA-containing simple, DNA-containing complex, RNA-containing

Which one is a property of Rotaviruses?

+a viral envelope contain transcriptase are cultured in mice

are not resistant in the environment

The diagnosing procedure of a rotavirus infection includes:

+detection of a virus in feces by immune electron microscopy

detection of a virus in blood serum by the hemagglutination inhibition assay detection of antibodies by the precipitation test

detection of antibodies by the agglutination assay

What is a property of Hepatitis E virus?

+no viral envelope DNA-containing bullet-like shape

it is cultured in chicken embryos

Which rapid test is used to diagnose acute viral intestinal infections?

+immune electron microscopy electron microscopy agglutination assay flocculation test

The family Picornaviridae includes all these viruses except:

+Hepatitis Е viruses rhinoviruses Coxsackie viruses poliomyelitis viruses

The viruses of this family can cause intestinal infections:

+Coronaviridae Hepadnoviridae Herpesviridae Paramyxoviridae

The viruses of this family can cause intestinal infections:

+Adenoviridae Hepadnoviridae Herpesviridae Paramyxoviridae

The viruses of this family can cause intestinal infections:

+Picornaviridae Hepadnoviridae Herpesviridae Paramyxoviridae

The taxonomic status of Coxsackie viruse is:

+Picornaviridae family, Enterovirus genus Picornaviridae family, Rhinovirus genus Picornaviridae family, Hepatovirus genus Flaviviridae family, Flavivirus genus Picornaviridae family, Aphtovirus genus

All these samples can be used for the laboratory diagnosis of poliomyelitis **except**:

+eye conjunctiva discharge cerebrospinal fluid

feces

nasopharyngeal discharge blood serum

Which methods are used during the laboratory diagnosing procedure of poliomyelitis?

+viral culture (virological), serologic viroscopy, viral culture (virological) viral culture (virological), allergy testing serologic, allergy testing

Viral hepatitises with the fecal-oral transmission route are:

+hepatitis A, hepatitis Е hepatitis В, hepatitis С hepatitis С, hepatitis G hepatitis В, hepatitis D hepatitis Е, hepatitis В

The viruses of these families can cause viral gastroenteritis:

+Coronaviridae Paramyxoviridae Arboviridae

Rhinoviridae

Enterovirus genus includes:

+rhinoviruses rotaviruses hepatitis В virus measles virus

All these are picornaviruses passed with feces except:

+rhinoviruses Coxsackie viruses polioviruses ЕСНО viruses Hepatitis A virus

At present there is specific prophylaxis only against enterovirus infections caused by:

+hepatitis viruses Coxsackie viruses rhinoviruses ECHO viruses

Hepatitis viruses with the parenteral transmission route are cultured in:

+apes newborn mice

chicken embryos Hanks medium (HBSS)

All these are the factors of transmission of parenteral viral hepatitises except:

+air

medical equipment contaminated with patients’ blood tattoo supplies

dental instruments

Which sample material is used for the diagnosing procedure of blood-borne viral hepatitis?

+blood serum saliva

feces urine

The taxonomic status of Hepatitis B is:

+Hepadnaviridae family, Orthohaepadnanavirus genus Hepadnaviridae family, Coronavirus genus Orthomyxoviridae family, Pneumovirus genus Paramyxoviridae family, Paramyxovirus genus Reoviridae family, Rhinovirus genus

The structure of Hepatitis B virus is:

+circular DNA fragmented RNA no viral envelope helical symmetry

The property of Hepatitis B virus is:

+spherical shape bullet-like shape resistance to ether

it is cultured in white mice

The characteristic feature of НBeAg is:

+it is located in the core of a virion it is located on the surface of a virion it is a polypeptide similar to HBsAg it is a lipopolysaccharide

The antigen of Hepatitis B virus located in the viral envelope is:

+НВs antigen НВс antigen НВe antigen НВх antigen

The characteristic feature of HBc antigen is:

+it is not detected in a free state in the body fluids it is a lipopolysaccharide

it is located in a viral envelope of a virion it indicates the reproduction of a virus

The characteristic feature of НВs antigen is:

+it causes antigenemia (it is the antigen which is present in blood) it is located in the core of a virion

it cannot be found in a free state

it indicates that a patient is not contagious

The reproduction of Hepatitis B virus occurs in:

+hepatocytes

the epithelium of the intestine RBCs (erythrocytes) lymphocytes

The sample material used for the diagnosis of hepatitis B is:

+blood feces urine

cerebrospinal fluid

Which method is used to diagnose hepatitis B?

+detection of the antibodies against the antigens of the virus in blood serum isolation of the pathogen in cultured cells

infecting susceptible laboratory animals skin allergy tests

Which method is used to diagnose hepatitis B?

+detection of the viral antigens in the sample material isolation of the pathogen in cultured cells

infecting susceptible laboratory animals skin allergy tests

Which assay is used to detect НВs antigen?

+ELISA

hemagglutination inhibition assay agglutination assay

neutralization test

The vaccine against hepatitis B is:

+a genetically engineered yeast-based vaccine a live cell-culture based vaccine

an inactivated cell-culture based vaccine a split virus vaccine

a subunit vaccine

The property of Hepatitis C virus is:

+it belongs to the family Flaviviridae it has a simple structure

it is DNA-containing

it is not sensitive to ether

The property of Hepatitis C virus is:

+it is RNA-containing

it belongs to the family Adenoviridae it has a simple structure

it is not sensitive to ether

Which method is used during the diagnosing procedure of hepatitis C?

+detection of the circulating antibodies against the viral antigens in blood serum isolation of the pathogen in cultured cells

infecting susceptible laboratory animals skin allergy tests

Which method is used during the diagnosing procedure of hepatitis C?

+detection of the viral antigens in the sample material isolation of the pathogen in cultured cells

infecting susceptible laboratory animals skin allergy tests

What is the basic assay used to diagnose viral hepatitis C?

+ELISA

hemagglutination inhibition assay hemagglutination assay neutralization test

The property of Hepatitis D virus is:

+RNA-containing DNA-containing

it is cultured in cultured cells

it is transmitted from animals to humans

The property of Hepatitis D virus is:

+it is defective

it is DNA-containing

it is cultured in cultured cells

it is transmitted from animals to humans

The distinctive feature of НBeAg is:

+it indicates the reproduction of the virus it is located on the surface of the virion

it is a polypeptide similar to HBsAg it indicates the convalescence stage

Which virus is DNA-containing?:

+Hepatitis B virus Hepatitis A virus Hepatitis C virus Hepatitis D virus Hepatitis E virus

The characteristic feature of Hepatitis B virus is:

+thermoresistance

the need for the helper virus deficient DNA

extrahepatic replication

The serological marker of Hepatitis B virus active replication is:

+НВе-Ag

НВs-Ag НВс-Ag

The human body responds to hepatitis B vaccine by producing:

+anti-HBs antibodies anti-HAV IgG

anti-HBcore (total antibodies)

Vaccines against hepatitis B also give protection against:

+hepatitis D hepatitis E hepatitis C hepatitis A

Specific prophylaxis against hepatitis C involves:

+it does not exist administering a live vaccine

administering a recombinant vaccine administering eubiotics

All these are the properties of Hepatitis D virus **except**:

+reproduction in the presence of НСV it is a defective virus

it cannot cause a monoinfection reproduction in the presence of НВV

НВs-Ag is present in the viral envelope of НDV

The serological markers of Hepatitis D virus are all the ones mentioned below **except**:

+НВs-Ag

anti-НDV IgM anti-НDV IgG viral RNA

anti-НDV total antibodies

Hepatitis D develops:

+if a person who has acute hepatitis B is infected with HDV (as a superinfection) as a monoinfection caused by НDV

simultaneously with a НGV-caused infection (as a coinfection) simultaneously with a НСV-caused infection (as a coinfection)

Specific prophylaxis against hepatitis D is:

+vaccination against hepatitis B observing personal and social hygiene vaccination against hepatitis A interferon

Hepatitis G virus:

+is RNA-containing

contains reverse transcriptase has a simple structure

is bullet-shaped

Hepatitis C is transmitted through all these routes except:

+eating contaminated food products intravenous infusions extracorporeal dialysis

blood transfusion

The source of a Hepatitis B virus-caused infection is:

+an asymptomatic virus carrier sick animals

food products

the water in swimming pools

Hepatitis B virus is cultured in:

+apes newborn mice

chicken embryos cultured cells

The properties of Hepatitis B virus are:

+DNA-containing, complex DNA-containing, simple RNA-containing, complex RNA-containing, simple

Hepatitis B virus is transmitted by all these routes except:

+airborne-droplet sexual transplacental

during medical and cosmetic procedures through blood transfusion

Hemorrhagic fever with renal syndrome is caused by:

+viruses fungi bacteria prions

The taxonomic status of the infectious agent causing hemorrhagic fever with renal syndrome is:

+Bunyaviridae family; Hantavirus genus Togaviridae family; Hepacivirus genus Flaviviridae family; Flavivirus genus Flaviviridae family; Hepadnavirus genus Paramyxoviridae family; Flavivirus genus

The morphology of hantaviruses is:

+complex, RNA-containing complex, DNA-containing simple, DNA-containing simple, RNA-containing

The rapid testing of hemorrhagic fever with renal syndrome involves:

+detection of the virus in urine by the immunofluorescence assay detection of the virus from nasopharyngeal swabs in cultured cells detection of the virus in sputum by the hemagglutination inhibition assay detection of the virus in blood in infected white mice

Which assay is used for the rapid testing of hemorrhagic fever with renal syndrome?

+ELISA

hemagglutination inhibition assay hemagglutination assay precipitation test

Which assay is used during the serological testing for hemorrhagic fever with renal syndrome?

+indirect hemagglutination assay hemagglutination inhibition assay hemagglutination assay agglutination assay

The taxonomiс status of Poliovirus is:

+Picornaviridae family, Enterovirus genus Picornaviridae family, Rhinovirus genus Rhabdoviridae family, Enterovirus genus

The structure of the poliovirus genome is:

+plus-strand single-stranded RNA fragmented DNA

double-stranded DNA double-stranded RNA

minus-strand fragmented RNA

The characteristic feature of poliovirus is:

+icosahedral symmetry

helical symmetry

its replication occurs in the nucleus it exits the cell by budding

The characteristic feature of poliovirus is:

+its replication occurs in the cytoplasm helical symmetry

its replication occurs in the nucleus it exits the cell by budding

The characteristic feature of poliovirus is:

+it exits the cell by bursting it (cell lysis) helical symmetry

its replication occurs in the nucleus it exits the cell by budding

The property of poliovirus is:

+it attacks motor neurons it enters the bloodstream it enters urine

it affects the liver

The sample material for the serological testing of poliomyelitis is:

+blood feces urine

cerebrospinal fluid

Polioviruses are cultured in:

+cell cultures chicken embryos laboratory rabbits

the intestine of the body lice

The indication technique of polioviruses in a cell culture is:

+formation of viral plaques hemadsorption assay neutralization test hemagglutination assay

The indication technique of polioviruses in a cell culture is:

+cytopathic effect neutralization test PCR

complement fixation test hemagglutination assay

Which assay is used to differentiate between the serotypes of poliovirus?

+neutralization test hemagglutination inhibition assay precipitation test

complement fixation test

The vaccine used for the specific prophylaxis of poliomyelitis is:

+inactivated cell-culture based chemical

live embryo cell

live genetically engineered

The vaccine used for the specific prophylaxis of poliomyelitis is:

+live cell-culture based chemical

inactivated embryo cell

live embryo cell

All these are characteristic features of polioviruses except:

+high antigenic variability icosahedral symmetry replication in the cytoplasm cytolysis of target cells

According to their antigenic properties polioviruses are subdivided into:

+3 serotypes

4 serotypes

7 serotypes

6 serotypes

Sabin’s oral polio vaccine contains:

+attenuated strains of poliviruses poliviruses inactivated by heating polioviruses inactivated with formalin antigens against polioviruses

Sabin’s oral polio vaccine is used for:

+scheduled (pre-exposure) specific prophylaxis urgent (post-exposure) specific prophylaxis early pre-exposure non-specific prophylaxis treatment

All these are characteristic features of HIV **except**:

+the need for a helper virus affinity to CD+ T helper cells

the presence of reverse transcriptase

a conical or cylindrical core / nucleocapsid high antigenic variability

All these are the transmission routes of HIV infection **except**:

+sharing tableware (dishes) sexual

during the tattooing process intravenous drug administration

The basic assay within the laboratory diagnosing procedure of HIV infection is:

+detection of antibodies virus isolation in vitro detection of viral DNA

determining the hypersensitivity of a delayed type

Which assay is used during the serological screening testing for HIV infection?

+ELISA

immune electron microscopy hemagglutination assay neutralization test hemagglutination inhibition assay

The screening testing for HIV infection includes:

+detection of antibodies detection of antigens detection of viral RNA

diagnosis of opportunistic infections immune status evaluation

During the diagnosing procedure of HIV infection the western blot (protein immunoblot) assay involves:

+detection of antibodies against surface and core antigens detection of surface and core antigens

detection of viral RNA

detection of reverse transcriptase detection of provirus

The specific prophylaxis of HIV infection is:

+not invented a live vaccine

a recombinant vaccine donor immunoglobulins an anti-idiotypic vaccine

The prophylaxis of HIV infection includes all these measures **except**:

+vaccination of people from risk groups diagnosing virus carriers and infected people fighting against drug addiction

quality and safety control of blood products preventive educational and medical measures

The taxonomic status of HIV is:

+Retroviridae family, Lеntivirinae subfamily Нерadnaviridae family, Оncovirinae subfamily Orthomyxoviridae family, Pneumovirus genus Paramyxoviridae family, Paramyxovirus genus Reoviridae family, Rhinovirus genus

The characteristic feature of HIV is:

+it has a viral envelope

low level of antigenic variability

it does not contain reverse transcriptase bullet-like shape

The characteristic feature of HIV is:

+high level of antigenic variability DNA-containing

it contains neuraminidase it has no viral envelope

The specific receptor on the surface of HIV viral envelope is:

+gp 120

gp 41

р 18

р 24

HIV is cultured:

+in T-lymphocytes cell cultures in chicken embryos

in newborn mice

in HeLa cell cultures

The method used to diagnose HIV infection is:

+detection of antibodies against viral antigens in blood serum isolation of the pathogen in cell cultures

infecting susceptible laboratory animals skin allergy tests

The method used to diagnose HIV infection is:

+detection of viral antigens in test samples isolation of the pathogen in cell cultures infecting susceptible laboratory animals skin allergy tests

Which assay is used to detect antibodies against HIV?

+western blot (protein immunoblot) opsonocytophagic test

immunofluorescence neutralization test

The characteristic property of HIV is:

+it contains reverse transcriptase it is DNA-containing

it has no viral envelope

it contains hemagglutinin

HIV attacks:

+the immune system organs the nervous system

the organs of the digestive and respiratory systems the cardiovascular system

The tick-borne encephalitis virus belongs to:

+Flaviviridae family, Flavivirus genus Togaviridae family, Hepacivirus genus Flaviviridae family, Hepadnavirus genus Orthomyxoviridae family, Pneumovirus genus

The biological properties of the tick-borne encephalitis virus are:

+complex, a spherical shape simple, a bullet-like shape

it has no surface antigens complex, DNA-containing

The genome of the tick-borne encephalitis virus is:

+single-stranded RNA single-stranded DNA double-stranded DNA minus-strand RNA

The tick-borne encephalitis virus is cultured in:

+cell cultures with a distinctive cytopathic effect cell cultures with the formation of syncytia

in laboratory ticks with distinctive clinical manifestations chicken embryos

The viral culturing (virological method) used during the diagnosing procedure of tick-borne encephalitis involves:

+isolation of the virus from blood while culturing it in inoculated white mice isolation of the virus from bile while culturing it in chicken embryos isolation of the virus in guinea pigs

isolation of the virus from nasopharyngeal lavage samples while culturing it in inoculated white mice

The characteristic feature of the tick-borne encephalitis virus is:

+it is neurotropic it is hepatotropic

airborne-droplet transmission route

the source of the infection is a sick human

The sample material used for the diagnosing procedure of tick-borne encephalitis is:

+blood urine

cerebrospinal fluid feces

Which assay is used for the identification of the tick-borne encephalitis virus?

+immunofluorescence precipitation test

indirect hemagglutination agglutination

Which assay is not used during the serological testing for tick-borne encephalitis?

+agglutination immunofluorescence complement fixation test ELISA

hemagglutination inhibition

Which assays are used for the rapid testing of tick-borne encephalitis?

+PCR and ELISA

hemagglutination and indirect hemagglutination hemadsorption and radioimmunoassay

western blot (protein immunoblot) and agglutination

Which assays are used for the serological diagnosis of tick-borne encephalitis?

+ELISA and complement fixation test agglutination and indirect hemagglutination

western blot (protein immunoblot) and neutralization test hemagglutination and precipitation test

hemadsorption and radioimmunoassay

Which assay is used to detect the antigen of the tick-borne encephalitis virus in ticks taken from the body of patients?

+ELISA

indirect hemagglutination radioimmunoassay agglutination

The vector of the tick-borne encephalitis virus is:

+ixodid ticks fleas mosquitoes sand-flies

Which preparation is used for the post-exposure prophylaxis of tick-borne encephalitis in people attacked by ticks?

+immunoglobulin against tick-borne encephalitis a live vaccine against tick-borne encephalitis

an inactivated vaccine against tick-borne encephalitis interferon

The basic transmission route of the tick-borne encephalitis virus is:

+blood-borne airborne-droplet sexual

indirect contact

All these are the characteristic features of the Far-Eastern tick-borne encephalitis virus **except**:

+it is transmitted from human to human transovarial transmission in ticks

it is an arbovirus

it is resistant in acidic environment

The laboratory diagnosis of Far-Eastern tick-borne encephalitis includes all these procedures **except**:

+evaluation of the immune status

determination of the fourfold titer increase of Ig specific antibodies detection of the viral RNA in blood serum and cerebrospinal fluid detection of the viral antigen in ticks

The laboratory diagnosis of Far-Eastern tick-borne encephalitis includes all these procedures **except**:

+estimation of allergic reactions to ticks detection of IgM, IgG in the course of the disease isolation of the virus

determination of the specific antibody titer increase detection of the viral RNA

The sources of the Far-Eastern tick-borne encephalitis infection are:

+rodents, ticks

milk of goats and cows sick people convalescent people virus carriers

All these are the properties of the tick-borne encephalitis virus **except**:

+it is hepatotropic it is viscerotropic it is neurotropic

capacity to cause viremia

The active specific prevention of Far-Eastern tick-borne encephalitis implies:

+administration of inactivated cell-culture based vaccines administration of immunoglobulin

wearing protective clothes and checking the body for ticks while being outdoors using insect repellents

administration of interferon inducers (iodoantipyrine, Amixin, etc)

All these medical preparations are used for the treatment of Far-Eastern tick-borne encephalitis **except**:

+antibiotics immunoglobulin interferon iodoantipyrine

Which measures should be taken to prevent the tick-borne encephalitis infection?

+the extraction of an ixodid tick and administration of the serum the extraction of an ixodid tick and administration of antibiotics the extraction of an ixodid tick

the treatment of a bite wound with iodine

The diagnosing procedure of tick-borne encephalitis includes:

+detection of the viral antigens in blood serum by ELISA detection of the antiviral antibodies by the neutralization test detection of the viral antigens in cerebrospinal fluid by PCR detection of the antiviral antibodies by the precipitation test

Which methods are used during the laboratory diagnosing procedure of tick-borne encephalitis?

+virological (viral culture), serological

viroscopy (virus microscopy), virological (viral culture) virological (viral culture), skin allergy testing serological, skin allergy testing

Arboviruses can belong to all these families **except**:

+Hepadnaviridae Flaviviridae Togaviridae Bunyaviridae

The common features of arboviruses are:

+complex, RNA-containing complex, DNA-containing simple, DNA-containing simple, RNA-containing

Which one is a characteristic feature of arboviruses?

+they form an ecological group of viruses they form a unified taxonomic group

the natural reservoir of the virus is a virus carrier

the disease incidence rate does not depend on the season

The characteristic feature of arboviruses is:

+the natural reservoir of these viruses is arthropods the natural reservoir of these viruses is a virus carrier

the biological model used for the diagnosis is a guinea pig they form a unified taxonomic group

Which viruses do not cause arboviral infections?

+retroviruses reoviruses rhabdoviruses arenoviruses

The characteristic feature of arboviruses is:

+they are sensitive to ether

they cause a specific cytopathic effect in all cell cultures they are sensitive to freezing

they are resistant to UV-rays

All these are the symptoms of the diseases caused by arboviruses **except**:

+gastroenteritis hemorrhagic fever encephalitis

periodic fever syndrome

The sample material used in the laboratory diagnosing procedure of arboviral infections is:

+blood feces urine sputum

The basic method for the diagnosis of arboviral infections is:

+serological testing viroscopy (virus microscopy) virological (viral culture) allergy skin testing

All these are the properties of arboviruses **except**:

+they form a unified taxonomic group the route of transmission is vector-borne they form a unified ecological group they cause the infection in newborn mice

The characteristic feature of arboviruses is:

+they are transmitted by different vectors they are DNA-containing

they are simple

they all are cultured in chicken embryos

All these are characteristic features of arboviruses except:

+they are only human parasites they form an ecological group

they are transmitted through the bites of arthropods they do not die during freezing

What is the common feature of the viruses which cause arboviral infections?

+they cause natural focal diseases DNA genome

they are transmitted through water their natural reservoir is only birds

All these medicinal drugs are used to treat arboviral infections except:

+antibiotics immunoglobulin

interferon iodoantipyrine

Arboviral infections include:

+hemorrhagic fevers Poliomyelitis

sclerosing panencephalitis rabies

What can cause an arboviral infection in humans?

+the bite of an arthropod the bite of an animal

an animal’s saliva which contaminates the skin taking care of sick animals

Who can be the source of arboviral infections?

+rodents, ticks sick people

convalescent people virus carriers

Which assay is performed if an arboviral infection is suspected?

+detection of IgM by ELISA

detection of the viral antigens by the precipitation test detection of IgG by the Wassermann test

detection of the total antibodies by the radial hemolysis assay

What is typically used for the prevention of arboviral infections?

+non-specific prophylaxis vaccines

sera bacteriophages

The yellow fever virus belongs to:

+Flaviviridae family, Flavivirus genus Togaviridae family, Hepacivirus genus Flaviviridae family, Hepadnavirus genus Orthomyxoviridae family, Pneumovirus genus

The biological properties of the yellow fever virus are:

+complex, a spherical shape simple, a bullet-like shape no surface antigens complex, DNA-containing

The genome of the yellow fever virus contains:

+single-stranded RNA single-stranded DNA double-stranded DNA minus-strand RNA

The biological properties of the yellow fever virus are:

+icosahedral symmetry helical symmetry

no reverse transcriptase no viral envelope

The yellow fever virus is cultured:

+in cell cultures in bats

in ticks

in chicken embryos

The virological diagnostic method (viral culture) of yellow fever includes:

+isolation of the virus from blood while culturing it in inoculated white mice isolation of the virus from bile while culturing it in chicken embryos isolation of the virus in guinea pigs

isolation of the virus from nasopharyngeal lavage samples while culturing it in inoculated white mice

All these are the characteristic features of the yellow fever virus except:

+airborne-droplet transmission route it is hepatotropic

the vectors are mosquitoes

the source of the infection is a sick person

The sample material used for the diagnosing of yellow fever is:

+blood urine

cerebrospinal fluid feces

Which assay is used for the identification of the yellow fever virus?

+neutralization test precipitation test

indirect hemagglutination assay hemagglutination assay

Which assay is not used in the serological testing for yellow fever?

+agglutination assay neutralization test complement fixation test ELISA

hemagglutination inhibition assay

Which assay is used for the rapid testing of yellow fever?

+ELISA

hemagglutination assay radioimmunoassay

western blot (protein immunoblot)

Which assays are used during the serological testing for yellow fever?

+ELISA and complement fixation test agglutination and indirect hemagglutination

western blot (protein immunoblot) and neutralization test hemagglutination assay and precipitation test hemadsorption and radioimmunoassay

The vector of the yellow fever virus is:

+mosquitoes ixodid ticks fleas sandflies

What is used for the prophylaxis of yellow fever?

+a live vaccine immunoglobulin

an inactivated vaccine interferon

The basic transmission route of the yellow fever virus is:

+vector-borne airborne-droplet sexual

indirect contact

All these are the properties of the yellow fever virus **except**:

+the source of the infection is only a rodent it is transmitted from human to human

it reproduces in mosquitoes it is an arbovirus

The laboratory diagnosis of yellow fever includes all these procedures **except**:

+determination of allergic reactions to mosquito bites detection of IgM, IgG during the course of the disease isolation of the virus

determination of the increase in the specific antibody titer

The sources of the yellow fever infection are:

+monkeys, sick people rodents

cow milk bats

The basic transmission route of the yellow fever virus is:

+mosquito bites tick bites

drinking infected milk drinking unboiled water

Which preparation is used for the active specific prophylaxis of yellow fever?

+a live vaccine

an inactivated vaccine immunoglobulin insect repellents

The rapid testing for yellow fever includes:

+detection of the viral antigens in blood serum by ELISA detection of the antiviral antibodies by the neutralization test detection of the viral antigens in cerebrospinal fluid by PCR detection of the antiviral antibodies by the precipitation test

Which methods are used during the laboratory diagnosing procedure of yellow fever?

+virological (viral culture), serological

viroscopy (virus microscopy), virological (viral culture) virological (viral culture), skin allergy testing serological, skin allergy testing

The taxonomic status of the rabies virus is:

+Rhabdoviridae family; Lyssavirus genus Togaviridae family; Rubivirus genus Parvoviridae family; Lentivirus genus Flaviviridae family; Hepadnavirus genus

The morphological properties of the rabies virus are:

+bullet-like shape; a viral envelope; helical symmetry spherical shape; no viral envelope; icosahedral symmetry bullet-like shape; no viral envelope; a mixed type of symmetry spherical shape; a viral envelope; helical symmetry

What are the characteristic feature of the rabies virus?

+RNA-containing; replication occurs in the cytoplasm DNA-containing; replication occurs in the cytoplasm RNA-containing; replication occurs in the nucleus DNA-containing; replication occurs in the nucleus

The property of the rabies virus is:

+it produces the cytopathic effect causing the formation of intracytoplasmic inclusion bodies it has 4 serotypes

it has 1 serotype

it produces the cytopathic effect causing the formation of intranuclear inclusion bodies

The characteristic feature of the rabies virus is:

+the transmission route is direct contact

only domestic animals can be the source of infection fecal-oral transmission route

the vectors are mosquitoes

The biological property of the rabies virus is:

+it is neurotropic

it is cultured in chicken embryos it causes viremia

it is transmitted through the bites of arthropods

The sample material used for the diagnosis of rabies is:

+submandibular salivary glands blood

cerebrospinal fluid sputum

Which methods are used for the postmortem laboratory diagnosis of rabies?

+immunofluorescence assay and light microscopy serological testing (detection of antibodies) and genetic

virological (viral culture) and serological testing (detecting of antibodies) immune electron microscopy

Which methods are used for the antemortem (while a patient is alive) laboratory diagnosis of rabies?

+immunofluorescence assay and virological (viral culture)

serological testing (detection of antibodies) and hemagglutination assay virological (viral culture) and hemagglutination inhibition assay immune electron microscopy

Which preparation is used for the prevention of rabies in humans?

+an inactivated vaccine a live attenuated vaccine a subunit vaccine specific bacteriophages

Babes-Negri bodies can be detected in the cells affected by:

+rabies virus measles virus Hepatitis B virus

tick-borne encephalitis virus

The rabies virus can be transmitted through:

+an animal bite a mosquito bite a tick bite

drinking of infected milk

Which specific tissues are targeted by the rabies virus?

+nervous tissue and submandibular salivary glands tissue skin epithelium

intestinal epithelium RBCs (erythrocytes)

The rabies cell-culture based vaccine contains:

+inactivated rabies virus inactivated poliovirus

attenuated strains of the rabies virus antibodies against the rabies virus

The characteristic feature of the rabies virus is:

+bullet-like shape DNA-containing it causes viremia

it is related to mosquitoes

it affects the gastrointestinal tract

The rhabdovirus affects:

+the cells of the brain

the lymphatic system of the small intestine the immune system

the lower part of the respiratory tract

The natural reservoir of rhabdoviruses is:

+dogs, wolves, foxes cattle

humans birds

The rhabdovirus enters the human body:

+with the saliva of infected animals with the feces of infected animals with the blood of infected animals through mosquito bites

The characteristic feature of the rabies virus is:

+it contains RNA

it attacks the immune system it contains DNA

it belongs to picornaviruses

The fixed rabies virus is used:

+to prepare vaccines

for serological testing (detection of antigens) to treat rabies

for skin allergy testing

The vaccination against rabies is performed:

+0 day – 3-rd day – 7-th day – 14-th day – 28-th day – 90-th day post-exposure once, pre-exposure

once, in case of an unfavorable epidemiological situation

0 day – 3-rd day – 7-th day – 14-th day – 28-th day – 90-th day pre-exposure

Which preparation is administered to a person who has been bitten on the head or upper torso by a rabid animal?

+specific gamma globulin and an inactivated cell-culture based vaccine specific gamma globulin

specific gamma globulin and a live attenuated vaccine only a specific rabies serum

only an inactivated cell-culture based vaccine

The formation of these intracellular inclusion bodies is induced by the rabies virus:

+Babes-Negri bodies Guarnieri bodies Paschen bodies Babes-Ernst bodies