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

You see the chemical composition of 2 types of bacterial cell walls marked by the figures 1 and 2. Choose the proper characteristics typical of them:

+thick – 1, thin – 2

thin – 1, thick – 2

thin – 1, L-form – 2

thick – 1, L-form – 2

with a capsule – 1, without a capsule – 2

You see a bacterial cell. Which group of bacteria does it belong to?

+peritrichous

lophotrichous

amphitrichous

monotrichous

atrichous

You see a bacterial cell. Which group of bacteria does it belong to?

+ lophotrichous

peritrichous

amphitrichous

monotrichous

atrichous

You see a bacterial cell. Which group of bacteria does it belong to?

+ monotrichous

lophotrichous

amphitrichous

peritrichous

atrichous

You see a bacterial cell. Which group of bacteria does it belong to?

+ amphitrichous

lophotrichous

peritrichous

monotrichous

atrichous

The picture shows the location of spores in bacterial cells. Which family can these bacteria belong to?

+Bacillaceae

Micrococcaceae

Vibrionaceae

Enterobacteriaceae

Clostridiaceae

The picture shows the location of spores in bacterial cells. Which family can these bacteria belong to?

+Clostridiaceae

Micrococcaceae

Vibrionaceae

Bacillaceae

Enterobacteriaceae

Which type of spore location is shown in the picture?

+central

subterminal

terminal

chaotic

chain-like

There is an electron micrograph of an ultrathin slice of Clostridium tetani. Which structure is marked by the red arrow?

+spore

capsule

cyst

mesosome

head

The picture shows a bacterioscopic smear of S. aureus pure culture. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

The picture shows a bacterioscopic smear of pertussis pathogen pure culture. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

The picture shows a bacterioscopic smear of mycoplasmosis pathogen pure culture. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

The picture shows a bacterioscopic smear of С. tetani pure culture. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

The picture shows a bacterioscopic sample of botulism pathogen. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

The picture shows a bacterioscopic smear of С. perfringens pure culture. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

The picture shows a bacterioscopic smear of Pseudomonas aeruginosa pure culture. Which type of microscopy may have been used?

+electron

phase-contrast

oil immersion

fluorescence

dark field

This is a microscopic picture of a bacterium. Which type of microscopy may have been used?

+ phase-contrast

electron

oil immersion

fluorescence

The bacterioscopic picture shows bacterial L-forms. Which type of microscopy may have been used?

+ phase-contrast

electron

oil immersion

fluorescence

This is a bacterioscopic picture of treponemas. Which type of microscopy may have been used?

+ dark field

electron

oil immersion

fluorescence

This is a bacterioscopic picture showing a sample taken from a patient. Which type of microscopy may have been used?

+ fluorescence

electron

oil immersion

phase-contrast

dark field

This is a bacterioscopic picture showing a sample taken from a patient. Which type of microscopy may have been used?

+ fluorescence

electron

oil immersion

phase-contrast

dark field

This is a bacterioscopic picture showing a sputum smear. Which type of microscopy may have been used?

+ fluorescence

electron

oil immersion

phase-contrast

dark field

This is a bacterioscopic picture showing C.trachomatis (green inclusions) in affected cells. Which type of microscopy may have been used?

+ fluorescence

electron

oil immersion

phase-contrast

dark field

The picture shows a bacterioscopic smear of clostridia pure culture. Which type of microscopy may have been used?

+ fluorescence

electron

oil immersion

phase-contrast

dark field

This is a bacterioscopic picture observed during the streptococcal infection. Which type of microscopy may have been used?

+ oil immersion

electron

fluorescence

phase-contrast

dark field

The picture shows a bacterioscopic smear of Escherichia pure culture. Name the

staining method

+Gram stain

Burri-Gins stain

Giemsa stain

Ziehl-Neelsen

Neisser stain

The picture shows a bacterioscopic smear of S. aureus pure culture. Name the

staining method

+Gram stain

Burri-Gins stain

Giemsa stain

Ziehl-Neelsen

Zdrodovsky stain

The picture shows a bacterioscopic smear of streptococcal pure culture. Name the

staining method

+Gram stain

Burri-Gins stain

Giemsa stain

Ziehl-Neelsen

Aujeszky stain

The picture shows the staining method which helps to detect capsules. Which staining method is this?

+ Burri-Gins stain

Gram stain

Giemsa stain

Ziehl-Neelsen

Morozov stain

The picture shows a bacterioscopic smear of klebsiella pure culture. Name the staining method

+ Burri-Gins stain

Gram stain

Giemsa stain

Neisser stain

Morozov stain

This is Burri-Gins bacterial staining method shown. Which structure does it help to

detect?

+capsule

spore

cyst

cell wall

vacuole

The picture shows a bacterioscopic smear of Pseudomonas aeruginosa pure

culture.Which additional structure is detected in these bacteria?

+capsule-like mucus

spore

cyst

cell wall

vacuole

The picture shows a bacterioscopic smear of a spore-forming culture. Name the staining method.

+Aujeszky stain

Burri-Gins stain

Giemsa stain

Ziehl-Neelsen stain

Gram stain

The picture shows a bacterioscopic smear of acid-fast bacteria pure culture. Name the staining method.

+ Ziehl-Neelsen stain

Burri-Gins stain

Zdrodovsky stain

Gram stain

Aujeszky stain

The picture shows a microscopic smear of bacteria with volutin granules. Name the staining method.

+ Neisser stain

Gram stain

Giemsa stain

Aujeszky stain

Morozov stain

The bacterioscopic picture shows a blood smear with borellia. Name the staining method.

+ Giemsa stain

Gram stain

Ziehl-Neelsen stain

Neisser stain

Morozov stain

The bacterioscopic picture shows rickettsia. Name the staining method.

+ Zdrodovsky stain

Burri-Gins stain

Ziehl-Neelsen stain

Gram stain

Aujeszky stain

This is a dry heat oven. Which items must not be sterilized in it?

+ bandages

scalpels

needles

scizzors

laboratory glassware

This is an apparatus for the sterilization of bandages, linens, glassware. What is its name?

+autoclave

Pasteur oven

dry heat oven

thermostat

anaerobic chamber

This is an apparatus for culturing obligate anaerobes . What is its name?

+anaerobic chamber

Pasteur oven

dry heat oven

thermostat

autoclave

This is an anaerobic chamber. Guess what it is used for.

+ culturing obligate anaerobes

culturing obligate aerobes

sterilization

desinfection

air sampling

The picture shows the Fortner method of bacteria culturing. Guess what it is used

for.

+ anaerobes isolation

aerobes isolation

detecting sensitivity to bacteriophages

detecting the presence of lecithinase

detecting toxigenicity of bacteria

The picture shows the techique of bacteria streaking on solid growth media. What is its name?

+sector (quadrant) streak

Drigalski technique (spread plate technique)

Shukevich technique

Koch’s technique (pour plate technique)

lawn streak

The picture shows the technique of bacteria streaking on solid growth media. What is its name?

+ Drigalski technique (spread plate technique)

sector (quadrant) streak

Shukevich technique

Koch’s technique (pour plate technique)

lawn streak

The picture shows the technique of motile bacteria inoculation on slope/ slant agar. What is its name?

+ Shukevich technique

Drigalski technique (spread plate technique)

sector (quadrant) streak

Koch’s technique (pour plate technique)

lawn streak

The picture shows the quantitative method of bacteria detection. What is its name?

+ Koch’s technique (pour plate technique)

Drigalski technique (spread plate technique)

Shukevich technique

Gold (quadrant) streaking technique

Peshkov technique

You see the phases of microbial population growth in liquid growth media. What is the correct order of these phases succession?

+1-lag-phase, 2-log-phase, 3-stationary phase, 4-death phase

1-log-phase, 2-lag-phase, 3-stationary phase, 4-death phase

1-incubation, 2-prodromal 3-illness, 4-convalescense

1-illness, 2-incubation, 3-prodromal, 4-convalescense

1-illness, 2-prodromal, 3-incubation, 4-decline

The picture shows the growth of bacteria in a liquid growth medium. Guess the group of bacteria judging by their growth character.

+aerobes

obligate anaerobes

facultative anaerobes

microaerophiles

aerotolerant

The picture shows a bacterial growth in a liquid growth medium. Which group of bacteria is shown judging by their growth character?

+obligate anaerobes

aerobes

facultative anaerobes

microaerophiles

aerotolerant

The picture shows the growth of bacteria in a liquid growth medium. Guess the group of bacteria judging by their growth character.

+ aerotolerant

aerobes

obligate anaerobes

microaerophiles

The picture shows the growth of bacteria in a liquid growth medium. Guess the group of bacteria judging by their growth character.

+ facultative anaerobes

aerobes

obligate anaerobes

microaerophiles

The picture shows the growth of bacteria in a liquid growth medium. Guess the group of bacteria judging by their growth character.

+ microaerophiles

aerotolerant

obligate anaerobes

facultative anaerobes

The picture shows the method of bacteria culturing. Which group of microorganisms requires such a mehtod of culturing?

+capnophiles

aerotolerant

aerobes

obligate anaerobes

facultative anaerobes

The picture shows the result of a certain stage of mycoplasmosis diagnosis. Guess the research method.

+culturing

bacterioscopy

biological

phase-contrast microscopy

electron microscopy

The picture shows the growth of lactose-negative and lactose-positive colonies. Which growth medium is used?

+Ploskirev medium

Endo agar

meat-peptone agar

egg-yolk salt agar

The picture shows the growth of lactose positive colonies. Which growth medium is used?

+ Endo agar

Ploskirev medium

meat-peptone agar

Pagano-Levin medium

blood agar

The picture shows the growth of lactose negative colonies. Which growth medium is used?

+ Endo agar

Lowenstein-Jensen medium

meat-peptone agar

egg-yolk salt agar

blood agar

The picture shows the growth of lactose negative colonies. Which growth medium is used?

+Levin medium

Ploskirev medium

MacConkey agar

TCBS agar

Meat-peptone agar

This is a liquid enrichment growth medium for salmonella. Guess its name

+selenite broth

TCBS-agar

MacConkey agar

peptone water

thioglycolate broth

This is an enrichment growth medium for vibrio cholerae isolation. Guess its name .

+ pepetone water

selenite broth

Endo agar

meat-peptone agar

thioglycolate broth

This is vibrio cholerae growing on an enrichment growth medium. Which growth medium is this?

+alkaline growth medium

meat-peptone agar

chocolate agar

Ploskirev medium

egg-yolk salt agar

This is vibrio cholerae growth. Which growth medium is this?

+TCBS-agar

casein-charcoal agar

meat-peptone agar

Wilson Blair agar

Lowenstein-Jensen medium

This is diphtheria pathogen growth. Which growth medium is this?

+tellurite blood agar

chocolate agar

casein-charcoal agar

Endo agar

These are Bordetella growing on a solid growth medium. Which growth medium is this?

+Bordet-Gengou agar

tellurite-blood agar

TCBS-agar

casein-charcoal agar

These are Bordetella growing on a solid growth medium. Which growth medium is this?

+ casein-charcoal agar

alkaline agar

chocolate agar

bismuth sulfite agar

This is Endo agar with some pathogens growing. What are the properties of the pathogens marked by the corresponding numbers?

+1-lactose positive, 2-lactose negative

1-lactose negative, 2-lactose positive

1- causing hemolysis, 2- not causing hemolysis

1-not causing hemolysis, 2- causing hemolysis

1-glucose positive, 2- glucose negative

This is a slant/slope agar which is used to determine if Gram-negative bacteria can ferment glucose and lactose and produce hydrogen sulfide. Which growth medium is this?

+Kligler iron agar

MacConkey agar

Kitt-Tarozzi medium

Lowenstein-Jensen medium

thioglycolate broth

This is Escherichia coli growing on a slant/slope agar. Which growth medium is

this?

+Olkenitsky medium

thioglycolate broth

TCBS-agar

Endo agar

Wilson Blair agar

This is Kligler iron agar with Shigella growth. Which carbohydrate has been fermented?

+glucose

lactose

sucrose

arabinose

fructose

This is Kligler iron agar with the growth of the typhoid fever pathogen. Guess what has caused the black colour of the growth medium?

+hydrogen sulfide production

lactose fermentation

glucose fermentation

ferric sulfide production

hemolysis

These are several test-tubes containing Kligler iron agar both with and without growth. Guess the pathogens.

+1- no growth, 2-Salmonella, 3- Escherichia coli, 4-Shigella

1-Escherichia coli, 2-Salmonella, 3-no growth, 4-Shigella

1-no growth, 2- Escherichia coli, 3- Salmonella, 4-Shigella

1-no growth, 2-Salmonella, 3- Shigella, 4- Escherichia coli

This is Salmonella pure culture growth. Which growth medium is this?

+bismuth-sulfite agar

egg-yolk salt agar

meat-peptone agar

Endo agar

Kligler iron agar

This is Wilson Blair growth medium. Which chemical compound gives the colonies of anaerobes the black colour?

+ferric sulfide

hemolysin

hydrogen sulfide production

mercury production

melanin

These are anaerobic bacteria growing on a liquid growth medium. Which growth medium is this?

+thioglycolate broth

selenite broth

peptone water

Olkenitsky medium

TCBS-agar

This is a growth medium for anaerobic bacteria culturing. Which growth medium is this?

+Kitt-Tarozzi medium

MacConkey agar

Bordet-Gengou agar

Lowenstein-Jensen medium

Kligler iron agar

This is a growth medium for fungi culturing. Which growth medium is this?

+Sabouraud agar

alkaline agar

Levin medium

Endo agar

Wilson Blair agar

This is a growth medium for mycobacteria culturing. Which growth medium is this?

+Lowenstein-Jensen medium

Bordet-Gengou agar

TCBS-agar

MacConkey agar

Kitt-Tarozzi medium

The picture shows the Price microcultures technique. Which glycolipid belonging to the pathogenicity factors of mycobacteria does it help to detect?

+cord factor

exotoxin

hyaluronidase

volutin

peptidoglycan

This is a bacterioscopic picture of M. tuberculosis microcolonies. Guess the culturing technique.

+Price technique

Koch technique

flocculation technique

Peshkov technique

Shukevich technique

This is a culture growing on a blood agar. Which pathogenicity factor is being determined?

+hemolysin

lecithinase

exotoxin

hyaluronidase

fibrinogen

The hemolytic activity of bacteria on a blood agar is shown. Determine the types of hemolysis

+1-β-hemolysis, 2-α-hemolysis, 3-γ-hemolysis

1-α-hemolysis, 2-β-hemolysis, 3-γ-hemolysis

1-γ-hemolysis, 2-β-hemolysis, 3-α-hemolysis

1-completed, 2-intermediary, 3-incomplete

1-strong, 2-intermediary, 3-weak

This is pneumococcus growth (1) and Streptococcus pyogenes growth (2). Which growth medium is this?

+blood agar

MacConkey agar

Endo agar

tellurite blood agar

Bordet-Gengou agar

This is staphylococcus growth. Which growth medium is this?

+meat-peptone agar

TCBS-agar

bismuth-sulfite agar

Ploskirev medium

Saubouraudt agar

These is Staphylococcus aureus growing on an egg-yolk salt agar. Which ezyme is being determined here?

+lecithinase

hyaluronidase

neuraminidase

hemolysin

thrombokinase

This is the growth of colonies which have a lecithinase halo. Which growth medium is this?

+egg-yolk salt agar

Olkenitsky medium

chocolate agar

Endo agar

meat-peptone agar

These are Neisseria growing on a growth medium. Which growth medium is this?

+chocolate agar

tellurite blood agar

Kitt-Tarozzi medium

casein-charcoal agar

Czapek-Dox medium

This is a bacteriscopic picture of a pure culture smear of В. Anthracis which has been grown on a meat-peptone agar containing penicillin. What is the name of a diagnostic test used?

+a string of pearls

resistance test

Venus’s necklace

pearl beads

antibiotic sensitivity test

This is a bacteriscopic picture of a pure culture smear of В. Anthracis which has been grown on a meat-peptone agar containing penicillin. What is the name of a diagnostic test used?

+a string of pearl

resistance test

Venus’s necklace

pearl beads

antibiotic sensitivity test

This is a pure culture of a gas gangrene pathogen growing in a Petri dish. Which growth medium is this? Which growth medium is this?

+egg-yolk salt agar

TCBS-agar

casein-charcoal agar

Kligler agar

Kitt-Tarozzi medium

This is Pseudomonas aeruginosa growth on an enrichment growth medium.

+meat-peptone agar

Czapek-Dox medium

Endo agar

thioglycolate broth

Olkenitsky medium

These are the varieties of Aspergillus genus fungi. Which growth medium is this?

+Saubouraudt medium

egg-yolk salt agar

Ploskirev medium

Wilson Blair medium

Kligler agar

This is a microscopic picture of a fungal colony growing on a solid growth medium. Which type of microbial growth is this?

+hyphal

yeast-like

star-shaped

creeping

These are some of Hiss media test-tubes containing bacterial growth. Which properties of microorganismes are determined by this method?

+saccharolytic

proteolytic

autolytic

cultural

redox

This is a bacterial growth in milk. Which properties of microorganismes are determined by this method?

+proteolytic

saccharolytic

autolytic

cultural

redox

The picture shows a test which is used to detect the product of tryptophan breakage caused by bacterial methabolism. Which test is this?

+indole test

cystinase test

colour reaction test

litmus test

oxidase test

The picture shows Pisu medium test which is used to detect Corynebacterium diphtheriae. Which enzyme is detected by this test?

+cystinase

lecithinase

plasma coagulase

neuraminidase

thrombokinase

The picture shows the result of a biochemical test. Which enzyme is detected by this test?

+plasma coagulase

cystinase

catalase

neuraminidase

thrombokinase

The picture shows the result of a biochemical test. Which enzyme is detected by this test?

+catalase

oxidase

hyaluronidase

cystinase

The picture shows the result of a biochemical test. Which enzyme is detected by this test?

+catalase

oxidase

neuraminidase

lecithinase

The picture shows the result of a biochemical test. Which enzyme is detected by this test?

+ oxidase

catalase

indole

cystinase

neuraminidase

The picture shows the result of a biochemical test. Which enzyme gives the blue-purple colour to the test strip?

+cytochrome oxidase

transferase

isomerase

hydrolase

thrombokinase

This is an API system which is used to identify bacteria. Guess which stage of the bacteriological diagnosis this method is used at.

+3

1

2

4

5

This is an API system which is used to identify bacteria. Which properties of microrganisms are detected by this method?

+biochemical

cultural

antigenic

virulence

pathogenic

This is a test which is used to determine the antibiotic sensitivity of bacteria. Guess which stage of the bacteriological diagnosis this test is used at.

+3

1

2

4

5

This is a lawn of pure bacterial culture on a Petri dish with added antibiotics. Which research method is being used?

+disk diffusion test

plaque assay

negative colonies technique

Fortner method

Koch’s technique

This is the result of a test which is used to determine the antibiotic sensitivity of bacteria. What do we call the light area which diameter is 17 mm?

+growth inhibition zone

negative colony

plaque

transparent colony

pure zone

This is a lawn of pure bacterial culture on a Petri dish. Which test is being used?

+Etest

disk diffusion test

droplet test

test strip technique

bacterial growth inhibition technique

This is the result of the Etest. What is it used for?

+to determine the minimum inhibitory concentration of antibiotics

to determine bacterial toxigenicity

to detect the cells infected by the virus

to determine bacteriophage susceptibility

to determine bacterial virulence

The picture shows the intradermal injection of tuberculin. What do we call this procedure?

+Mantoux test

skin test for tularemia

vaccination against tuberculosis

biological sampling for tuberculosis

Mantoux bilogical sampling

The picture shows the result of the Mantoux test in a child. Interpret the result.

+hyperergic reaction

negative reaction

dubtful reaction

positive reaction

diagnostic reaction

The diagram shows an immunological assay. Which assay is this?

+agglutination test

neutralization test

complement fixation test

ELISA

immunofluorescence assay

The diagram shows an immunological assay. Which assay is this?

+agglutination test

hemadsorption assay

complement fixation test

radioimmunoassay

precipitation test

The diagram shows an immunological assay. Which assay is this?

+preliminary agglutination assay

neutralization test

immunofluorescence assay

full agglutination assay

ring precipitation test

The diagram shows the result of an immunological assay. Which assay is this?

+ full agglutination assay

preliminary agglutination assay

immunofluorescence assay

hemagglutination inhibition assay

precipitation test

The diagram shows an immunological assay. Which assay is this?

+ hemagglutination assay

indirect hemagglutination assay

complement fixation test

immunofluorescence assay

agglutination assay

The diagram shows an immunological assay. Which assay is this?

+ indirect hemagglutination assay

neutralization test

immunofluorescence assay

immunoblotting

The diagram shows an immunological assay.

+ indirect hemagglutination assay

radioimmunoassay

hemadsorption assay

immunofluorescence assay

precipitation test

The diagram shows an immunological assay. Which assay is this?.

+ reverse indirect hemagglutination assay

hemagglutination assay

agglutination assay

complement fixation test

precipitation test

The diagram shows the result of an immunological assay. What is the antibody titer in a sick person’s blood?

+1:160

1:320

1:20

1:640

control titer

The diagram shows an immunological assay. Which assay is this and what are the results in the upper (1) and lower (2) rows?

+indirect hemagglutination assay, 1-positive, 2-negative

indirect hemagglutination assay, 1-negative, 2-positive

ELISA, 1-negative, 2-positive

ELISA, 1-positive, 2-negative

ring precipitation test, 1-positive, 2-negative

ring precipitation test, 1-negative, 2-positive

The diagram shows an immunological assay. Which assay is this?

+indirect hemagglutination assay

neutralization test

agglutination assay

ELISA

ring precipitation test

The diagram shows an immunological assay. Which assay is this?

+complement fixation test

immunoblotting

hemadsorption assay

agglutination assay

radioimmunoassay

The diagram shows a complement fixation test. Guess its result.

+positive

negative

doubtful

false negative

The diagram shows a complement fixation test. Guess its result.

+negative

positive

doubtful

false positive

The diagram shows an immunological assay. Which assay is this?

+ complement fixation test

ELISA

neutralization test

immunofluorescence assay

agglutination assay

The diagram shows a complement fixation test which results in erythrocytes (RBCs) sedimentation on the bottom of the test-tube, there is no hemolysis. What kind of result is this?

+positive

negative

doubtful

false negative

The diagram shows a complement fixation test which results in erythrocytes (RBCs) hemolysis. Guess its result.

+negative

positive

doubtful

false positive

The diagram shows an immunological assay which uses the antibodies labeled by the enzyme. Which assay is this?

+ELISA

immunofluorescence assay

complement fixation test

reverse indirect hemagglutination

agglutination assay

The diagram shows an immunological assay which uses specific antibodies labeled by the enzyme. Which assay is this and what is its aim?

+ELISA, direct method of an antigen detection

ELISA, direct method of antibodies detection

immunofluorescence assay, positive

immunofluorescence assay, negative

complement fixation test, negative

The diagram shows an immunological assay which uses the antigens labeled by the enzyme. Which assay is this and what is its aim?

+ELISA, direct method of antibodies detection

ELISA, direct method of an antigen detection

agglutination assay, positive

agglutination assay, negative

neutalization test, positive

The diagram shows ELISA, in this type of ELISA the diagnostic antigens are adsorbed on the surface of the tray and the antiglobulin serum labeled by the enzyme is used. What is the aim of this assay?

+indirect method of antibodies detection in a patient’s blood serum

direct method of antibodies detection in a patient’s blood serum

indirect method of antigens detection in a patient’s blood serum

direct method of antigens detection in a patient’s blood serum

detection of the genetic material of a pathogen in a patient’s blood serum

The diagram shows ELISA, in this type of ELISA the diagnostic antibodies are adsorbed on the surface of the tray and the antiglobulin serum labeled by the enzyme is used. What is the aim of this assay?

+ indirect method of antigens detection in a patient’s blood serum

indirect method of antibodies detection in a patient’s blood serum

direct method of antibodies detection in a patient’s blood serum

direct method of antigens detection in a patient’s blood serum

detection of the genetic material of a pathogen in a patient’s blood serum

The diagram shows the result of an immunological assay. Which assay is this?

+ELISA

immunofluorescence assay

complement fixation test

immunoblotting

hemagglutination assay

The diagram shows an immunological assay. Which assay is this?

+ indirect immunofluorescence assay

direct immunofluorescence assay

hemagglutination assay

indirect hemagglutination assay

ELISA

The diagram shows an immunological assay. Which assay is this?

+direct immunofluorescence assay

idirect immunofluorescence assay

hemagglutination assay

indirect hemagglutination assay

ELISA

The diagram shows an immunological assay. What is its result?

+positive, there is a green glow observed through the microscope

negative, there is no green glow observed through the micrscope

positive, there is the green colour observed in the cups of the board

negative, there is no green colour in the cups of the board

doubtful

The diagram shows the result of an immunological assay. Which assay is this?

+immunofluorescence assay

ELISA

neutralization test

immunoblotting

dark-field microscopy

The diagram shows an immunological assay where the antigens labeled by the radioactive isotope are used. Which assay is this?

+radioimmunoassay

ELISA

complement fixation test

indirect hemagglutination assay

hemadsorption assay

The diagram shows an immunological assay. Which assay is this?

+hemadsorption assay

neutralization test

complement fixation test

immunoblotting

hemagglutination assay

The diagram shows an immunological assay which results in the formation of precipitate in the liquid medium. Which assay is this?

+Ascoli test

agglutination assay

Wright test

Wassermann test

Ouchterlony test

The diagram shows an immunological assay. Which assay is this?

+ring precipitation test

neutralization test

agglutination assay

ELISA

The diagram shows the ring precipitation test.What is it used for?

+detection of the anthrax hapten

determination of diphtheria toxigenicity

determination of the antibody titer in a patient’s blood serum

determination of susceptibility to a bacteriophage

determination of bacterial virulence

The picture shows the positive result of an immunological assay which is used to detect the antigens of anthrax in different substrates. Which assay is this?

+ring precipitation test

immunoblotting

complement fixation test

reverse indirect hemagglutination assay

full agglutination assay

The diagram shows an immunological assay which results in the formation of precipitates. Which assay is this?

+Ouchterlony test

hemadsorption assay

neutralization test

immunoblotting

radioimmunoassay

The picture shows precipitation in agar. What is the aim of this test?.

+detrmination of the toxigenicity of Corynebacterium diphtheriae

determination of antibiotic sensitivity

determination of bacterial virulence

determination of bacteriophage sensitivity

detecting the motility of bacteria

The diagram shows an immunological assay. Which assay is this?

+immunoblotting

complement fixation test

radioimmunoassay

ring precipitation test

hemagglutination assay

The diagram shows the result of an immunological assay. What is its aim?

+detection of antibodies against HIV in a patient’s blood serum

detection of the virus genetic material in a patient’s blood

determination of the virus serotype during the 3-rd stage of the virological method

population screening for viral hepatitises

rapid testing for syphilis

The picture shows the result of immunoblotting. Which component does this assay detect?

+antibodies against HIV in a sick person’s blood serum

antigens of viral hepatitises pathogens in the biopsy sample of the liver

genetic material of the pathogen in a sick person’s blood

antibodies against syphilis in a sick person’s blood serum

antigens of the cytomegalovirus in a sick person’s saliva

These are different morphological types of certain microorganisms. Which microorganisms are these?

+bacteriophages

protozoa

bacteria

actinomyces

fungi

The electron microscopy image shows the interaction of bacteriophages with a:

+bacterial cell

virus

lymphocyte

macrophage

erythrocyte (RBC)

The diagram shows the interaction of a bacteriophage with a bacterial cell. What is the result of such interaction?

+lysis

lysogeny

mutation

apoptosis

deletion

The diagram shows the interaction of a bacteriophage with a bacterial cell. What is the result of such interaction?

+lysogeny

lysis

mutation

apoptosis

duplication

The diagram shows the structure of a certain virus. Which virus is this?

+bacteriophage

HIV

hepatitis С virus

hepatits В virus

human papillomavirus

The diagram shows the structure of the bacteriophage. Which kingdom does it belong to?

+viruses

bacteria

protozoa

fungi

animals

These are the negative colonies of bacteriophages in a Petri dish. Which growth medium is used?

+meat-peptone agar with bacteria and bacteriophages

a continuos cell culture infected with bacteriophages

primary cells culture infected with bacteriophages

meat-peptone agar with the colonies of bacteiophages on it

secondary cell culture infected with bacteriophages

This is meat-peptone agar with the lawn culture containing a mixture of bacteria and bacteriophages. What is the result of their interaction?

+bacterial cells lysis

lysogeny

apoptosis

bacteriophages lysis

mutation

This is meat-peptone agar with the lawn culture of bacteria. Which method is shown?

+phage typing of bacteria

determination of the antibiotic sensitivity

determination of bacterial toxigenicity

determination of the bacterial titer

determination of bacterial virulence

The picture shows the phage typing of Staphylococcus aureus. What has formed in Sector 5?

+a negative colony

a growth inhibition zone

a zone of clearing

a shaded zone

The photo shows the rabies virus. Which microscopy technique was used?

+electron

phase-contrast

fluorescence

dark-field

oil immersion

This is the primary human cell culture infected with the cytomegalovirus. You can massive intranuclear inclusions separated from the nuclear membrane by a light zone. Which microscopy technique was used?

+optical

electron

phase-contrast

fluorescence

dark-field

The picture shows a chicken embryo being infected. Where is the infectious agent introduced to?

+onto the chorioallantoic membrane

into the amniotic cavity

into the allantois

into the yolk sac

onto the shell

The picture shows a chicken embryo being infected. Where is the infectious agent introduced to?

+ into the allantois

onto the chorioallantoic membrane

into the amniotic cavity

into the yolk sac

into the pleural cavity

The picture shows a chicken embryo being infected. Where is the infectious agent introduced to?

+ into the amniotic cavity

onto the chorioallantoic membrane

into the allantois

into the yolk sac

into the gestational sac

The picture shows a chicken embryo being infected. Where is the infectious agent introduced to?

+ into the yolk sac

onto the chorioallantoic membrane

into the amniotic cavity

into the allantois

into the caudal end

The photo shows a chicken embryo infected by a virus. Where is the infectious agent introduced to?

+onto the chorioallantoic membrane

into the amniotic cavity

into the allantois

into the yolk sac

onto the shell

The photo shows the virological method of diagnosing infections. Which stage of the diagnosing procedure is shown?

+1

2

3

4

5

The photo shows the virological method of diagnosing infections. Which stage of the diagnosing procedure is shown?

+infecting a biological model

indication of the virus

biological sampling

identification of the virus

an allergy skin test

This is a microscopic image of a cell culture where you can see a giant multinuclear cell with a pale cytoplasm and pink inclusions. There are also pink inclusions in the nucleus. Which stage of the virological diagnosing procedure is shown?

+2

1

3

4

5

The picture shows the cytopathic effect of a virus produced on a cell culture. Which stage of the virological diagnosing procedure is shown?

+indication

identification

examination of the morphological properties of the virus

examination of the antigenic properties of the virus

serology

You see two pictures showing the monolayer primary cell cultures before and after they were infected with a virus. Which method of indication is shown?

+cytopathic effect

plaque formation

cell inclusions formation

x-ray diffraction

hemadsorption assay

You see the formation of giant multinuclear cells – symplasts – with their further destruction and formation of large cavities in the cell culture Vero-SLAM. Which type of the intercation between a virus and a cell is shown?

+productive

abortive

integrative

moderate

destructive

The photo shows the laboratory diagnosing of influenza. Which stage of the virological method is shown?

+indication

identification

genetic assay

examination of the antigenic properties of a virus

serology

The photo shows the laboratory diagnosing of viral infections. Which stage of the virological method is shown?

+2

1

3

4

5

This is a specimen of cell culture infected with viruses. Which indication method is shown?

+plaque formation

cytopathic effect

phage typing

cell inclusions formation

hemagglutination assay

This is a sample of cell culture infected with viruses. Which stage of the virological diagnosing method is shown?

+indication

identification

genetic assay

examination of the antigeniс properties of a virus

microscopy

This is a sample of cell culture infected with viruses. The test which is shown helps to determine:

+the presence of a virus in a cell culture

the genus of a virus

the serotype of a virus

antibiotic sensitivity of a virus

bacteriophage sensitivity of a virus

The microscopy image shows the culture of cells infected with a virus. Which method of indication is shown?

+hemadsorption assay

hemagglutation assay

electron microscopy

cytopathic effect

The picture shows hemadsorption in a culture of cells. What does this assay help to detect in a virus?

+hemagglutinin

hemolysin

cord factor

viral enevelope (supercapsid)

capsid

The diagram shows the structure of a virus. Which structure does it have?

+complex with segmented RNA

simple with segmented RNA

complex with non-segmented RNA

simple with non-segmented RNA

primitive with 8 DNA strands

The diagram shows the replication of viruses. What is the structure of the viruses exiting the cell (1) and the cell (2).

+1-simple virus, 2-complex virus

1-complex virus 2-simple virus

1-RNA-containing virus, 2-DNA-containing virus

1-DNA-containing virus, 2-RNA-containing virus

1-defective virus, 2-sufficient virus

These are the stages of viral replication. How is the virus released from the host cell?

+by budding

by rupture

by destruction

by viropexis

by lysis

The diagram shows the structure of a virus containig a viral envelope and 2 surface antigens – hemagglutinin and neuraminidase. Which family does it belong to?

+Оrthomyxoviridae

Coronaviridae

Paramyxoviridae

Rhabdoviridae

Picornaviridae

The diagram shows the structure of a virus isolated from an nasopharyngeal washing material. This virus contains a viral envelope (supercapsid) and 2 surface antigens – hemagglutinin and neuraminidase. Which genus does it belong to?

+Influenzavirus

Herpes simplex virus type 1

Mastadenovirus

Rotavirus

Hepatovirus

The picture shows the structure of a virus isolated from a tracheal aspirate. This virus contains a viral envelope (supercapsid) and 2 surface antigens – hemagglutinin and neuraminidase. Which genus does it belong to?

+Influenzavirus

Lyssavirus

Flavivirus

Varicella-zoster virus

Hepacivirus

The diagram shows the structure of the influenza virus. Which type-specfic proteins are used for the differentiation of the influenza virus types A, B and C?

+М1, М2, NP.

H, N

NP, H,N

R, DNA

K, RNA

The diagram shows a virus replication. This virus contains surface antigens – hemagglutinin and neuraminidase. Which genus does this virus belong to?

+Influenzavirus

Lentivirus

Morbillivirus

Respirovirus

Mastadenovirus

The picture shows the structure of a virus isolated from urine. Which family does this virus belong to?

+Paramyxoviridae

Retroviridae

Hepadnaviridae

Caliciviridae

Rhabdoviridae

Herpesviridae

The picture shows the structure of a virus isolated from saliva. This is a complex RNA-containing virus. Which genus does this virus belong to?

+Rubulavirus

Herpes simplex virus тип 1

Lyssavirus

Mastadenovirus

The picture shows the structure of a virus isolated from nasopharyngeal washing material. Which genus does this virus belong to?

+Pneumovirus

Rotavirus

Enterovirus

Bunyavirus

This is an electron microscopy image which shows giant multinuclear cells of lymphoid tissue. Which family does this virus belong to?

+Paramyxoviridae

Retroviridae

Rhabdoviridae

Hepadnaviridae

The picture shows the structure of a virus. Which family does this virus belong to?

+Togaviridae

Herpesviridae

Adenoviridae

Picornaviridae

The picture shows the structure of a virus isolated from nasopharynx. This virus contains glycoproteins E1 and E2. Which genus does this virus belong to?

+Rubivirus

Lyssavirus

Lentivirus

Rhinovirus

Enterovirus

The picture shows the structure of a DNA-containing virus isolated from the conjunctiva. Which genus does this virus belong to?

+Mastadenovirus

Flavivirus

Enterovirus

Cytomegalovirus

Rhinovirus

The picture shows the structure of a DNA-containing virus isolated from saliva. Which virus is this?

+Herpes simplex virus

Rubulavirus

Lyssavirus

Mastadenovirus

The microscopy image shows the cells infected with a virus. These cells were isolated from saliva. Which virus is shown?

+Cytomegalovirus

Rotavirus

Coronavirus

Enterovirus

This is a giant multinuclear cell with intranuclear inclusions which is infected by a virus. Which virus is this judging by its cytopathic effect?

+Herpes simplex virus

Enterovirus

Hepatovirus

Bunyavirus

Hantavirus

This is a photo of a virus. Which microscopy technique is used?

+electron

phase-contrast

fluorescence

dark-field

optical

The image shows a culture of cells infected with a virus. We can see massive intranuclear inclusions which are separated from the nuclear membrane by a light-coloured area. Which virus is this judging by its cytopathic effect?

+Cytomegalovirus

Hepatitis B virus

Influenza virus

Rotavirus

The picture shows a culture of cells infected with cytomegalovirus. Which method of indication is shown?

+detection of inclusions

plaque formation

colour (staining) test

hemadsorption assay

The picture shows the structure of a virus isolated from feces. Which family does this virus belong to?

+Reoviridae

Papillomaviridae

Rhabdoviridae

Retroviridae

Orthomyxoviridae

The picture shows the structure of a virus isolated from feces. Which genus does this virus belong to?

+Rotavirus

Hantavirus

Morbillivirus

Bunyavirus

The picture shows the structure of an RNA-containing virus isolated from feces. Which family does this virus belong to?

+Picornaviridae

Hepadnaviridae

Flaviviridae

Togaviridae

Filoviridae

The pictue shows the structure of an RNA-containing virus isolated from blood. Which genus does this virus belong to?

+Flavivirus

Rotavirus

Enterovirus

Lyssavirus

The picture shows the structure of an RNA-containing virus isolated from blood. Which genus does this virus belong to?

+Hepacivirus

Influenzavirus

Herpesvirus

Rotavirus

The picture shows the structure of a virus isolated from blood. Which virus is this?

+hepatitis D virus

hepatitis B virus

cytomegalovirus

influenza virus

rotavirus

The picture shows the structure of a virus isolated from blood. Which virus is this?

+hepatitis D virus

hepatitis B virus

cytomegalovirus

influenza virus

rotavirus

The picture shows the structure of a virus isolated from hepatocytes. Which virus is this?

+hepatitis B virus

hepatitis C virus

measles virus

Epstein-Barr virus

The picture shows “empty” particles which are syntesized by hepatocytes infected by a virus. What kind of particles are these?

+lipid envelope

nucleocapsid

cell wall

capsule

spore

The electron microscopy image shows “empty” particles in the blood of a patient who has hepatitis B. Which antigens are detected in this blood sample?

+HBsAg

HBcAg

HBeAg

HBxAg

HDAg

The picture shows the structure of a virus isolated from blood. Which genus does this virus belong to?

+Lentivirus

Hantavirus

Rubulavirus

Pneumovirus

Enterovirus

The picture shows the structure of HIV. Which family does this virus belong to?

+Retroviridae

Hepadnaviridae

Arenaviridae

Orthomyxoviridae

Reoviridae

The electron microscopy image shows bullet-shaped virions. Which genus do they belong to?

+Lyssavirus

Lentivirus

Nairovirus

Flavivirus

Rubivirus

The electron microscopu image shows the picture of a virus isolated from the neurons of the brain. Which genus does this virus belong to?

+Lyssavirus

Hantavirus

Rubivirus

Mastadenovirus

The picture shows the structure of a virus isolated from saliva. Which family does this virus belong to?

+Rhabdoviridae

Bunyaviridae

Arenaviridae

Caliciviridae

Picornaviridae

The microscopy image shows the neurons of the brain. There are eosinophilic inclusions in the cytoplasm of these neurons. What are they called?

+Negri bodies

volutin granules

melanocytes

granules with glycogen

Bollinger bodies

The microscopy image shows the neurons of the brain infected with a virus. There are eosinophilic inclusions in the cytoplasm of these neurons. Which genus does this virus belong to?

+Lyssavirus

Nairovirus

Enterovirus

Coronavirus

Pneumovirus

The microscopy image shows the impression smears of the cells which are infected with a virus. These cells have cytoplasmic inclusions – Negri bodies.Which cell culture is this?

+the culture of neurons

the culture of muscle cells

continuous cell culture

the culture of hepatocytes

secondary cell culture

The bacterioscopic image shows a smear of pure culture taken from Endo agar and stained by Gram’s method. Which family does this pathogen belong to judging by its morphological properties?

+Enterobacteriaceae

Micrococcaceae

Vibrionaceae

Bacillaceae

Spirochaetaceae

You see a pure culture growth on Endo agar. Which pathogenic species is this judging by its cultural properties?

+Escherichia coli

Staphylococcus aureus

Salmonella enteritidis

Bacillus anthracis

You see a pure culture growth on Endo agar. What is the biochemical property of this pathogen?

+lactose-positive

lactose-negative

oxidase-positive

oxidase-negative

catalase-negative

You see a pure culture growth on Levine medium. Which species of bacterium is this judging by its cultural properties?

+Escherichia coli

Helicobacter pylori

Streptococcus pyogenes

Clostridium tetani

You see a pure culture growth on Kligler agar. Which species of bacterium is this judging by its biochemical properties?

+Escherichia coli

Vibrio cholerae

Salmonella typhi

Streptococcus pyogenes

This is a bacterioscopic image of a pure culture stained by methylene blue. Which pathogen is this judging by its morphological properties?

+Yersinia pseudotuberculosis

Staphylococcus epidermidis

Leptospira interrogans

Mycobacterium tuberculosis

You see a pure culture growth on Endo agar. Which pathogen is this judging by its cultural properties?

+Yersinia enterocolitica

Streptococcus pyogenes

Borrelia recurrentis

Chlamydia pneumoniae

You see a pure culture growth on Levine agar. Which pathogen is this judging by its cultural properties?

+Salmonella enteritidis

Rickettsia typhi

Corynebacterium diphtheriae

Neisseria gonorhoeae

You see a pure culture growth on Kligler agar. Which pathogen is this judging by its biochemical properties?

+Salmonella typhi

Shigella flexneri

Escherichia coli

Haemophilus influenzae

You see a pure culture growth on bismuth-sulfite agar. Which pathogen is this judging by its cultural properties?

+Salmonella typhi

Escherichia coli

Francisella tularensis

Mycoplasma hominis

You see a pure culture growth on Muller-Kauffmann broth. This growth medium serves as an enrichment medium for a certain infectious agent, which infectious agent is it used for?

+Salmonella enteritidis

Vibrio cholerae

Neisseria meningitidis

Staphylococcus epidermidis

Pseudomonas aeruginosa

This is a bacterioscopic image of a pure culture stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Shigella sonnei

Streptococcus pyogenes

Clostridium perfringens

Mycobacterium leprae

This is selenite broth, it is used as an enrichment growth medium for a certain pathogen, which pathogen is that?

+Shigella flexneri

Vibrio cholerae

Bacillus anthracis

Ureaplasma urealyticum

You see a pure culture growth on Ploskirev medium. Which pathogen is this judging by its cultural properties?

+Shigella boydii

Micrococcus luteus

Chlamydia pneumoniae

Mycobacterium tuberculosis

You see a pure culture growth on Kligler agar. Which pathogen is this judging by its biochemical properties?

+Shigella dysenteriae

Salmonella typhi

Chlamydia trachomatis

Clostridium botulinum

This is a bacterioscopic image of a pure culture smear taken from TCBS agar. Which pathogen is this judging by its morphological properties?

+Vibrio cholerae

Proteus mirabilis

Clostridium tetani

Treponema pallidum

Streptococcus pneumonia

The image shows a bacterioscopic smear of a pure culture isolated on alkaline agar and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Vibrio cholerae

Staphylococcus aureus

Neisseria gonorhoeae

Salmonella paratyphi A

Pseudomonas aeruginosa

The bacterioscoipic image shows a smear of V. cholerae pure culture. Which microscopy technique was used?

+electron

phase contrast

fluorescence

dark field

oil immersion

You see a culture growth on TCBS agar. Which pathogen is this judging by its cultural properties?

+Vibrio cholerae

Pseudomonas aeruginosa

Mycobacterium tuberculosis

Ureaplasma urealyticum

The bacterioscopic image shows a pure culture smear stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Listeria monocytogenes

Legionella pneumophila

Borrelia burgdorferi

Klebssiella oxytoca

This is a bacterioscopic image of a lymph node biopsy sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Listeria monocytogenes

Streptococcus pneumoniae

Neisseria meningitidis

Escherichia coli

You see the amniotic fluid culture growth on meat-peptone agar 14 days after the inoculation. Which pathogen is this judging by its cultural properties?

+Listeria monocytogenes

Staphylococcus aureus

Mycobacterium leprae

Chlamydia trachomatis

Treponema pallidum

This is a bacterioscopic image of an oropharyngeal swab sample stained by Loeffler’s method. Which pathogen is this judging by its morphological properties?

You see a pure culture growth on bismuth-sulfite agar. Which pathogen is this judging by its cultural properties?

+Corynebacterium diphtheriae

Mycobacterium tuberculosis

Staphylococcus saprophyticus

Klebssiella pneumoniae

Brucella melitensis

This is a bacterioscopic image of a pure culture stained by Neisser’s method. Which pathogen is this judging by its morphological properties?

+Corynebacterium diphtheriae

Pseudomonas aeruginosa

Vibrio cholerae

Helicobacter pylori

You see a culture growth on a blood tellurite agar. Which pathogen is this judging by its cultural properties?

+Corynebacterium diphtheriae

Streptococcus pyogenes

Clostridium perfringens

Borrelia recurrentis

Staphylococcus aureus

This is Corynebacterium diphtheriae on blood tellurite agar. Which biovar of the

pathogen is this?

+gravis

mitis

intermedius

belfanti

flavus

This is Corynebacterium diphtheriae on blood tellurite agar. Which biovar of the pathogen is this?

+mitis

gravis

intermedius

belfanti

flavus

This is Corynebacterium diphtheriae on blood tellurite agar. Which biovar of the

pathogen is this?

+intermedius

gravis

mitis

belfanti

flavus

The diagram shows the morphological and cultural properties of bacterial pure culture. Which pathogen is this?

+Corynebacterium diphtheriae

Mycoplasma hominis

Borrelia recurrentis

Francisella tularensis

You see the culture growth of an eye discharge sample on Loeffler medium. Which pathogen is this judging by its cultural properties?

+Corynebacterium diphtheriae

Enterococcus faecalis

Bordetella pertussis

Chlamydia trachomatis

Vibrio cholerae

You see the culture growth of an oropharyngeal swab sample on Buchin’s medium. Which pathogen is this judging by its cultural properties?

+Corynebacterium diphtheriae

Streptococcus pneumoniae

Staphylococcus epidermidis

Shigella sonnei

Legionella pneumophila

This is a positive result of Pisu test. Which pathogen is this judging by its biochemical properties?

+Corynebacterium diphtheriae

Mycobacterium tuberculosis

Treponema pallidum

Francisella tularensis

Brucella melitensis

This a bacterioscopic image of a pure culture smear taken from Bordet-Gengou agar and stained by Gram method. Which pathogen is this judging by its morphological properties?

+Bordetella pertussis

Staphylococcus aureus

Vibrio cholerae

Brucella melitensis

You see the culture growth of a sputum sample on Bordet-Gengou agar. Which pathogen is this judging by its cultural properties?

+Bordetella pertussis

Brucella melitensis

Mycobacterium tuberculosis

Vibrio cholerae

You see the culture growth of a sputum sample taken by Bordet’s method (the cough plates method) on casein-charcoal agar. Which pathogen is this judging by its cultural properties?

+Bordetella pertussis

Borrelia burgdorferi

Chlamydia pneumoniae

Mycoplasma pneumoniae

Legionella pneumophila

This is a bacterioscopic image of a pure culture isolated from a patient with atypical pneumonia. The sample was stained by Gram’s method. Which pathogen

is this judging by its morphological properties?

+Legionella pneumophila

Listeria monocytogenes

Actinomyces pyogenes

Helicobacter pylori

Bacillus anthracis

This is a bacterioscopic image of a sputum smear stained by Ziehl-Neelsen’s method. Which pathogen is this judging by its morphological properties?

+Mycobacterium tuberculosis

Yersinia pseudotuberculosis

Neisseria meningitidis

Mycoplasma pneumoniae

Rickettsia prowazekii

This is a bacterioscopic image of M. tuberculosis pure culture. Which staining

method was used?

+Ziehl-Neelsen stain

Burri-Gins stain

Aujeszky stain

Giemsa stain

Zdrodovsky stain

This is a bacterioscopic picture which shows the result of the Price microculture technique. The microculture is stained by Ziehl-Neelsen’s method. Which pathogen is this judging by its morphological properties?

+Mycobacterium tuberculosis

Bacillus anthracis

Brucella suis

Haemophilus influenzae

Klebssiella oxytoca

The picture shows the culture of a pathogen isolated from a patient’s sputum which is growing on a liquid growth medium. The culture growth looks like a thick dry wrinkled cream-coloured film (layer). Which pathogen is this judging by its

cultural properties?

+Mycobacterium tuberculosis

Clostridium tetani

Legionella pneumophila

Bordetella pertussis

Staphylococcus aureus

The picture shows a sputum culture growth on Lowenstein-Jensen medium. Which pathogen is this judging by its cultural properties?

+Mycobacterium tuberculosis

Listeria monocytogenes

Proteus mirabilis

Enterococcus faecalis

The picture shows some colonies growing on Lowenstein-Jensen medium. Which pathogen is this judging by its cultural properties?

+Mycobacterium tuberculosis

Micrococcus luteus

Clostridium perfringens

Brucella abortus

Shigella flexneri

The picture shows the culture growth of M. tuberculosis on a solid enriched medium. What is the type of the colonies?

+R colonies (rough)

S colonies (smooth)

M colonies

O colonies

К colonies

The bacterioscopic picture shows a sample of cerebrospinal fluid stained by Ziehl-Neelsen’s method. Which pathogen is shown judging by its morphological properties?

+Mycobacterium leprae

Borrelia recurrentis

Neisseria meningitidis

Staphylococcus epidermidis

Haemophilus influenzae

This a bacterioscopic image of wound discharge stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Staphylococcus epidermidis

Proteus vulgaris

Pseudomonas aeruginosa

Helicobacter pylori

This a bacterioscopic image of pus stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Staphylococcus aureus

Clostridium tetani

Chlamydia psittaci

Neisseria meningitidis

This a bacterioscopic image of a pure culture smear which was taken from egg-yolk salt agar and stained by Gram’s method. Which family does this pathogen belong to judging by its morphological properties?

+Micrococcaceae

Vibrionaceae

Bacillaceae

Clostridiaceae

Spirochaetaceae

This a bacterioscopic image of a pure culture sample which was taken from milk-salt agar and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Staphylococcus saprophyticus

Francisella tularensis

Neisseria gonorhoeae

Brucella abortus

Legionella pneumophila

This a bacterioscopic image of a sputum sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Staphylococcus aureus

Yersinia pseudotuberculosis

Legionella pneumophila

Haemophilus influenzae

This a bacterioscopic image of wound discharge stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Staphylococcus aureus

Escherichia coli

Proteus mirabilis

Haemophilus influenzae

Clostridium tetani

A patient’s blood was inoculated on sugar (glucose) broth. The picture shows the culture growth after it was passaged to blood agar. Which pathogen is this judging by its cultural properties?

+Staphylococcus aureus

Vibrio cholerae

Legionella pneumophila

Chlamydia psittaci

This is the growth of a pure culture which was isolated from the oropharynx. It is growing on blood agar. Which pathogen is this judging by its cultural properties?

+Staphylococcus aureus

Rickettsia prowazekii

Listeria monocytogenes

Brucella abortus

This is a culture growth on milk egg-yolk salt agar. Which pathogen is this judging by its cultural properties?

+Staphylococcus aureus

Haemophilus influenzae

Escherichia coli

Shigella flexneri

This is a culture growing on blood agar. Which pathogen is this judging by its cultural properties?

+Staphylococcus epidermidis

Bordetella pertussis

Corynebacterium diphtheriae

Neisseria meningitidis

The blood of a patient with bacterial endocarditis was inoculated on sugar (glucose) broth. The picture shows the culture growth after it was passaged to blood agar. Which pathogen is this judging by its cultural properties?

+Staphylococcus epidermidis

Brucella melitensis

Legionella pneumophila

Rickettsia prowazekii

This is the growth of a culture on blood agar. Which family does this pathogen belong to judging by its cultural properties?

+Micrococcaceae

Vibrionaceae

Rickettsiaceae

Spirochaetaceae

This is the growth of an ororpharyngeal sample on egg-yolk salt agar. Which pathogen is this judging by its cultural properties?

+Staphylococcus aureus

Streptococcus pyogenes

Salmonella enteritidis

Mycobacterium leprae

Treponema pallidum

Hydrogen peroxide was added to a pure culture growing on blood agar, you can see the formation of bubbles. Which pathogens does this method help to detect?

+staphylococci and streptococci

staphylococci and meningococci

streptococci and corynebacteria

chlamydiae and mycoplasma

clostridia and bacilli

This is the result of DNase detection. Which pathogen is this judging by its biochemical properties?

+Staphylococcus epidermidis

Neisseria meningitidis

Shigella flexneri

Mycobacterium leprae

Yersinia enterocolitica

This is the result of DNase detection. Which pathogen is this judging by its biochemical properties?

+Staphylococcus aureus

Salmonella enteritidis

Brucella abortus

Leptospira interrogans

Ureaplasma urealyticum

This is the result of plasmacoagulase detection. Which pathogen is this judging by its biochemical properties?

+Staphylococcus epidermidis

Francisella tularensis

Listeria monocytogenes

Neisseria gonorhoeae

Chlamydia pneumoniae

This is the result of plasmacoagulase detection. Which pathogen is this judging by its biochemical properties?

+Staphylococcus aureus

Bordetella pertussis

Treponema pallidum

Rickettsia prowazekii

Listeria monocytogenes

This is a bacterioscopic image of an oropharyngeal sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Streptococcus pyogenes

Klebssiella oxytoca

Legionella pneumophila

Pseudomonas aeruginosa

This is a bacterioscopic image of a pure culture sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Streptococcus pyogenes

Salmonella enteritidis

Corynebacterium diphtheriae

Borrelia recurrentis

This is a bacterioscopic image of a pure culture sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Streptococcus pyogenes

Shigella dysenteriae

Bacillus anthracis

Treponema pallidum

This is a bacterioscopic image of a pure culture sample which was isolated from sputum and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Streptococcus pneumoniae

Klebssiella pneumoniae

Mycobacterium tuberculosis

Chlamydia pneumoniae

Pseudomonas aeruginosa

This is a bacterioscopic image of a child’s middle ear discharge sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Streptococcus pneumoniae

Mycobacterium leprae

Rickettsia prowazekii

Bordetella pertussis

This is a bacterioscopic image of a sputum sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Streptococcus pneumoniae

Enterobacter cloacae

Shigella boydii

Borrelia burgdorferi

Mycoplasma pneumoniae

This is an immunofluorescence microscopy image of a sputum sample. Which pathogen is this judging by its morphological properties?

+Streptococcus pneumoniae

Salmonella typhi

Francisella tularensis

Mycobacterium tuberculosis

This is a culture growth on blood agar. Which pathogen is this judging by its cultural properties?

+Streptococcus pyogenes

Borrelia burgdorferi

Mycoplasma pneumoniae

Treponema pallidum

This is a culture growth on blood agar. Which pathogen is this judging by its cultural properties?

+Streptococcus pneumoniae

Vibrio cholerae

Leptospira interrogans

Borrelia burgdorferi

This is a culture growth on blood agar. Which pathogen is this judging by its cultural properties?

+Streptococcus pneumoniae

Corynebacterium diphtheriae

Borrelia burgdorferi

Mycoplasma pneumoniae

This is a bacterioscopic image of a sample taken from the urethra stained by Loeffler’s method. Which pathogen is this judging by its morphological properties?

+Neisseria gonorhoeae

Treponema pallidum

Helicobacter pylori

Francisella tularensis

This is a bacterioscopic image of a pus sample taken from the conjunctiva and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Neisseria gonorhoeae

Streptococcus pyogenes

Staphylococcus saprophyticus

Mastadenovirus

Legionella pneumophila

This is an electron microscopy image of a pure culture sample. Which pathogen is this judging by its morphological properties?

+ Neisseria

Vibrio

Bacillus

Legionella

This is a bacterioscopic image of a nasopharyngeal swab stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Neisseria meningitidis

Streptococcus pneumoniae

Bordetella pertussis

Corynebacterium diphtheriae

Pneumovirus

This is the growth of a cerebrospinal fluid sample on chocolate agar. Which pathogen is this judging by its cultural properties?

+Neisseria meningitidis

Cytomegalovirus

Yersinia enterocolitica

Helicobacter pylori

This is the growth of a nasopharyngeal sample on chocolate agar. Which pathogen is this judging by its cultural properties?

+Neisseria meningitidis

Proteus vulgaris

Brucella suis

Rhinovirus

This is the result of the oxidase test. Which pathogen is this judging by its biochemical properties?

+Neisseria meningitidis

Salmonella enteritidis

Escherichia coli

Mycoplasma hominis

Ureaplasma urealyticum

What is the genus of microorganisms which need the culturing conditions shown in the photo?

+Streptococcus

Salmonella

Ureaplasma

Bacillus

This is a bacterioscopic image of an ulcer discharge sample stained by methylene blue. Which pathogen is this judging by its morphological properties?

+Bacillus anthracis

Staphylococcus aureus

Proteus mirabilis

Neisseria gonorhoeae

Treponema pallidum

This is a phase-contrast microscopy image of a carbuncle swab. Which pathogen is this judging by its morphological properties?

+Bacillaceae

Enterobacteriaceae

Micrococcaceae

Vibrionaceae

Clostridiaceae

This is a bacterioscopic image (“a string of pearls”) of a pure culture sample which has grown on meat-peptone agar containing penicillin. Which pathogen is this?

+Bacillus anthracis

Mycobacterium tuberculosis

Leptospira interrogans

Streptococcus pyogenes

Varicella-zoster virus

This is a bacterioscopic image of В. anthracis pure culture sample. Which staining method is used?

+Gram staining

Morozov staining

Ascoli staining

Neisser staining

Vidal staining

This is a bacterioscopic image of a carbuncle swab sample stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Bacillus anthracis

Mycobacterium tuberculosis

Borrelia burgdorferi

Lyssavirus

The biological material of a carbuncle was inoculated on meat peptone agar. As a result of this rough colonies appeared on the agar. This is a bacterioscopic image of a pure culture sample taken from these colonies and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Bacillus anthracis

Clostridium tetani

Streptococcus pyogenes

Influenzavirus

This is a bacterioscopic image of a pure culture sample stained by Aujeszky’s method. Which pathogen is this judging by its morphological properties?

+Bacillus anthracis

Enterococcus faecalis

Escherichia coli

Yersinia enterocolitica

Hepatovirus

This is an immunofluorescence microscopy image of a pure culture sample. Which

pathogen is this judging by its morphological properties?

+Bacillus anthracis

Streptococcus pyogenes

Treponema pallidum

Nairovirus

This is a bacterioscopic image (“a string of pearls”) of a pure culture sample which has grown on meat-peptone agar containing penicillin. Which pathogen is this?

+Bacillus anthracis

Brucella melitensis

Staphylococcus aureus

Flavivirus

This is the growth of a pure culture sample which has been isolated from meat-peptone agar and placed on gelatin column agar. Which pathogen is this judging by its cultural properties?

+Bacillus anthracis

Mycobacterium tuberculosis

Corynebacterium diphtheriae

Salmonella typhi

Enterovirus

This is the growth of a carbuncle discharge on blood agar. Which pathogen is this judging by its cultural properties?

+Bacillus anthracis

Francisella tularensis

Haemophilus influenzae

Yersinia enterocolitica

This is a culture growth on blood agar. Which pathogen is this judging by its cultural properties?

+Bacillus

Vibrio

Paramyxoviridae

Mycobacterium

This is the culture growth of discharge taken from the bottom of an ulcer and inoculated on blood agar. Which pathogen is this judging by its cultural properties?

+Bacillus anthracis

Rickettsia prowazekii

Borrelia recurrentis

Brucella melitensis

This is a macroscopic image of a colony which has grown as a result of a carbuncle discharge having been inoculated on a solid growth medium. Which pathogen is this judging by its cultural properties?

+Bacillus anthracis

Corynebacterium diphtheriae

Mycobacterium tuberculosis

Candida albicans

This is a culture growth on blood agar. Which pathogen is this judging by its cultural properties?

+Bacillus anthracis

Pseudomonas aeruginosa

Haemophilus influenzae

Clostridium perfringens

Morbillivirus

This is the positive result of Ascoli’s thermo precipitation test, sheep wool is the substrate for this test. Which pathogen is being detected?

+Bacillus anthracis

Chlamydia psittaci

Brucella melitensis

Microsporum canis

Yersinia pestis

This is a bacterioscopic image of an inguinal lymph node puncture sample stained by Loeffler’s method. Which pathogen is this judging by its morphological properties?

+Yersinia pestis

Bordetella pertussis

Corynebacterium diphtheriae

Chlamydia trachomatis

Treponema pallidum

This is a bacterioscopic image of a blood sample stained by Giemsa’s method. Which pathogen is this judging by its morphological properties?

+Yersinia pestis

Bacillus anthracis

Borrelia recurrentis

Trichophyton rubrum

This is a bacterioscopic image of a lymph node puncture sample stained by methylene blue . Which pathogen is this judging by its morphological properties?

+Yersinia pestis

Treponema pallidum

Rickettsia typhi

Epstein-Barr virus

Francisella tularensis

This is a 24-hour growth of a bubo puncture sample on meat-peptone agar. Which pathogen is this judging by its cultural properties?

+Yersinia pestis

Corynebacterium diphtheriae

Rickettsia prowazekii

Borrelia recurrentis

Brucella melitensis

This is a 48-hour growth of a bubo puncture sample on blood agar. Which pathogen is this judging by its cultural properties?

+ Yersinia pestis

Ureaplasma urealyticum

Treponema pallidum

Rickettsia typhi

This is a macroscopic image of a 2-day colony as it is seen by transmitted light. The colony has grown as a result of a bubo puncture sample having been inoculated on a solid growth medium. Which pathogen is this judging by its cultural properties?.

+Yersinia pestis

Francisella tularensis

Mycobacterium leprae

Mycoplasma hominis

Coronavirus

This is the growth of an armpit lymph node puncture sample on McCoy’s medium. Which pathogen is this judging by its cultural properties?

+Francisella tularensis

Treponema pallidum

Flavivirus

Borrelia recurrentis

This is a bacterioscopic image of a blood sample. Which pathogen is this judging by its morphological properties?

+Borrelia recurrentis

Rickettsia typhi

Bacillus anthracis

Streptococcus pyogenes

Lentivirus

This is a phase-contrast microscopy image of a blood sample. Which pathogen is this judging by its morphological properties?

+Borrelia caucasica

Clostridium perfringens

Vibrio cholerae

Bunyavirus

This is a bacterioscopic image of an inguinal lymph node puncture sample stained by Morozov’s method. Which pathogen is this judging by its morphological properties?

+Treponema pallidum

Francisella tularensis

Yersinia pestis

Neisseria gonorhoeae

Proteus vulgaris

This is an electron microscopy image of an inguinal lymph node puncture sample. Which pathogen is this judging by its morphological properties?

+Treponema pallidum

Listeria monocytogenes

Clostridium botulinum

Escherichia coli

Chlamydia trachomatis

This is a bacterioscopic image of a an inguinal lymph node puncture sample stained by Giemsa’s method. Which pathogen is this judging by its morphological properties?

+Treponema pallidum

Hantavirus

Ureaplasma urealyticum

Francisella tularensis

This is a bacterioscopic image of a urine sample taken on the 2-nd week of the disease. Which pathogen is this judging by its morphological properties?

+Leptospira interrogans

Rickettsia typhi

Ureaplasma urealyticum

Proteus vulgaris

Pseudomonas aeruginosa

This is an electron microscopy image of a urine sample taken on the 2-nd week of the disease. Which pathogen is this judging by its morphological properties?

+Leptospira interrogans

Listeria monocytogenes

Brucella abortus

Klebssiella oxytoca

Neisseria gonorhoeae

This is a phase-contrast microscopy image of a urine sample taken on the 2-nd week of the disease. Which pathogen is this judging by its morphological properties?

+Leptospira interrogans

Bacillus anthracis

Ureaplasma urealyticum

Haemophilus influenzae

Morbillivirus

This is a bacterioscopic image of a blood sample stained by carbol fuchsin and bluing. Which pathogen is this judging by its morphological properties?

+Rickettsia prowazekii

Escherichia coli

Mycoplasma hominis

Listeria monocytogenes

Francisella tularensis

This is a bacterioscopic image of a blood sample stained by Zdrodovsky’s method. Which pathogen is this judging by its morphological properties?

+Rickettsiaceae

Vibrionaceae

Clostridiaceae

Spirochaetaceae

The diagram shows the life cycle of an intracellular parasite. Which pathogen is this?

+Chlamydia trachomatis

Rickettsia typhi

Mycoplasma pneumoniae

Pneumovirus

Herpes simplex virus

This is a microscopy image of a cervical swab, you can see the colonies located inside the cells. Which pathogen is this judging by its morphological properties?

+Chlamydia trachomatis

Lyssavirus

Cytomegalovirus

Treponema pallidum

Vibrio cholerae

This is the growth of a patient’s urethral swab on the growth medium containing yeast extract, urea and horse serum. Which pathogen is this judging by its cultural properties?

+Ureaplasma urealyticum

Chlamydia trachomatis

Neisseria gonorhoeae

Treponema pallidum

Brucella abortus

This is the growth of a patient’s sputum sample on the growth medium containing yeast extract and horse serum. Which pathogen is this judging by its cultural properties?

+Mycoplasma pneumoniae

Chlamydia pneumoniae

Klebssiella pneumoniae

Mycobacterium tuberculosis

Legionella pneumophila

This is an electorn microscopy of a pure bacterial culture sample taken from Kitt-Tarozzi medium. Which pathogen is this judging by its morphological properties?

+Clostridium tetani

Bacillus anthracis

Salmonella enteritidis

Yersinia enterocolitica

The picture shows spore-forming bacteria. Which family can they belong to?

+Clostridiaceae

Vibrionaceae

Rickettsiaceae

Spirochaetaceae

Bacillaceae

This is a bacterioscopic image of a pure culture sample taken from the thioglycolate broth. Which pathogen is this judging by its morphological properties?

+Clostridium tetani

Helicobacter pylori

Acinetobacter haemolyticus

Aspergillus fumigatus

Enterobacter cloacae

This is the growth of a sample from suture material on blood agar after it was cultured in strict anaerobic conditions. Which pathogen is this judging by its cultural properties?

+Clostridium tetani

Streptococcus pyogenes

Pseudomonas aeruginosa

Haemophilus influenzae

Candida albicans

This is the growth of a pathogen isolated from a puncture wound on a foot. The pathogen has been cultured on sugar-blood agar in strict anaerobic conditions. Which pathogen is this judging by its cultural properties?

+Clostridium tetani

Bacillus anthracis

Staphylococcus aureus

Actinomyces pyogenes

Hepacivirus

This is the growth of a blood sample on Kitt-Tarozzi medium. Which pathogen is this judging by its cultural properties?

+Clostridium tetani

Escherichia coli

Haemophilus influenzae

Helicobacter pylori

Cytomegalovirus

This is a bacterioscopic image of a pure culture of bacteria with subterminal spores. Which pathogen is this judging by its morphological properties?

+Clostridium botulinum

Clostridium tetani

Bacillus anthracis

Yersinia pestis

Microsporum canis

The photo shows the culture growth of homemade canned mushrooms sample on Wilson-Blair medium. Which pathogen is this judging by its cultural properties?.

+Clostridium botulinum

Staphylococcus saprophyticus

Escherichia coli

Vibrio cholerae

Pseudomonas aeruginosa

The picture shows the culture growth of a dried fish sample on iron sulphite agar. Which pathogen is this judging by its cultural properties?

+Clostridium botulinum

Leptospira interrogans

Micrococcus luteus

Staphylococcus aureus

This is a macroscopic image of a colony which has grown on sugar-blood agar after the inoculation of canned vegetables and their incubation in strict anaerobic

conditions. Which pathogen is this judging by its cultural properties?

+Clostridium botulinum

Acinetobacter haemolyticus

Francisella tularensis

Brucella melitensis

Trichophyton rubrum

This is a bacterioscopic image of a pure bacterial culture sample taken from Kitt-Tarozzi medium and stained by Burri-Gins’ method. Which pathogen is this judging by its morphological properties?

+Clostridium perfringens

Streptococcus pyogenes

Escherichia coli

Salmonella enteritidis

This is a bacterioscopic image of a wound swab stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Clostridium perfringens

Staphylococcus aureus

Escherichia coli

Proteus mirabilis

Pseudomonas aeruginosa

This is a bacterioscopic image of a pure bacterial culture sample taken from Wilson-Blair medium and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Clostridium perfringens

Legionella pneumophila

Enterobacter cloacae

Neisseria gonorhoeae

Corynebacterium diphtheriae

This is a macroscopic image of colonies which have grown on blood agar after the inoculation of wound dressing materials and their incubation in strict anaerobic conditions. Which pathogen is this judging by its cultural properties?

+Clostridium perfringens

Escherichia coli

Haemophilus influenzae

Mycoplasma hominis

Hepatovirus

This is the culture growth of wound discharge in milk. Which pathogen is this judging by its cultural properties?

+Clostridium perfringens

Haemophilus influenzae

Escherichia coli

Chlamydia pneumoniae

Rickettsia typhi

This is the culture growth of wound discharge in an agar column after the incubation in strict anaerobic conditions. Which pathogen is this judging by its cultural properties?

+Clostridium perfringens

Staphylococcus aureus

Aspergillus fumigatus

Bunyavirus

This is the culture growth of a suture material sample on egg-yolk salt agar after the culturing in strict anaerobic conditions. Which pathogen is this judging by its cultural properties?

+Clostridium perfringens

Helicobacter pylori

Neisseria gonorhoeae

Treponema pallidum

Proteus mirabilis

This is the growth of a pure culture taken from wound discharge and inoculated on blood agar after it was left for some time in the open air. Which pathogen is this judging by its cultural properties?

+Clostridium perfringens

Borrelia recurrentis

Klebsiella oxytoca

Streptococcus pneumoniae

Lyssavirus

This is a bacterioscopic image of a pure culture sample isolated from blood and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Pseudomonas aeruginosa

Vibrio cholerae

Staphylococcus saprophyticus

Chlamydia pneumoniae

This is a bacterioscopic image of a pus swab stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Pseudomonas aeruginosa

Streptococcus pyogenes

Mycobacterium tuberculosis

Leptospira interrogans

This is the culture growth of a wound discharge sample on meat-peptone agar after it was cultured in aerobic conditions. Which pathogen is this judging by its cultural properties?

+Pseudomonas aeruginosa

Clostridium perfringens

Leptospira interrogans

Candida albicans

This is the culture growth of a sputum sample on meat-peptone agar. Which pathogen is this judging by its cultural properties?

+Pseudomonas aeruginosa

Mycoplasma pneumoniae

Chlamydia pneumoniae

Haemophilus influenzae

This is the culture growth of Pseudomonas aeruginosa on meat-peptone agar. Which pigment is being detected?

+pyocyanin

melanin

blumarine

prodigiosan

fluorochrome

This is the culture growth of a wound dressing material sample on meat-peptone agar slant after it was cultured in aerobic conditions. Which pathogen is this judging by its cultural properties?

+Pseudomonas aeruginosa

Mycobacterium tuberculosis

Helicobacter pylori

Shigella sonnei

Escherichia coli

This is the culture growth of a urine sample on liquid enriched growth medium after it was cultured in aerobic conditions. Which pathogen is this judging by its cultural properties?

+Pseudomonas aeruginosa

Leptospira interrogans

Ureaplasma urealyticum

Hantavirus

This is the culture growth of a cerebrospinal fluid sample on meat-peptone agar after it was cultured in aerobic conditions. Which pathogen is this judging by its cultural properties?

+Pseudomonas aeruginosa

Neisseria meningitidis

Haemophilus influenzae

Staphylococcus aureus

Actinomyces pyogenes

A patient’s blood sample was inoculated in sugar broth. After it was subcultured on blood agar there appeared the growth of colonies with melanin pigment. Which pathogen is this judging by its cultural properties?

+Pseudomonas aeruginosa

Haemophilus influenzae

Salmonella typhi

Clostridium tetani

Trichophyton rubrum

This is a bacterioscopic image of a blood sample stained by Burri-Gins’ method. Which pathogen is this judging by its morphological properties?

+Klebsiella oxytoca

Borrelia recurrentis

Ureaplasma urealyticum

Helicobacter pylori

This is the culture growth of a sputum sample on Endo agar. Which pathogen is this judging by its cultural properties?

+Klebsiella pneumoniae

Streptococcus pneumoniae

Chlamydia pneumoniae

Mycoplasma pneumoniae

This is the culture growth of a sputum sample on blood agar. Which pathogen is this judging by its cultural properties?

+Klebsiella pneumoniae

Mycobacterium tuberculosis

Corynebacterium diphtheria

Chlamydia pneumoniae

This is the culture growth of a urine sample on MacConkey agar. Which pathogen is this judging by its cultural properties?

+Klebsiella pneumoniae

Francisella tularensis

Ureaplasma urealyticum

Leptospira interrogans

Nairovirus

This is a bacterioscopic image of a pure culture sample taken from wound discharge and stained by Gram’s method. Which pathogen is this judging by its morphological properties?

+Proteus vulgaris

Corynebacterium diphtheriae

Streptococcus pneumoniae

Listeria monocytogenes

A patient’s blood sample was inoculated in sugar broth. After it was sub-cultured on blood agar there appeared colonies with a swarming growth. Which pathogen is this judging by its cultural properties?

+Proteus vulgaris

Staphylococcus aureus

Klebsiella oxytoca

Yersinia pseudotuberculosis

Helicobacter pylori

This is a macroscopic image of the colony of a pathogen isolated from pus. The colony has a characteristic swarming growth. Which pathogen is this judging by its cultural properties?

+Proteus mirabilis

Bacillus anthracis

Neisseria gonorhoeae

Klebsiella oxytoca

Mycobacterium tuberculosis

A cerebrospinal fluid sample was inoculated on meat-peptone agar which resulted in the growth of swarming colonies. Which pathogen is this judging by its cultural properties?

+Proteus mirabilis

Neisseria meningitidis

Mycobacterium tuberculosis

Rickettsia prowazekii

Brucella melitensis

A urine sample was inoculated on blood agar which resulted in the growth of swarming colonies. Which pathogen is this judging by its cultural properties?

+Proteus vulgaris

Micrococcus luteus

Actinobacillus lignieresii

Ureaplasma urealyticum

Chlamydia trachomatis

A sputum sample was inoculated on blood agar which resulted in the growth of swarming colonies. Which pathogen is this judging by its cultural properties?

+Proteus mirabilis

Yersinia pseudotuberculosis

Streptococcus pneumoniae

Bordetella pertussis

Pneumovirus

This is the culture growth of a cerebrospinal fluid sample on blood agar after it was cultured in aerobic conditions. Which pathogen is this judging by its cultural properties?

+Haemophilus influenzae

Rickettsia prowazekii

Borrelia recurrentis

Chlamydia trachomatis

This is a microscopy image of a pure culture sample taken from Sabouraud agar. Which pathogen is this judging by its morphological properties?

+Candida albicans

Neisseria gonorhoeae

Chlamydia trachomatis

Mycoplasma hominis

This is the culture growth of a vaginal material sample on Sabouraud agar. Which pathogen is this judging by its cultural properties?

+Candida albicans

Treponema pallidum

Chlamydia trachomatis

Mycoplasma pneumoniae

Brucella abortus

This is the culture growth of a fecal matter sample on Czapek-Dox medium. Which pathogen is this judging by its cultural properties?

+Candida albicans

Enterococcus faecalis

Escherichia coli

Enterobacter cloacae

Rotavirus

This is the culture growth of an oropharyngeal swab on wort agar. Which pathogen is this judging by its cultural properties?

+Candida albicans

Corynebacterium diphtheriae

Treponema pallidum

Rickettsia prowazekii

This is a microscopy image of a pure culture sample isolated from skin scales. Which pathogen is this judging by its morphological properties?

+Trichophyton rubrum

Candida albicans

Rickettsia typhi

Actinomyces pyogenes

This is a macroscopic image of a colony which has grown on wort agar after the inoculation of a damaged skin scrape.Which pathogen is this judging by its cultural properties?

+Trichophyton interdigitale

Candida albicans

Bacillus anthracis

Yersinia pestis

This is the culture growth of a nail plate scrape sample on Sabouraud agar. Which pathogen is this judging by its cultural properties?

+Trichophyton rubrum

Mycoplasma hominis

Listeria monocytogenes

Proteus mirabilis

Rubulavirus

This is a microscopy image of a pure culture sample isolated from damaged hair. Which pathogen is this judging by its morphological properties?

+Microsporum canis

Bacillus anthracis

Brucella suis

Francisella tularensis

This is the culture growth of damaged hair samples on Sabouraud agar. Which pathogen is this judging by its cultural properties?

+Microsporum canis

Candida albicans

Chlamydia psittaci

Rickettsia prowazekii

Borrelia recurrentis

This is a microscopy image of a pure culture sample isolated from sputum. Which pathogen is this judging by its morphological properties?

+Aspergillus flavus

Klebsiella pneumoniae

Bordetella pertussis

Legionella pneumophila

Mycoplasma pneumoniae

This is the culture growth of a sputum sample on Sabouraud agar. Which pathogen is this judging by its cultural properties?

+Aspergillus flavus

Streptococcus pneumoniae

Chlamydia pneumoniae

Klebsiella pneumoniae

This is a macroscopic image of a colony which has grown on Czapek-Dox medium from the sample isolated from sputum. Which pathogen is this judging by its cultural properties?

+Aspergillus fumigatus

Mycobacterium tuberculosis

Yersinia pseudotuberculosis

Streptococcus pneumoniae

Mycoplasma pneumonia