Часть 2. Special microbiology

1. Choose medication to treat diphtheria:

А. DPT vaccine

B. ADT-M-anatoxins, ADT-anatoxins

+С. Antitoxin serum

D. Monoanatoxins

E. Normal Gamma globulins

2. Name the drug that is injected intradermally for determining the delayed-type hypersensitivity in the case of tuberculosis. ###

+Tuberculin

3. Установите соответствие. Establish a correspondence between species of microorganisms and sensitive laboratory animals: 1) Mycobacterium tuberculosis 2) Mycobacterium bovis 3) Mycobacterium leprae

+2. Rabbits

+1. Guinea pigs

+3. Armadillos

4. Choose biomaterials used for microbiological diagnostics of leprosy:

А. Sputum, nasopharyngeal mucus, pleural exudate

B. Blood, cerebrospinal fluid

+С. Scrapings from skin granulomas and mucous granulomas

D. Sore discharge, transudate

E. Feces, urine

5. Choose main clinical forms of leprosy:

+А. Tuberculoid

B. Intestinal

С. Dermal

+D. Lepromatous

E. Pulmonary

6. Choose characteristics of family Enterobacteriaceae:

+ А. Gram-negative rods

B. Spore forming

С. Anaerobic respiration

+ D. Fermenting glucose to produce acid

7. Fermentation of ### is typical for all members of Enterobacteriaceae family.

+Glucose

8. What is the most common laboratory diagnosis method for determination of acute intestinal infection caused by members of Enterobacteriaceae? ###

+Bacteriological

9. Name the Genus of bacteria from Enterobacteriaceae family that causes typhoid and paratyphoid fevers, gastroenteritis and septicemias in humans? ###

+Salmonella

10. What is the source of infection (reservoir) of Salmonella Typhi bacteria? ###

+Human

11. Specific syndrome at the first stage of typhoid fever (increased temperature and confusions) is observed during bacteremia and caused by ### of bacteria.

+Endotoxin

12. What are possible routes of tuberculosis transmission?

+А. Droplet transmission

+B. Foodborne transmission

+С. Direct physical contact

D. Parenteral transmission

E. Sexual contact

13. What is the differential staining method for determining Mycobacterium genus? ###

+Ziehl-Neelsen

14. What is the reason of Mycobacteria acid-resistance during staining procedures?

+А. Their cell wall contains a lot of lipids and wax

B. Their cell wall contains lipopolysaccharides

С. Their membrane contains a lot of water

D. They contain volutin granules

15. The crucial virulence factor of Mycobacterium tuberculosis contained in the cell wall of bacterium is ### factor.

+Cord

16. What Mycobacterium species is unable to grow on any nutritious medium (Latin name)? ### ###

+Mycobacterium leprae

17. Choose method that does not use in basic laboratories medical practices for tuberculosis diagnostics:

А. Bacterioscopical

B. Bacteriological

+ С. Biological

D. Allergic

E. Genodiagnostic

18. Choose the source of typhoid fever infection:

А. pets

B. wild animals

+С. human

D. mouse-like rodents

19. What is the reservoir of shigellosis causative agents ###?

+Human

20. In human body Shigella species invade epithelial lining of ### intestine causing erosions and ulcers formation.

+Large

21. Choose characteristics of dysentery causative agents:

+А. Rod-shaped

+B. Ferment carbohydrates without producing gases

+С. Do not have flagella

D. Release hydrogen sulfide

E. Spore forming

22. In human body, dysentery pathogens (Shigella) are found:

+А. Inside of colon epithelial cells

B. On the surface of enterocytes villi

С. In the lumen of the small intestine

23. What selective media is used for isolation of Salmonella bacteria from feces ? ###

+Bismuth-sulphite

24. Choose pathogenic factors of diarrheagenic Escherichia coli:

+А. Heat-labile enterotoxin

B. Erythrogenic toxin

С. Protein A

D. Exfoliative toxin

25. Choose features of Shigella bacteria virulence:

А. Caused by flagella motions

+B. Caused by lipopolysaccharides

+С. Caused by Shiga toxin (cytotoxin) production

+D. Caused by invasin (outer membrane protein) production

E. Observed in the presence of calcium ions

26. Choose criteria of dividing Escherichia coli species into opportunistic and pathogenic categories:

А. Biochemical

+B. Antigenic structure

С. Cultural

D. Morphological

E. By sensitivity to bacteriophages

27. What is not characteristic of non-pathogenic Escherichia coli stains normally living in the human intestine:

А. They are antagonists of pathogenic microorganisms

B. They determine colonization resistance

+ С. They produce exotoxins

D. They participate in proteins and lipids metabolism and bile acids transformations

E. They participate in the certain vitamins and hormones synthesis

28. Diarrheagenic Escherichia coli stains can be divided into several categories: enterotoxigenic, enteropathogenic, enterohemorrhagic, enteroaggregative and ###.

+Enteroinvasive

29. Colonization factor and cholerogen-like enterotoxin are typical pathogenic factors of ### E.coli (category).

+Enterotoxigenic

30. Choose cholera causative agent:

А. Any Vibrio cholerae

+B. Toxigenic Vibrio cholerae

С. Any Vibrionaceae

D. Nontoxigenic Vibrio cholerae

31. Choose morphological characteristics of Vibrio cholerae:

+А. Comma-shaped

+B. Monotrichous

+С. Non-spore forming

D. Ovoid

32. Cholera gems and choleriformic vibrio are distinguished by:

+А. Agglutination by О1 or О139 serums

+B. Lysis by specific bacteriophages

С. Oxidase presence

D. Cultural properties

33. Choose biomaterials used for accelerated determining of cholera pathogens using RIF test:

А. Pus

+B. Stool

С. Sputum

D. Blood serum

34. What is the role of Vibrio cholerae О139 in human pathology:

А. Causes mild diarrhea

+B. Causes typical cholera

С. Causes food poisoning

D. Opportunistic microorganisms

35. What is the role of specific secretory IgA in the organism of the patient with cholera:

А. Prevent Vibrio cholerae penetration into blood

B. Kill Vibrio cholerae in bloodstream

+С. Block Vibrio cholerae attachment to the small intestine epithelium

+D. Provide intestine purification from Vibrio cholerae

E. Kill Vibrio cholerae in the intestinal lumen

36. Vibrio cholerae strains relate to the germ causing cholera by:

А. Sugars decomposition

B. Sensitivity to antibiotics

+С. Agglutination by О1 or О139 serums

+D. Sensitivity to diagnostic cholera monophages

37. Choose the feature that is not typical for Clostridium botulinum:

А. Gram-positive

B. Subterminal-located endospores are present

+С. Distinctive capsule is present

D. Flagella across the surface are present

E. Obligate anaerobic type of energetic metabolism

38. Routes of botulism transmission are foodborne and ### transmission.

+Wound

39. The major factors of botulism transmission are:

А. Birds' eggs

+B. Preserved homemade products

+С. Fish and meat products

D. Soil, silt

E. Open water

40. What cells are primarily damaged by the major virulence factor of Clostridium botulinum? ###

+Neuron\*

41. Choose the biomaterial that is not used for botulism tests:

А. Vomit and gastric washings

B. Blood

+С. Sputum

D. Urine

E. Feces

42. Blood of the patient with suspected botulism is tested to detect the presence of ###:

+Toxin\*

43. Choose medication that is used for emergency prevention of botulism:

А. Anatoxin

+B. Antitoxic polyvalent serum

С. Inactivated vaccine

44. For botulism serotherapy do not use:

А. Antitoxic polyvalent serum

B. Typical antitoxic serums A, В, Е

+С. Anatoxin

45. The major factors of gastrointestinal tract dysbiosis are all bellow, except:

А. Stress

+ B. age of a person

С. Intestinal infections

D. Antibacterial drugs treatment

E. Long hormone and chemo- and radiotherapy

F. Immunodeficiency states

46. Plague pathogen is:

А. Gram-negative coccus

+B. Ovoid bipolar-stained Gram-negative rod

С. Gram-negative curved rod

D. Ovoid bipolar-stained Gram-positive rod

E. Gram-negative coccobacterium

47. Virulence factors of plague bacteria are all listed except:

А. Capsule

B. V- and W-, F1- antigens

С. Exotoxin (murine toxin)

+D. Nucleoproteins

E. Endotoxin

F. Plasma coagulase, fibrinolysin

48. Cultural properties of anthrax causative agents are:

А. Not demanding to growth medium

+B. Grow better at 20 C

+С. Form R-form colonies

D. Require presence of bile in medium

E. Grow in the atmosphere with necessary presence of carbon dioxide

49. Complex exotoxin (consisting of lethal factor, edema factor, and protective antigen) and presence of capsule are virulence factors of ### (Latin name).

+Bacillus anthracis

50. What are routes of anthrax transmission to humans:

А. Sexual

+B. Aerogenic

С. Transplacental

+D. Alimentary

+E. Contact

51. Choose the biomaterials used for laboratory diagnostics of anthrax:

А. Animal raw material (wool, skin, meat)

B. Sore discharge or blister fluid

С. Sputum

D. Feces

+E. All above are correct

52. What is the earlier method of tularemia diagnostics? ###

+Allergological

53. Choose the method of specific prevention of tularemia:

А. Rodents elimination

+B. Risk group vaccination

С. Bacilli-carriers elimination

D. Bacilli-carriers and rodents elimination

E. Universal vaccination

54. Healthy people get infected from the patients with tularemia:

А. Seldom

+B. Almost never

С. Often

55. Select brucellosis causative agents:

+А. Вrucella melitensis

+B. Вrucella abortus

+С. Вrucella suis

D. Bacillus anthracis

E. Yersinia pestis

56. Among the living organisms ### cannot be the reservoir of brucella

+Human

57. Select the impossible route of brucellosis transmission:

А. Alimentary

B. Contact

+С. Vector-borne

D. Droplet

58. Brucellosis pathogens in lymphoid-macrophage system:

А. Incapsulate

+B. Reproduce

С. Do not reproduce

59. Choose the method that is not used for brucellosis diagnostics:

+А. Biological

B. Bacteriological

С. Serological

D. Allergic (Burnet test)

60. What is the purpose of Wright test (agglutination reaction):

А. Determination of brucellosis antigens in patient serum

B. Allergic diagnostics of brucellosis

+С. Determination of brucellosis antibodies in patient serum

D. Selection of people to vaccinate against brucellosis

E. Determination of phagocytosis completion

61. Morphologically Leptospira bacteria are:

А. Thin spiral microorganisms with 3-5 large uneven curls and pointed ends

B. Coccobacteria

+С. Thin spirals with closely adjacent curls and end hooks. The cell has S- or C-curved shape

D. Thin spirals with 8-12 even curls

62. ### species can have S- or C-curved shape due to secondary curves presence

+Leptospira

63. Morphologically ### bacteria are thin spiral microorganisms with 3-8 large uneven curvs.

+Borrelia

64. The main virulence factor of Borrelia causing the relapsing fever is ###

+Endotoxin

65. Select disease caused by spirochetes:

А. Typhoid

+B. Lyme disease

С. Toxoplasmosis

D. Q-fever

E. Candidiasis

66. Select disease that is not caused by spirochetes:

А. Syphilis

+B. Q fever

С. Leptospirosis

D. Lyme disease

E. Relapsing fever

67. The reservoir of causative agents of epidemic relapsing fever is ###.

+Human

68. Select pathogens of Lyme disease:

А. Borrelia recurrentis

B. Borrelia persica

С. Borrelia caucasica

+D. Borrelia burgdorferi

E. Borrelia parkeri

69. What are the vectors of Lyme disease? ###

+Ticks

70. What is the main laboratory method of relapsing fever diagnosis? ###

+Microscopic

71. What clinical biomaterials are used for relapsing fever laboratory diagnosis? ###

+Blood

72. All spirochetes are Gram-###.

+Negative

73. Out of all spirochetes the ### germ are less subjected to staining with aniline dyes.

+Syphilis

74. Morphologically bacteria of genus ### are thin spirals with 8-12 even curvs.

+Treponema

75. What are reservoirs of syphilis infection? ###

+Human

76. Typical symptom of secondary syphilis is:

А. Gumma

B. Chancre

+С. Rash

D. Tabes dorsalis

E. Progressive paralysis

77. Gumma, tabes dorsalis, progressive paralysis are characteristics of ### syphilis.

+Tertiary

78. Select serological reaction that is not used for syphilis diagnostics in seropositive period:

А. Treponema pallidum immobilization test (TPI)

B. Fluorescent treponemal antibody test (FTA)

+С. Ascoli’s reaction

D. Reagin Wasserman test (RW)

E. Rapid Plasma Reagin (RPR)

F. Enzyme linked immunosorbent assay (ELISA)

79. Select the medication for specific prevention of syphilis:

А. Attenuated vaccine

B. Inactivated vaccine

+С. Specific prevention is not developed

D. Chemical vaccine

E. Anatoxin

80. Select the medication for specific prevention of anthrax:

А. Inactivated vaccine

B. Chemical vaccine

+С. Live non-encapsulated spore vaccine

D. Specific bacteriophage

E. Specific prevention is not developed

81. Gonococci are Gram-### bacteria

+Negative

82. What is the major route of gonorrhea transmission? ###

+Sexual

83. What is the main method of gonoblenorrhea diagnostics? ###

+Bacterioscopic

84. What is the major route of gonoblenorrhea infection transmission in newborns?

А. Transplacental

B. Intra-uterine

+С. Through birth canals

D. Sexual

85. What is the main method of laboratory diagnostics of acute gonorrhea?

А. Biological

+B. Bacterioscopic

С. Bacteriological

D. Serological

86. What is the main method of chronic gonorrhea diagnostics?

А. Biological

+B. Bacteriological

С. Serological

D. Bacterioscopic

87. Select the reason of complete dependence of chlamidya from the host cells:

А. Low content of nucleoproteins in the cell

+B. Inability to synthesize ATP

С. High wax and lipid content in the cell

D. Absence of ribosomes

88. Severe, generalized, acute or chronic febrile state with pathogens multiplication in the blood and lymphatic systems is called:

А. Bacteremia

+B. Sepsis

С. Toxinemia

89. Staphylococci do not cause:

А. Purulent-inflammatory processes of the skin, lymph nodes

B. Purulent-inflammatory processes of the respiratory system organs, eyes, sinuses

+С. Ornithosis

D. Purulent-inflammatory processes of the central nervous system

E. Sepsis

F. Food poisoning

90. Staphylococci bacteria have ### ### type of respiration.

+Facultative anaerobic

91. Staphylococci bacteria in liquid cultural media grow in the form of:

А. Bottom sludge

+B. Diffuse clouding

С. Wool lumps

D. Surface film

92. Choose selective nutrient media for Staphylococcus species:

А. Beef-extract agar, beef-extract broth

+B. Egg-yolk salt agar, beef-extract broth with 6,5% NaCl

С. Blood agar, serum agar

D. Endo, Levin, MacConkey media

E. Kitt-Tarozzi medium

93. Choose addition to egg-yolk salt agar that provides selective conditions for Staphylococcus species:

А. Milk

+B. 6,5% or 10% NaCl

С. Egg yolk

94. Staphylococcus aureus ### toxin causes newborn pemphigus (scalded skin syndrome)?

+Exfoliative

95. What is the main method of Staphylococcus infections diagnosis? ###

+Bacteriological

96. A set of type-specific staphylococcal ### is used for intra-species typing of Staphylococcus aureus to find out the source of infection.

+Bacteriophages

97. Gram-positive cocci with plasma coagulase isolated from pus can be identified as ### (Latin name).

+Staphylococcus aureus

98. What biomaterials is not used for bacteriological diagnostics of Staphylococcus infections:

А. Pus

B. Sputum, nasopharyngeal mucus

С. Sinuses aspirates

+ D. Hair

E. Blood

F. CSF

99. Streptococcus species do not cause:

А. Rheumatism

B. Sepsis

+С. Microsporia

D. Meningitis

E. Scarlet fever

100. Round-shaped, Gram-positive, non-spore forming, facultative anaerobic, catalase-negative, non-motile, pairwise chains in smears are characteristics of bacteria from genus ###.

+Streptococcus

101. On blood agar the type of ### hemolysis is typical for most Streptococcus pyogenes strains.

+Beta

102. What type of hemolysis on blood agar is typical for most of Streptococcus pneumonia strains ###?

+Alpha

103. ### is the toxin of Staphylococcus aureus causing the death of leukocytes and macrophages.

+Leukocidin

104. ### is virulence factor of Streptococcus pyogenes protecting from phagocytosis.

+Microcapsule

105. Streptococcus pyogenes caused Scarlet fever differs from other Streptococci of serogroup A in ### toxin producing

+Erythrogen\*

106. The major pathogen of gas anaerobic infection is:

А. Clostridium septicum

+B. Clostridium perfringens

С. Clostridium novyi

D. Clostridium tetani

107. Clostridium perfringens bacteria differ from other gas anaerobic infection pathogens in absence of ###

+Flagella

108. Clostridium perfringens bacteria in addition to essential structures have:

А. Volutine inclusions

+B. Capsule

С. Terminal located spores

D. Flagella

+E. Subterminal and central located spores

109. ### ### is used for emergency prevention and specific therapy of gas gangrene

+Antitoxin serum

110. The major reservoir of Clostridium tetani is:

А. Air

+B. Soil

С. Water

D. Human body

E. Animals and human blood vessels endothelium

111. Tetanus causative agent has ### ### type of respiration.

+Obligate anaerob\*

112. Choose medications that are used for plan specific prevention of tetanus:

А. BCG vaccine

B. Fermi vaccine

+С. DTP vaccine

D. Gamma-globulins, antitoxin serum

+E. DT-anatoxins

113. Choose medication that is used for passive emergency prevention of tetanus:

А. DTP or DP - vaccines

+B. Gamma-globulins, antitoxin serum

С. Bacteriophages

D. Tetanus anatoxin

114. Установите соответствие: Establish a correspondence between species of microorganisms and spore forming cell shape and spore location: 1) Clostridium perfringens, 2) Clostridium botulinum, 3) Clostridium tetani

+1. Central located spore, fusiform cell

+3. Terminal located spore, “drum stick” cell

+2. Subterminal located spore, “tennis racket” cell

115. Choose possible reservoirs of meningococcal infection:

+А. Patients with meningococcal infections

+B. Bacteria-carrier humans

С. Pets with meningococcal infections

D. Wild animals with meningococcal infections

E. Bacilli-carrier wild animals

116. What is the major reservoir of meningococcal infections?

+human

117. Choose characteristics of Meningococci:

А. Gramm-negative

B. Bean-shaped

С. Pairwise arrangement in the smear

D. Oxidase- and catalase-positive

E. Fermenting glucose and maltose to produce acid

+F. All of above are correct

118. Meningococci have ### type of respiration.

+aerob\*

119. Bordetella pertussis bacteria have ### type of respiration.

+aerob\*

120. Choose microbiological methods of meningococcal pharingitis diagnostics:

А. Bacterioscopic

+B. Bacteriological

С. Serological

D. Biological

E. Phagotyping

F. Allergic

121. What biomaterial is used for microbiological diagnostics of meningococcemia ###?

+Blood

122. What biomaterial is used for determining meningococcal pharingitis ### ###?

+Nasopharyngeal mucus

123. What pathological biomaterial is used for meningococcal meningitis diagnostics ### ###?

+spinal fluid

124. Установите соответствие Establish a correspondence between meningococcal disease and pathological biomaterial: 1) Meningococcemia 2) Nasopharyngitis, meningococcal-carriage 3) Meningitis

+1. Blood

+3. CSF (cerebro-spinal fluid)

+2. Nasopharyngeal mucus

125. Choose diphtheria pathogens biovars:

+А. Gravis

+B. Mitis

С. Xerosis

D. Pneumoniae

126. Choose morphological characteristics of diphtheria causative agents:

А. Gram-negative coccobacteria, capsule, non-spore forming, flagellum absence

+B. Gram-positive club shaped rods, non-spore forming, flagellum absence

С. Gram-positive, fusiform large rods, spore- and capsule-forming, flagellum absence

D. Gram-positive large rods, capsule-forming, terminal-located spores, peritrichous

127. What is the major route of diphtheria transmission ###?

+Droplet

128. Under microscope Corynebacterium diphtheriae are situated in stained smear:

А. Randomly

+B. Placed at an angle to each other (X- and Y-shaped)

С. Pairwise

D. Chain-like

E. In the form of “Cigarette packs”

129. Diphtheria pathogens are club-shaped due to presence of ### granules at the cell poles.

+Volutine

130. Corynebacterium diphtheriae gravis on tellurite blood agar grow as:

А. S-form

B. Small smooth convex colonies black in color, with smooth edges

С. Small smooth convex colonies, grayish in color, mercury-drop-like

+D. Crumbling colonies, grayish-black in color with radial striations and uneven edges, Daisy-flower-shaped

131. Corynebacterium diphtheriae mitis on tellurite blood agar grow in the form of

А. “Pebbled leather”

+B. Small smooth convex colonies black in color, with smooth edges

С. Crumbling colonies, grayish-black in color with radial striations and uneven edges, Daisy-flower-shaped

D. Small smooth convex colonies, grayish in color, mercury-drop-like

132. Diphtheria toxin causes:

А. Pulmonary edema, severe hypoxia, apnea

B. Direct lesions of the nervous tissue and spasmodic contraction of striated muscle

+С. Adrenal glands, myocardium and nervous system lesions

D. Vision loss, afonia, apnea due to inhibition of acetylcholine releasing in the synapses

133. What is the major method of microbiological diagnostics of diphtheria?

+Bacteriological

134. Choose location that is not characteristic of the pathological processes caused by Corynebacterium diphtheria :

А. Skin, wounds

B. Eye conjunctiva, ears

С. Pharynx, tonsils, nose

+ D. Colon

135. Choose the major diagnostic test for bacteriological diagnosis of diphtheria:

+А. Toxigenicity test

B. Tellurite blood agar growth test

С. Zaks test

D. Pizu test

E. Sugars decomposition test

136. ### reaction is used for enterobacteria serotyping.

+Agglutination

137. Lactose fermentation is typical for:

+А. Escherichia coli;

B. Shigella flexneri;

С. Salmonella Typhi;

D. Salmonella Typhimurium.

138. O-antigens of enterobacteria differ according chemical structure of ### molecule.

+Lipopolysaccharides

139. H-antigens of enterobacteria are ### according their chemical structure.

+Proteins

140. What enterobacteria genus includes obligate resident bacteria of human body normal microbiota? (Latin name)###

+Escherichia

141. Enterobacteria species are Gram-###.

+Negative

142. Enterobacteria have ###-shaped cells.

+Rod

143. Choose enterobacteria type of respiration :

А. Aerobic

B. Anaerobic

+С. Facultative anaerobic

D. Capnophiles

144. All enterobacteria species can utilize:

+А. Glucose

B. Lactose

С. Sucrose

D. Mannite

145. Pathogenic E. coli strains differ from opportunistic ones in:

А. Color of colonies on Endo agar

+B. Antigenic properties

С. Lactose fermenting ability

D. Glucose fermenting ability

146. Clinics and pathogenesis of diseases caused by enteroinvasive E. coli are similar to clinics and pathogenesis of ###.

+Shigellosis

147. Clinics and pathogenesis of diseases caused by enterotoxigenic E. coli are similar to ### clinics and pathogenesis.

+Cholera

148. What antigen defines serogroups of E. coli? ###

+О

149. What is the major method of shigelosis diagnosis? ###

+Bacteriological

150. The causative agents of bacillary dysentery belong to ### genus. (Latin name)

+Shigella

151. What is binomial Latin name of Gram-negative bean-shaped diplococci that cause venereal diseases? ### ###

+Neisseria gonorrhoeae

152. What is binomial Latin name of food poisoning pathogens resembling tennis racket, with subterminal-located spores? ### ###

+Clostridium botulinum

153. What is binomial Latin name of bacteria caused typhoid fever? ### ###

+Salmonella Typhi\*

153. What is binomial Latin name of causative agent of disease characterized by sudden dehydration and rice-water stool? ####

+Vibrio cholerae

154. What is binomial Latin name of Mycobacterium species causing generalized primary chronic disease discovered by G.А.Hansen. Do not grow on cultural media. ### ###

+Mycobacterium leprae

155. What is binomial Latin name of pathogen that is Gram-positive club-shaped rod, damage commonly upper respiratory tract, produce exotoxin, and can be determined by positive cystinase test? ### ###

+Corynebacterium diphtheriae

156. The most virulent for human Shigella species is:

+A. Shigella dysenteriae

B. Shigella flexneri

C. Shigella boydii

D. Shigella sonnei

157. Choose binominal Latin name of causative agent of escherichiosis:

A. Salmonella paratyphi A

+B. Escherichia

C. Mycobacterium

D. Escherichia coli

E. Shigella sonnei

158. Choose binominal Latin name of microorganism used for preparation of BCG vaccine:

A. Mycobacterium

+B. Mycobacterium bovis

C. Mycobacterium tuberculosis

D. Mycobacterium leprae

E. Mycobacterium africanum

159. Choose binominal Latin name of microorganism caused appearance of the hard chancre:

A. Borrelia reccurentis

B. Leptospira interrogans

C. Clostridium perfringens

+ D. Treponema pallidum

160. Choose binomial Latin name of Gram-negative bean-shaped diplococcus causing venereal diseases ### ###

+A. Neisseria gonorrhoeae

B. Neisseria menengitidis

C. Vibrio cholerae

D. Mycobacterium leprae

E. Treponema pallidum

161. Choose binomial Latin name of food poisoning pathogens resembling tennis racket, with subterminal-located spores ### ###

A. Corynebacterium diphtheriae

B. Clostridium perfringens

C. Mycobacterium tuberculosis

D. Escherichia coli

+ E. Clostridium botulinum

162. What is binomial Latin name of causative agents of disease characterized by sudden dehydration and rice-water stool?

A. Salmonella typhi

B. Shigella dysenteriae

C. Streptococcus pyogenes

+ D. Vibrio choler

163. Choose binomial Latin name of pathogen that can be finally determined by cystinase test (Pizu tests). ### ###

A. Escherichia

B. Salmonella typhi

C. Vibrio cholerae

+D. Corynebacterium diphtheriae

E. Staphylococcus epidermidis

164. What is Gram-negative spiral-shaped motile bacteria containing small uniform flexures and stained in pale pink according to Romanowski-Gimsa?

+A. Treponema pallidum

B. Mycobacterium leprae

C. Chlamydia trachomatis

D. Leptospira interrogans

E. Corynebacterium diphtheriae

165. What is the Latin name of HIV genus? ###

+Lentivirus

166. Influenza virus ultra-structure includes:

+А. Fragmented RNA

B. Nonfragmented RNA

С. Double-stranded RNA

D. DNA

+ E. Supercapsid

167. Choose the antigens of influenza virus type A :

А. Hexon-antigen

+B. Hemagglutinin (HA)

C. Fusion and hemolysis proteins

+D. Neuraminidase (NA)

+E. M-antigen (matrix protein associated with the NP)

168. Hemagglutinin and neuraminidase of influenza virus are ### located antigens.

+Superficial

169. Ribonucleoprotein (RNP) and M-matrix protein of influenza virus are ### located antigens.

+Internal\*

170. What are the types of influenza virus? ###, ###, ### (sign with a letter)

+А, +В, +С

171. Influenza A virus is divided into subtypes, except:

A. А (H1N1)

+B. А (H3N3)

C. А (H2N2)

D. А (H3N2)

172. Serological ### ### test is used to determine the type of influenza virus.

+Complement fixation

173. Choose features of the protective immune response to influenza:

А. Does not form

+B. Type-specific

+С. Is formed in presence of antibodies to hemagglutinin and neuraminidase

D. Is formed in presence of antibodies to ribonucleoproteins

+E. Depends significantly on the presence of secretory immunoglobulins A

174. Pandemics, epidemics and sporadic diseases are caused by influenza virus type ###.

+А

175. Epidemics and local outbreaks are caused by influenza virus type ###.

+В

176. Sporadic diseases are caused by influenza virus type ###.

+С

177. Laboratory diagnostics of influenza virus do not include:

А. Viroscopy, RIA, ELISA

B. Virological method (virus isolation)

+С. Allergic method

D. Serological method

178. Swabs from ### are used for viroscopical and virological diagnosis of influenza?

+Nasopharyn\*

179. Choose biomaterial that is used for serological diagnosis of influenza?

+А. Two blood samples (double serum)

B. A blood sample (serum)

С. Nasopharyngeal washings

D. Feces

180. Choose medication that is used for active specific prevention of influenza:

+А. Live intranasal vaccine

+B. Inactivated virion vaccine

+С. Subunit vaccine

D. Sabin vaccine

E. Salk vaccine

181. Measles virus contains a negative-sense spiral single-stranded ### (abbreviation).

+RNA

182. Antigens of measles virus show ### variability.

+No

183. What is not the characteristic of measles virus:

+А. Includes A, B, C serotypes

B. Serotypes are not detected

С. Antigens unity of viruses from different geographical areas is observed

184. Measles virus can cause ### formation during cultivation in cellular cultures.

+Syncytium

185. Slow infections, multiple sclerosis and subacute sclerosing panencephalitis (SSPE) can develop several years after ### infection.

+Measles

186. Choose medication that is used for active prevention of measles in Russia:

А. Inactivated vaccine

B. Hemagglutinin-split vaccine

+С. Live vaccine

187. Polioviruses , Coxsackievirus and ECHO virus belong to the genus ### in the family ###.

+Enterovirus

+Picornaviridae

188. Choose morphological and chemical characteristics of polioviruses:

+А. Contain positive-sense RNA genome

B. Contain negative-sense RNA genome

+С. Have capsid with icosahedral symmetry

D. Have outer membrane

E. Viral particle size is 300-400 nm

189. What are the types of poliovirus? ###, ###, ### (sign a number)

+1

+2

+3

190. Choose the impossible route of poliomyelitis transmission:

А. Fecal-oral

+B. Vector-borne

С. Droplet

D. Food-borne (water, milk and butter consumption)

191. Poliovirus is most likely to be isolated from ###

+Feces

192. Select characteristics of immunity in case of poliomyelitis:

+А. Type-specific

+B. Humoral

+С. Cell-mediated

+D. Forms with significant participation of secretory immunoglobulins A

E. Forms with DTH T-effectors significant participation

193. Live vaccine against poliomyelitis is given through the ###.

+mouth

194. Choose vaccine for active specific prevention of enterovirus infections that is not invited:

А. Inactivated poliovirus vaccine

+B. ECHO virus vaccine

С. Live poliovirus vaccine

195. Choose virus that is not causative agent of viral hepatitis:

А. Hepatitis virus except hepatitis A and B

B. Hepatitis E virus

+С. Epstein-Barr virus

D. Hepatitis B virus

E. Hepatitis D virus

196. What is the reservoir of hepatitis A virus? ####

+human

197. Choose methods that are used for hepatitis A diagnosis:

+А. Viroscopy (IEM)

B. Virusological method, cell culture contamination

+С. Serological method, specific IgM determination

D. HBs antigens determination

198. What type of hepatitis virus belongs to the family of Hepadnaviridae, contains DNA, is transmitted parenterally, is not cultivated in cell culture, is oncogenic: ###

+В

199. HBs antigen of hepatitis B virus is ### located antigen.

+superficial\*

200. Choose quality that doesn't characterize of hepatitis B virus:

А. Is not inactivated by treatment at 60 C for several hours

+B. Is inactivated by treatment at 60 C for several hours

C. Detergents sensitive

D. Is not inactivated by treatment at 60 C for 15-20 minutes

E. UV resistant

201. Select property that is not characteristic of immunity in case of hepatitis B:

А. Humoral

B. Cell-mediated

С. The role of antibodies to HBsAg is significant

+ D. Antibodies to HBsAg are not protective

E. Protects from repeated infection

202. Hepatitis D virus superinfection occurs in the presence of hepatitis ### virus

+В

203. HIV genome includes two single-strand ### molecules.

+RNA

204. HIV virion membrane contains glycoproteins gP with molecular masses of ### and ###.

+120

+41

205. gP 120 of HIV virion attaches to the cell membrane in the presence of ### receptor.

+CD4

206. HIV penetration to the cell cannot be achieved by:

+А. Virogeny

B. Membranes fusion

С. Receptor endocytosis

207. HIV infection specifically affects ### system of the organism.

+Immune

208. What is impossible route of HIV transmission?

+A. Droplet

+B. Alimentary

C. Transplacental

D. Hemocontact

209. Choose cells that are not HIV target-cells:

А. T-helper cells

B. Monocytes, macrophages

+С. Hepatocytes

D. Langerhans cells

E. Endothelial and epithelial cells

210. Choose biomaterials that contains insufficient amount of HIV:

А. Blood

B. Semen

С. Vaginal and cervical discharge

D. Brest milk

+E. Saliva, urine, lacrimal fluid

211. The goal of HIV infection therapy is:

+А. Prevention of disease progression

B. Complete curing

С. The elimination of the virus from the body

212. Name the form of a virus that exists outside the host cell:

+Virion

213. Phased papule rash is the characteristic of ### virus infection.

+Measles

214. ### type of virus infection can be characterized by viral DNA integration into the chromosome of the host cell.

+Integrative

215. What antigen is the major marker of hepatitis B infection? ###

+HBS

216. Name Family of viruses in which the members contain reverse transcriptase enzyme? ###

+Retroviruses

217. HIV infects ### subpopulations of T-lymphocytes.

+T-helper

218. What laboratory test is the most reliable test in HIV infection determination, an "expert" technique? ###

+Immunoblot

219. Choose the reason of liver cells cytolysis in case of viral hepatitis B infection:

А. The impact of the virus on hepatocytes

+B. Immune response to viral antigens and autoantigens

С. Bile ducts lesions

220. Chronicity of pathological process causing cirrhosis is typical characteristic of viral hepatitis ###.

+С

221. Choose characteristic of antigenic drift of influenza pathogens:

+А. Antigenic variations of the viral hemagglutinins are insignificant

B. Is associated with insignificant antigenic variations of viral capsid proteins

С. The main reason of pandemics

D. The result of recombination of human and bird influenza viruses

E. Causes new antigenic types of influenza viruses formations

222. The productive interaction of the virus with the cell results in ### for the cell.

+lysis

223. Influenza viruses are mostly cultivated on ### ###.

+Chicken embryos

224. ### reaction is used to determine influenza virus in infected chicken embryos.

+Hemagglutination

225. What infection disease does orchitis as complication in boys cause ? ###

+mumps

226. Damage of medulla oblongata, motor neurons and the front horns of spinal cord is typical for ### pathogenesis.

+Poliomyelitis

227. Poliomyelitis vaccine injection provides prevention of ### forms of infection.

+Paralytic

228. What type of nucleiс acid is typical for hepatitis B virus? ####

+DNA

229. Hepatitis C virus belongs to ### family.

+Flaviviridae

230. What type of nucleiс acid does in hepatitis C virus present? ####

+RNA

231. Hepatitis C virus can hide from immune system due to its high ###.

+Variability

232. Multiyear latent progress is characteristic of hepatitis ### virus.

+С

233. What type of hepatitis virus does of helper-virus require? ###

+D

234. What is the reservoir of parental virus hepatitis? ###

+Human

235. Gp120 and gp41 are antigens of ### virus.

+HIV

236. What HIV glycoprotein does interact with target-cells provide? ###

+120

237. Screening of HIV infection requires ### determination in blood.

+Antibodies

238. What is the Latin name of HIV genus? ###

A. Enterovirus

B. Lyssavirus

+C. Lentivirus

D. .Deltavirus

239. What type of nucleiс acid does in influenza virus present? ###

+RNA

240. Hepatitis B virus testing of donated blood is carrying out through ### antigen determination.

+HBS

241. What is the major route of hepatitis A virus transmission? ###

+Fecal-oral

242. Bacteriophages that lyse only one group of bacteria within the species are called ### bacteriophages

+Typical

243. Choose ferments of HIV pol-complex:

А. Protease, integrase, RNA-ase

B. DNA-polymerase, integrase

С. DNA-polymerase, protease

+D. Reverse transcriptase, RNA-ase, DNA-polymerase, integrase

244. Choose the measles symptoms:

А. Jaundice, liver and spleen increase

+B. Phased skin rash

С. Parotid salivary glands swelling

D. Paralysis development

245. What is not typical for hepatitis D virus:

А. Defective RNA containing virus

B. Reproduction is possible only during presence of hepatitis B virus

+С. The virus monoinfection is possible

D. The disease develops as coinfection or superinfection in presence of hepatitis B virus

246. Choose the virus that can be isolated from the feces 3 weeks after infection:

А. Hepatitis B virus

+B. Poliovirus

С. Influenza virus

D. Measles virus

247. What ferment does in the core of the influenza virus present?

А. Reverse transcriptase

B. DNA-polymerase

+С. RNA- polymerase

D. Protease

248. Pathogenic clostridia are (choose wrong answer):

A. Gram-positive

+B. Gram-negative

C. Anaerobes

D. Spore-forming

249. The leading factor in the pathogenicity of clostridia

A. Capsule

B. High biochemical activity

+C. Exotoxins

D. Endotoxins

250. ### is/are used for active specific prophylaxis of infections caused by pathogenic clostridia

+A. Toxoids

B. Antitoxic serum and immunoglobulins

C. Antimicrobial serum and immunoglobulins

D. Antibiotics

251. ### is/are used for specific treatment of infections caused by pathogenic clostridia

A. Antibiotics

B. Toxoid

C. Antimicrobial serum and immunoglobulins

+D. Antitoxic serum and immunoglobulins

252. The main causative agent of anaerobic gas gangrene

+A. C. perfringens

B. C. novyi

C. C. septicum

D. C. histolyticum

253. The causative agent of tetanus

A. C. novyi

+B. C. tetani

C. C. perfringens

D. C. histolyticum

254. The main causative agent of botulism

A. C. perfringens

B. C. novyi

+C. C. botulinum

D. C. tetani

255. The basis of the microbiological diagnosis of botulism is

+A. Determination of botulotoxins in the test material

B. Determination of specific antibodies

C. Isolation of pure culture

D. Identification of sensitization of the body

E. Detection of characteristic rods in the test material

256. Terminal location of the endospore

A. B. anthracis

B. C. perfringens

C. C. botulinum

+D. C. tetani

257. C. tetani has a ### location of spore in the cell

+A. Terminal

B. Subterminal

C. Central

258. C. botulinum has a ### location of spore in the cell

A. Terminal

B. Central

+C. Subterminal

259. C. perfringens has a ### location of spore in the cell

A. Terminal

+B. Central

C. Subterminal

260. Subterminal location of spores

+A. C. botulinum

B. B. anthracis

C. C. perfringens

D. C. tetani

261. Central location of spore

A. C. tetani

B. C. botulinum

+C. C. perfringens

D. E. coli

262. Choose cultural media used for cultivation of anaerobic bacteria:

A. Endo agar

B. Borget-Gengou medium

+C. Glucose agar in high column

263. Clostridium tetani causes

+A. Toxinemia

B. Bacteremia

C. Viremia

264. All of following characteristics are typical for C. perfringens, except for

A. Lack of mobility

+B. The absence of capsule

C. Producing of toxins

D. Formation of endospore

265. All of following characteristics are typical for C. tetani, except for

A. Peritrichous

B. The terminal location of the spore

+C. The presence of a capsule

D. Anaerobe

266. Choose characteristics of exotoxin of C. botulinum

+A. It’s neurotoxin

B. It’s membranotoxin

C. It causes toxic shock syndrome

267. Choose the type of flagella location of motile clostridia

A. Amphitrichous

+B. Peritrichous

C. Lophotrichous

D. Monotrichous

268. All of the following microorganisms are strictly anaerobic bacteria, except for

A. C. tetani

B. C. botulinum

+C. C. perfringens

269. Choose biological method used for diagnosis of botulism:

+A. Weinberg test

B. RIHA

C. RIA

D. Stormy fermentation test

270. Positive stormy fermentation test is typical for:

A. C. tetani

+B. C. perfringens

C. C. botulinum

271. Choose the name of neurotoxin produced by C. tetani:

A. Tetanolysin

+B. Tetanospasmin

C. Botulotoxin

D. Hemolysin

272. Opistotonus is typical for the disease caused by:

A. C. perfringens

B. C. botulinum

+C. C. tetani

273. Choose encapsulated bacteria

+A. C. perfringens

B. C. botulinum

C. C. tetani

274. Choose non-motile clostridia

A. C. botulinum

+B. C. perfringens

C. C. tetani

275. Choose cultural medium which cannot be used for cultivation of anaerobic bacteria

A. Glucose agar in high column

B. Wilson-Blair agar

+C. MacConkey agar

D. Kitt-Tarocci medium

276. C. botulinum causes botulism characterized by

+A. Flaccid paralysis

B. Spastic paralysis

C. Absence of paralysis

277. C. tetani causes tetanus characterized by

A. Flaccid paralysis

+B. Spastic paralysis

C. Absence of paralysis

278. Choose cultural media used for cultivation of anaerobic bacteria

A. Endo agar

B. MacConkey agar

+C. Kitt-Tarocci medium

279. Choose cultural media used for cultivation of anaerobic bacteria

+A. Wilson-Blair agar

B. Endo agar

C. Lowenstein-Jensen medium

280. Choose the causative agent of syphilis:

A. Treponema denticola

B. Treponema vincentii

+ C. Treponema pallidum

D. Treponema carateum

E. Treponema bryantii

281. All of the following properties are characteristic of the causative agent of syphilis, except for:

A. movable

+ B. has 3-10 irregular spirals

C. Gram negative

D. poorly stained with aniline dyes

282. All of the following factors are virulence factors of the causative agent of syphilis, except for:

A. A high invasiveness

+B. A exotoxin

C. A resistance to the complement system

D. A resistance to phagocytosis

E. A antigenic variation

283. The infection source of syphilis:

A. A bacteria carrier

+B. A sick person

C. A household items of the patient

D. A fresh blood of the patient

E. A infected food

284. Transmission pathway of syphilis:

A. sexual, through insect bites

B. alimentary, contact

+C. sexual, transplacental

D. by airborne

284. The pathogenesis of syphilis is characterized by all of the following properties, except for:

+A. A fibrinous inflammation

B. A generalization of infection

C. A long-term persistence

D. A development of T-hypersensitivity

285. Congenital syphilis is characterized by all of the following properties, except for:

A. is possible in the first trimester of pregnancy

+B. is possible in the second trimester of pregnancy

C. can be prevented

D. prevention method - treatment of a pregnant

E. the outcome of infection depends on the stage of pathogenesis in the mother

286. Early congenital syphilis is characterized by all of the following properties, except:

+A. is detected during the first 2 years of life

B. An infection occurs in the first trimester of pregnancy

C. A mother has primary syphilis

D. The lesions correspond to the tertiary period

E. A typical manifestation is the Hutchinson triad (keratitis, barrel-shaped teeth, deafness)

287. Late congenital syphilis is characterized by all of the following properties, except:

A. is characterized by stillbirth

+B. is detected after 5-20 years

C. A lesions correspond to the primary period

D. A lesions correspond to the secondary period

E. induces intense immunity

288. The pathogenesis of primary syphilis is characterized by all of the following properties, except:

A. A penetration through damaged mucous membranes and skin

B. A formation of hard chancre

C. A regional lymphadenitis

+ D. A granulomatous inflammation

289. The pathogenesis of secondary syphilis is characterized by all of the following properties, except:

A. A generalization of infection

+B. The formation of secondary hard chancres

C. The lesions to the skin and mucous membranes (rash)

D. The lesions to the lymph nodes, central nervous system, joints, etc.

E. A spirochemia

290. The pathogenesis of tertiary syphilis is characterized by all of the following properties, except:

+A. A spirochemia

B. An insignificant amount of spirochetes in the body

C. The development of a delayed-type hypersensitivity reaction

D. The formation of gummas in the cardiovascular system, liver, central nervous system, skin

E. The significant violations of the functions of internal organs

291. Microbiological diagnosis of secondary and tertiary syphilis is based on:

A. A detection of delayed-type hypersensitivity reactions

+B. An antibody detection

C. An isolation a pure culture

D. A detection of pathogen

E. is not carried out

293. Microbiological diagnosis of primary syphilis is based on:

A. An isolation f pure culture

+B. A dark-field microscopy of the contents of chancre and node aspirate

C. A detection of antibodies

D. A dark-field microscopy of the contents of the elements of the rash

294. Nonspecific reactions that are used for the serodiagnosis of syphilis:

A. A microprecipitation reaction (RMP), ELISA

+B. A microprecipitation reaction (RMP), Wasserman test

C. ELISA, immune blotting

D. Reaction of Indirect Hemagllutination, reaction of indirect Immunofluorescence

E. RIBT, reaction of indirect Immunofluorescence

295. Specific reactions that are used for serodiagnosis of syphilis:

A. A microprecipitation reaction (RMP), ELISA

B. Wassermann test, Reaction of Indirect Hemagllutination

C. ELISA, Wassermann test, RMP

+D. Reaction of immobilization of pale treponema, Reaction of Indirect Hemagllutination, ELISA

E. Reaction of immobilization of pale treponema, RMP, Wassermann test

296. Specific prevention and therapy of syphilis is:

A. use of penicillin

+B. not developed

C. use of contraceptives

D. use of a specific vaccine

E. use of specific immunoglobulin

297. What of the following viruses can be isolated from feces during 3 or more weeks after infection?

+A. Poliovirus

B. Hepatitis B virus

C. Influenza virus

D. Measles virus

298. Polioviruses, Coxsackieviruses, ECHOviruses belong to the family ### genus ###;

A. Retroviridae Lentivirus

B. Rhabdoviridae Lyssavirus

+C. Picornaviridae Enterovirus

D. Picornaviridae Hepatovirus

299. The immune response against poliomyelitis is characterized by all of the following properties except:

A. humoral

+B. cell-mediated

C. type-specific

D. is formed with significant involvement of secretory immunoglobulin

300. Choose a method of introduction of a live polio vaccine:

A. subcutaneously

B. intramuscularly

C. intravenously

+D. oral administration

301. The poliomyelitis virus in morphology, size, chemical composition is characterized by the following properties:

+A. a single-stranded positive-RNA containing virus; has spherical shape with a diameter of 27 nm and a icosahedral type of symmetry of capsid ;

B. a single-stranded negative-RNA containing virus; is surrounded by an envelope and has a bullet-shaped form with a length of 300-400 nm ;

C. a single-stranded positive-RNA containing virus; is surrounded by an envelope and has a spherical shape with a diameter of 42 nm.

302. All of the following viruses belong to the genus Enterovirus except for:

A. Coxsackie virus

B. Echoviruses

C. Poliovirus

+D. Hepatitis B virus

303. Hand-foot-and-mouth disease virus belongs to the family ### genus ###:

А. Picornaviridae Enterovirus

+B. Picornaviridae Aphtovirus

C. Retroviridae Lentivirus

D. Picornaviridae Hepatovirus

304. What viruses cause enteroviral vesicular stomatitis with exanthem, as well as diseases of the throat (Herpangina):

A. Coxsackie B virus

+B. Coxsackie A virus

C. Poliovirus

D. Hand-foot-and-mouth disease virus

305. Choose a specific prevention of diseases caused by ECHO viruses:

A. an introduction of a vaccine containing attenuated ECHO viruses

B. an introduction of inactivated polio vaccine

C. an introduction of a vaccine containing inactivated ECHO viruses.

+D. is not developed

306. All of the following properties belong to the morphological properties of ECHO viruses except for:

A. small size of virion with a diameter of 25-30 nm

B. an icosahedral type of symmetry of capsid

+C. helical type of symmetry of capsid

D. lack of supercapsid

307. What genus does not belong to the Picornaviridae family?

+А. Lyssavirus

B. Aphtovirus

C. Enterovirus

D. Hepatovirus

308. Choose the measures used to treat poliomyelitis:

A. an introduction of inactivated polio vaccine

B. an administration the antibiotics

+C. a symptomatic treatment

D. an introduction of oral polio vaccine

309. Choose the source of infection of the hand-foot-and-mouth disease:

+A. cattle

B. virus carrier

C. sick person and a virus carrier

D. only a sick person

310. How many types is the polio virus divided into:

А. one

B. two

+C. three

D. five

311. Choose the mechanism of transmission of poliovirus:

+A. Fecal-oral

B. Airborne

C. Vector-borne

D. Direct contact

E. Vertical

312. For the prevention what forms of the poliomyelitis is an inactivated polio vaccine used?

+A. Paralytic

B. Abortive

C. Meningeal

313. Poliovirus can be transmitted by all of the following pathways and the factors except for:

A. Fecal-oral

B. Airborne

+C. Vector-borne

D. by infected water, milk, butter

314. All of the following vaccines have been developed for the specific prophylaxis of enterovirus infections except:

+A. a vaccine against ECHO viruses

B. a killed poliovirus vaccine

C. a live poliovirus vaccine

315. A patient infected with the poliovirus with the greatest constancy secretes the viruses with the following biological material:

A. lymph

B. blood

+C. feces

 D. cerebrospinal fluid

316. Choose an infection disease the pathogenesis of that is characterized with the predominant lesion of motor neurons of the anterior horns of the spinal cord:

A. Flu

B. Hepatitis B

C. Hepatitis A

+D. Poliomyelitis

317. What does the composition of the oral polio vaccine (OPV) includes?

+A. The attenuated poliovirus strains

B. The inactivated ECHO viruses

C. The inactivated polio viruses

D. The antibodies against polioviruses

318. What does the poliovirus genome consists of?

+A. a single-stranded positive sense RNA

B. a single-stranded negative-sense RNA

C. a double-stranded linear DNA

D. a double-stranded circular DNA

319. Choose the source of infection of poliomyelitis:

A. pigs

B. cattle

+C. a sick person and a virus carrier

D. only a sick person

320. Choose an acute zoonotic infectious disease characterized by ulcerative (aphthous) lesions of the oral mucosa and of the skin of the lower and upper extremities:

+A. Hand-foot-and-mouth disease

B. Poliomyelitis

C. Rabies

D. Hepatitis A

321. Coxsackie viruses belong to the family ### genus ###:

А. Picornaviridae Hepatovirus

B. Picornaviridae Aphtovirus

C. Retroviridae Lentivirus

+D. Picornaviridae Enterovirus

322. Choose the causative agent of Hand-foot-and-mouth disease:

A. poliovirus

+B. Coxsackievirus A

С. Coxsackievirus B

D. ECHO viruses

323. Choose a specific prevention of diseases caused by Coxsackie viruses:

A. the introduction of a vaccine containing inactivated Coxsackieviruses A

B. the introduction of an oral polio vaccine

C. the introduction of a vaccine containing attenuated Coxsackieviruses A and B

+D. is not developed

324. The appearance of painful, irregularly shaped bright red superficial ulcerations (aphthae), sometimes merging with each other, is characteristic of a disease caused by:

A. Poliovirus

B. ECHO viruses

+C. Hand-foot-and-mouth disease virus

325. What genus does not belong to the Picornaviridae family?

А. Aphtovirus

+B. Lentivirus

C. Enterovirus

D. Rinovirus

326. Hepatitis A virus belong to the family ### genus ###;

A. Family Hepadnaviridae, Genus Orthohepadvirus

+B. Family Picornaviridae, Genus Hepatovirus

C. Family Picornaviridae, Genus Enterovirus

D. Family Togaviridae, Genus Deltavirus

E. Family Caliciviridae, Genus Hepacivirus

327. Choose a morphological property of hepatitis A virus:

A. a DNA-containing virus

B. a enveloped virus

C. has a helical type of symmetry

+D. RNA-containing virus

328. Hepatitis A has all of the following characteristics except:

A. is an anthroponotic infection

B. is transmitted by fecal-oral mechanism

C. is an intestinal infection

D. is a "dirty hands" disease

+E. is an especially dangerous infection

329. The pathogenesis of hepatitis A is characterized by:

+A. the cytopathic effect on hepatocytes

B. a formation of virus carrier state

C. a chronic disease

D. a persistent viraemia

E. a virogenation

330. A patient with hepatitis A is most dangerous to others:

A. immediately after infection

+B. at the end of the incubation period, in the preicteric period

C. during the preicteric, icteric periods

D. during the period of convalescence

E. throughout the entire period of the disease

331. Hepatitis E has most unfavorable prognosis for:

A. young children

+B. pregnant women

C. school children and adolescents

332. All of the following viral hepatitis belong to hepatitis with a parenteral transmission mechanism except

A. hepatitis G

B. hepatitis B

C. hepatitis D

+D. hepatitis A

E. hepatitis C

333. Choose viral hepatitis with fecal-oral mechanism of transmission:

A. hepatitis B, hepatitis C

B. hepatitis C, hepatitis G

C. hepatitis B, hepatitis D

+D. hepatitis A, hepatitis E

E. hepatitis E, hepatitis B

334. Hepatitis B virus belong to the family ### genus ###;

A. Family Picornaviridae, Genus Enterovirus

+B. Family Hepadnaviridae Genus Orthohepadnavirus

C. Family Picornaviridae, Genus Hepatovirus

D. not classified

E. Family Togaviridae, Genus Deltavirus

335. Choose the mechanism of transmission of hepatitis B:

A. Fecal-oral

B. Airborne

C. Vector-borne

+D. Direct contact

336. Presence of what serological marker indicates active HBV replication and risk of transmission of infection:

A. HBs-Ag

B. HBc-Ag

C. antibodies against HBe-Ag

+D. HBe-Ag

E. antibodies against HBs-Ag

337. Vaccination of a newborn against hepatitis B in a maternity hospital should be carried out:

+A. in the first 24 hours of life

B. on the 2nd day of life

C. on the 3rd day of life

D. on the 4th day of life

E. upon discharge from the maternity hospital

338. Active specific prophylaxis of hepatitis B is the introduction of ###:

A. a lamivudine

B. an interferon

+C. a recombinant vaccine (Engerix B et al.)

D. a live vaccine

E. an immunoglobulin (not later than 24 hours)

339. Choose a characteristic of Hepatitis C:

+A. a long-term latent course of the disease

B. especially severe course in pregnant women

C. a mono-infection is not possible

D. a formation a persistent post-infectious immunity

E. mostly fulminant form of infection

340. Choose the mechanism of transmission of hepatitis C:

A. Fecal-oral

B. Airborne

C. Vector-borne

+D. Direct contact

341. Hepatitis C is often characterized by :

A. a development of fulminant form (malignant)

+B. a development of a chronic infection

C. a recovery

342. All of the following features are characteristic of the hepatitis D virus except:

A. is a defective virus

B. cannot cause monoinfection

C. a reproduction of the hepatitis D virus only in the presence of HBV

+D. a reproduction of the hepatitis D virus in the presence of HCV

E. the composition of supercapsid of virus includes НBs-Ag

343. Superinfection with a delta virus poses a danger to patients:

A. with hepatitis A

+B. with hepatitis B

C. with hepatitis C

344. The human immunodeficiency viruses belongs to the family:

+A. Retroviridae

B. Picornaviridae

C. Togaviridae

D. Reoviridae

345. HBs antigen of the hepatitis B virus is antigen of ###

+A. a super capsid

B. a nucleocapsid

C. a core

346. The HIV genome includes two single-stranded molecules of

+A. RNA

B. DNA

C. RNA and DNA

347. The target cell receptor for HIV is ###:

A. CD 22

B. CD 19

C. CD 8

+D. CD 4

E. CD 3

348. Choose the primary manifestation of HIV infection:

A. pneumocystis pneumonia

B. generalized cytomegalovirus infection

C. atypical mycobacteriosis

+D. lymphadenopathy

E. flu

349. Choose the method that used for a screening serodiagnosis of HIV infection:

A. Immune electron microscopy (IEM)

B. Hemagglutination inhibition tests

C. PCR

+D. ELISA test

350. Choose the morphological property of hepatitis C virus:

A. does not have a super capsid

B. has a helical type of symmetry of capsid

C. is defective virus

+D. is RNA-containing virus

351. HIV-1 integrase has a pivotal role in the integration of viral DNA into:

+A. the genome of the affected cell (T helper)

B. ribosomes of affected cell

C. cytoplasmic membrane of the affected cell

D. the cell wall of the affected cell

352. Hepatitis D virus belongs to the family ### genus ###:

+A. Family Togaviridae, genus Deltavirus

B. is not classified

C. Family Caliciviridae, genus Hepacivirus

D. Family Picornaviridae, genus Hepatovirus

E. Family Picornaviridae, genus Enterovirus

353. Hepatitis C virus belong to the family ### genus ###:

A. Family Hepadnaviridae, genus Orthohepadnavirus

+B. Family Flaviviridae, genus Hepacivirus

C. Family Togaviridae, genus Deltavirus

D. Family Togaviridae, genus Flavivirus

E. Family Caliciviridae, genus Hepacivirus

354. Vaccine for specific hepatitis B prophylaxis contains:

A. DNA of virus

B. HBe-Ag

C. HBc-Ag

+D. HBs-Ag

E. antibodies against HBs-Ag

355. Reverse transcriptase (revertase) of HIV catalyze a reaction of synthesis

+A. a complementary DNA strand using RNA as a template

B. a complementary DNA strand using single-stranded DNA as a template

C. a complementary RNA strand using RNA as a template

356. HIV is characterized by ###:

A. a teratogenicity

+B. T-lymphotropic

C. an oncogenicity

D. an antigenic uniformity

E. a low virulence

357. Choose the living system that is used to cultivate HIV in vitro

A. chicken embryos

B. intracerebral infection of sucker mice

C. cell cultures CD8+ T cells

+D. cell cultures CD4+ T cells

E. is not cultivated

358. Choose the protein or glycoprotein of HIV that responsible for interaction with target cells:

A. p17

B. p7

+C. gp120

D.p24

E. p9

359. The human immunodeficiency viruses belong to the family ### genus ###

A. Family Rhabdoviridae, Genus Lyssavirus

+B. Family Retroviridae, Genus Lentivirus

C. Family Filoviridae, Genus Marburgvirus

D. Family Filoviridae, Genus Ebolavirus

E. Family Paramyxoviridae, Genus Rubulavirus

360. Choose the pathway of HIV transmission from infected mother to child:

A. only vertical pathway

B. only during childbirth

C. only during breastfeeding

+D. vertical pathway, during childbirth, during breastfeeding

E. is not possible

361. Choose the system of human body that is predominantly affected during HIV infection

+A. the immune system

B. the circulatory system

C. the nervous system

D. the endocrine system

362. The amount of HIV that is insufficient for infection is contained in:

A. blood

B. semen

C. vaginal secretions

D. breast milk

+ E. saliva, urine, lacrimal fluid

363. All of the following cells are target cells for HIV except:

A. T-helper

B. monocytes, macrophages

+C. hepatocytes

D. Langerhans cells

364. The hepatic cell cytolysis during viral hepatitis B is associated with:

A. a direct lesion of hepatocytes by virus

+B. a formation of an immune response against viral antigens that cause a lesion of hepatocytes

C. a lesion of the bile ducts

365. What subpopulations of T-lymphocytes are target cells for HIV?

+A. T-helper cells

B. T-suppressor cells

C. T-killer cells

D. T-regulator cells

366. The formation of what proteins are encoded in the *gag* genes of HIV:

+A. structural proteins of the virus - p17, p24, p7, p9

B. viral enzymes

C. envelope proteins gp 120 and gp 41

367. The formation of what proteins are encoded in the *ent* genes of HIV:

A. structural proteins of the virus - p17, p24, p7, p9

B. viral enzymes

+C. envelope proteins gp 120 and gp 41

368. The formation of what proteins are encoded in the *pol* genes of HIV:

A. structural proteins of the virus - p17, p24, p7, p9

+B. viral enzymes

C. envelope proteins gp 120 and gp 41

369. The flu virus belongs to the family:

+A. Orthomyxoviridae

B. Rhabdoviridae

C. Paramyxoviridae

D. Flaviviridae

370. Mumps virus belongs to the genus:

A. Avulavirus

B. Respirovirus

C. Feriavirus

+D. Rubulavirus

E. Henipavirus

371. Choose the type of nucleic acid of the influenza virus:

+A. eight single-stranded RNA segments;

B. a single-stranded circular RNA;

C. a double-stranded RNA;

D. a single-stranded linear RNA

372. What disease the appearance of Koplik’s spots is characteristic for:

A. herpes

+B. measles

C. rubella

D. mumps

E. parainfluenza

373. What is used for the specific prevention of mumps:

+A. a live vaccine

B. a killed vaccine

C. a subvirion vaccine

D. interferons

E. antibiotics

374. All of the following methods are used for laboratory diagnosis of influenza except:

A. a viroscopy (RIF, rhinocytoscopy), ELISA

B. a virological method (a virus isolation)

+C. an allergological method

D. a serological method

375. Choose the entry gates of the influenza virus:

+A. mucous membrane of the upper respiratory tract;

B. mucosa of the gastrointestinal tract;

C. blood;

D. skin

376. Choose the transmission mechanism of measles:

A. Fecal-oral;

B. Vector-borne;

C. Direct contact;

+D. Airborne.

377. Choose the main pathway of transmission of mumps:

A. by contaminated water

+B. by respiratory drop nuclei

C. by direct contact

D. transplacental

E. alimentary

378. Choose the serological reaction that is used to identify the influenza virus?

A. Enzyme-linked immunosorbent assay

B. The agglutination reaction

C. The precipitation reaction

+D. The indirect hemagglutination reaction

E. The complement fixation reaction

379. What drugs are prescribed for contact persons to protect them from measles?

+A. measles immunoglobulins

B. a measles vaccine

C. a normal human immunoglobulin

D. Antibiotics

E. Acyclovir

380. Choose the morphological properties of the influenza virus:

A. is a simple virus with the icosahedral type of symmetry of capsid

B. is an enveloped virus with the icosahedral type of symmetry of capsid

C. is a simple virus with the helical type of symmetry of capsid

+D. is an enveloped virus with the helical type of symmetry of capsid

381. Choose the internal antigens of the influenza virus:

A. N-Ag (NA)

B. H-Ag (HA)

C. M-Ag

D. NP-Ag

E. A and B are correct

+F. C and D are correct

382. Choose the external antigens of the influenza virus:

A. N-Ag (NA)

B. H-Ag (HA)

C. M-Ag

D. NP-Ag

+E. A and B are correct

F. C and D are correct

383. Choose an antigen of the influenza virus that is responsible for degradation of the protective layer of mucus in the respiratory tract and contributes to the release of new viral generation from the cell:

+A. N-Ag (Neuraminidase enzyme)

B. H-Ag (hemagglutinin)

C. M-Ag (matrix protein)

D. NP-Ag (nucleoprotein)

384. Choose the virus that does not have the neuraminidase activity:

A. The influenza virus

B. The mumps virus

+C. The measles virus

385. What type of the influenza virus causes pandemics, epidemics, sporadic diseases?

+A. Type A

B. Type B

C. Type C

386. The mumps virus belongs to the family:

+A. Paramyxoviridae

B. Orthomyxoviridae

C. Rhabdoviridae

D. Flaviviridae

387. Choose the morphological properties of the measles virus:

A. is a DNA-containing enveloped virus;

+B. is a single-stranded (-) RNA-containing enveloped virus;

C. is a simple DNA-containing virus.

388. Influenza A viruses are divided into subtypes, except for:

A. H1N1

+B. H3N3

C. H2N2

D. H3N2

389. What is used for active measles prevention?

A. a killed vaccine

B. MMR-vaccine

C. Measles live attenuated vaccine

D. A and B are correct

+E. B and C are correct

390. Choose the processes that provide the variability of surface antigens of influenza virus:

A. conjugation;

B. modification;

+C. drift and shift;

D. transformation.

391. The primary reproduction of the influenza virus occurs:

A. in the gastrointestinal tract;

B. in the blood;

+C. in the epithelial cells of the upper respiratory tract;

D. in the endothelium of blood vessels

392. Choose the source of infection of mumps:

A. medical instruments

+B. a virus carrier

C. a sick person

D. a sick animal

393. Choose the source of infection of measles:

A. medical instruments

+B. a virus carrier

C. a sick person

D. a sick animal

394. What clinical material should you take from a patient for serological diagnosis of influenza?

+A. two blood samples (“paired sera”)

B. one blood sample (serum)

C. a nasopharyngeal swab

D. feces

395. What antigens play a major role in the development of the immunity response against influenza?

+A. N-Ag (Neuraminidase enzyme) and H-Ag (hemagglutinin)

B. M-Ag (matrix protein)

C. Polymerase proteins

D. NP-Ag (nucleoprotein)

396. The cells of all of the following organs are sensitive to the mumps virus except:

A. Gonads

B. Pancreas

C. CNS

+D. Liver

397. Choose the antigen of the influenza virus that is responsible for a binding to the cell surface receptors to initiate infection:

A. N-Ag (Neuraminidase enzyme)

B. M-Ag (matrix protein)

+C. H-Ag (hemagglutinin)

D. NP-Ag (nucleoprotein)

398. What a influenza vaccine consists of temperature-sensitive mutants that can replicate in cooler nasal passages (33C), but not in warm lower respiratory tract (37C)?

A. Chemical (subunit) flu vaccine

B. Killed vaccine

+C. Live attenuated intranasal vaccine

399. What drug inhibits the release of viruses from infected cell (inhibition of NA) and is used to treat of patients with flu?

A. Remantadine

B. Amantadine

+C. Zanamavir

D. α-IFN

400. What drug is prescribed in the severe cases of flu?

A. Remantadine

+B. Homological anti-influenza human Ig

C. Zanamavir

D. α-IFN

401. How many serotypes of the measles virus is there?

+A. 1

B. 2

C. 3

D. 4

402. Choose the antigen of the measles virus that is responsible for virus penetration into the cell (fusion of membranes of target cell and virus) and fusion of target cells into syncytium:

+A. F-Ag

B. M-Ag

C. H-Ag

D. NP-Ag

403. What drug inhibits the uncoating of viruses in the infected cell and is used to treat of patients with flu?

+A. Remantadine

B. Homological anti-influenza human Ig

C. Zanamavir

D. α-IFN

1. The most virulent streptococcal species is:
2. Streptococcus mutans

+ B. Streptococcus pyogenes

C. Streptococcus agalactiae

D. Streptococcus salivarius

1. The most virulent staphylococcal species is:

+ A. Staphylococcus aureus

B. Staphylococcus epidermidis

C. Staphylococcus saprophyticus

D. Staphylococcus hominis

406. In microscope staphylococci are seen like:

+ A. Gram (+) grape-like arranged cocci

B. Gram (-) diplocicci

C. Gram (+) cocci arranged in chain

D. Gram (-) coccobacilli

407. In microscope streptococci are seen like:

A. Gram (+) grape-like arranged cocci

B. Gram (-) diplocicci

+ C. Gram (+) cocci arranged in chain

D. Gram (-) coccobacilli

408. The toxin of Streptococcus pyogenes caused the Scarlet fever is:

+ A. erythrogenic exotoxin

B. endotoxin

C. hemolysin

D. leucocidin

409. The toxin of Staphylococcus aureus caused the scalded skin syndrome is:

+ A. exfoliative toxin

B. enterotoxin

C. Toxic Shock Syndrome Toxin

D. hemolysin

410. The most important test for Staphylococcus aureus definition is:

+ A. plasma coagulase test

B. pigment production

C. resistance to high concentration of NaCl

D. ability to grow on a simple medium

411. Streptococcus pyogenes refers to the Lancefield’s serogroup:

+ A. A

B. B

C. C

D. D

412. Corynebacterium diphtheriae are arranged in smear:

+ A. at acute angles to one other

B. lie parallel to each other

C. form a chain

D. randomly

413. The most important factor of Corynebacterium diphtheriae pathogenicity is:

+ A. exotoxin production

B. endotoxin production

C. invasiveness into the body’s tissue

D. penetration into the blood

414. Corynebacterium diphtheriae is transmitted most commonly by the following mechanism:

+ A. respiratory

B. fecal-oral

C. Hemocontact

D. vertical

415. Tuberculosis may be caused by:

+ A. Mycobacterium bovis

B. Mycobacterium smegmatis

C. Mycobacterium avium

D. Mycobacterium intracellular416. The simplest laboratory test for detection of Mycobacterium in a sputum is:

+ A. Ziehl-Neelsen stain

B. Gram stain

C. inoculation on Lowenstein-Jensen medium

D. inoculation on blood agar

417. Influenza virus ultrastructure includes:

+ A. Fragmented RNA

B. Nonfragmented RNA

C. Double-stranded RNA

D. DNA

418. Hemagglutunun and neuraminidase of influenza virus are ### located antigens.

+ Superficial\*

419. Nucleoprotein (NP) and M-matrix protein of influenza virus are ### located antigens.

+ Internal\*

420. Choose properties of hemagglutinin (H-antigen) of influenza virus:

+A. Induces protective anti-hemagglutinins formation

B. Conservative

C. Induces non-protective antibodies formation

D. Define the type of an influenza virus

421. What is the type of influenza virus causing disease in human? ###

+А

422. Influenza A virus is divided into subtypes, except:

А. H1N1

+B. H3N3

C. H2N2

D. H3N2

423. What serological test is used to determine types of influenza virus? ### ### ###

+ Complement fixation reaction

424. Choose features of postvaccine immune response to influenza:

A. Does not form

+ B. Is formed in presence of antibodies to hemagglutinin and neuraminidase

C. Is formed in presence of antibodies to ribonucleoproteins

D. Intense, long-lasting

425. Pandemics, epidemics and sporadic diseases is caused by influenza virus type ###.

+ А

426. Local epidemics and outbreaks but no pandemics is caused by influenza virus type ###.

+ В

427. Sporadic diseases only is caused by influenza virus type ###.

+ С

428. What biomaterial is used for microscopical and virologic diagnostics of influenza? ### ###

+ Nasopharyngeal swab\*

429. Choose biomaterial that is used for serological diagnostics of influenza?

+ A. Two blood samples (double serum)

B. A single blood sample (serum)

C. Nasopharyngeal swabs

D. Sputum

430. Choose medications which may be used for prevention of influenza:

+ Live intranasal vaccine

+ B. Inactivated virion vaccine

+ C. Subunit vaccine

D. Sabin vaccine

E. Salk vaccine

431. Measles virus contains a negative-sense spiral single-stranded ###.

+ RNA

432. Superficial antigens of measles virus show:

+ A. No variability

B. High variability

C. No protection against disease

D. High protection against disease

433. What is not characteristic of measles virus:

+ A. Presence of the A, B, C serotypes

B. Serotypes are not detected

C. Antigens unity of viruses from different geographical areas is observed

434. The late clinical symptoms appearance in course of diphtheria disease are:

+ A. cardiac and peripheral nerves disturbance

B. sore throat

C. abdominal ache

D. high temperature

435. The single animal in that leprosy disease may be developed is ###

+ armadillo\*

436. Any Escherichia coli bacterium is resident of intestinal microbiota and cannot cause an enteric disease.

A. It is true

+ B. It is not true

437. Установить соответствие: Put correspondence between the stages of typhoid fever pathogenesis and the time of the stage development: a) excretion, b) invasion, c) digestion d) bacteremia, e) convalescence.

+ c, b, d, a, e.

438. Morphologically meningococci are:

+ A. Gram (-) diplococci

B. Gram (+) cocci

C. Gram (+) bacilli

D. Gram (-) bacilli

439. Morphologically germ of syphilis is:

+ A. Gram (-) spiral shaped bacterium

B. Gram (+) diplococcus

C. Gram (+) bacilli

D. Gram (-) bacilli

440. Morphologically germ of tetanus is:

+ A. Gram (-) spiral shaped bacterium

B. Gram (+) diplococcus

C. Gram (+) spore forming bacillus

D. Gram (-) no spore forming bacillus

441. The major pathogenic factor of the cholera causative agent is:

+ A. exotoxin

B. endotoxin

C. invasiveness

D. spore formation

442. Name diseases caused by pathogenic Clostridia:

+ A. tetanus

+ B. botulism

C. sore throat

D. meningitis

443. Meningococcal infection is transmitted by the following ways:

+ A. droplet

B. sexual contact

C. alimentary

D. transplacental

444. Polioviruses, Coxsackie virus and ECHO viruses belong to the genus ### in the family ###

+Enterovirus

+Picornairidvae

445. Choose morphological and chemical characteristics of polioviruses:

+A. Contain positive-sense RNA genome

B. Contain negative-sense RNA genome

C. Viral particle size is 300-400 nm

D. Have outer membrane

446. Choose the impossible route of poliomyelitis transmission:

A. Fecal-oral

+B. Vector-borne

C. Droplet

D. Food-borne (water, milk and butter consumption)

447. Name Ag of hepatitis B virus that is found into patient's blood as a marker of virus infection.

+НВs