Questions for current score by testing

**ESCHERICHIA COLI - THE CAUSATIVE AGENTS OF ESCHERICHIOSIS**

Test

1. **Name the taxonomic position of the causative agents of diarrheal Escherichiosis.**
   + Family Enterobacteriaceae, genus Escherichia, species *E. coli.*
   - Family Enterobacteriaceae, genus Shigella, species *E. coli.*
   - Family Enterobacteriaceae, genus Escherichia, species *E. coli.*
   - Family Micrococccaceae, genus Escherichia, species *E. coli.*
   - Family Enterobacteriaceae, genus Escherichia, species *E. blattae.*
   - Family Bacteroidaceae, genus Enterobacter, species *E. coli.*

2. **Name the taxonomic position of the causative agents of parenteral Escherichiosis.**
   + Family Enterobacteriaceae, genus Escherichia, species *E. coli.*
   - Family Enterobacteriaceae, genus Shigella, species *E. coli.*
   - Family Micrococccaceae, genus Escherichia, species *E. coli.*
   - Family Enterobacteriaceae, genus Escherichia, species *E. blattae.*
   - Family Bacteroidaceae, genus Enterobacter, species *E. coli.*

3. **Characterize the morphological features of the causative agents of diarrheal Escherichiosis.**
   + Direct rod-shaped bacteria.
   + Bacteria mobile (peritrichous).
   + In micropreparations of a bacterium are located separately or pairs.
   + Very big strain of bacteria forms a microcapsule.
   + Asporogenic bacteria.
   + Monobacteria.
   + Pathogenic and non pathogenic *E. coli* does not differ on morphology.
   - Monotrichous.
   - Always form capsule.
   - Always form spore.
   - Are capable of spore formation.

4. **Characterize tinctural properties of causative agents of Escherichiosis.**
   + Gram-negative bacteria.
   - Gram-positive bacteria.
   - Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.
   - Gram-negative bacteria, by Loeffler’s method are painted in the blue color.
   - Gram-positive bacteria, by Burri-Gins’s method are pained in the red color.

5. **Characterize the features of air on various serotypes of *E. coli.***
   + Facultative anaerobes.
   - Obligate anaerobic.
   - Microaerophils.
   - Obligate and facultative anaerobes.
   - Capnophiles.

6. **Name the source of infection for diarrheal Escherichiosis.**
   + Patient.
   + Bacteria carrier.
   + Animals (for EHEC).
   - The spores of the activator which are being ground.
   - The capsules of the activator which are being ground.
   - Is endogenous infection.
   - Is auto infection.

7. **Name ways of transfer of activators of intestinal Escherichiosis.**
   + Alimentary.
   + Contact (fecal-oral mechanism).
   - Aerogenic.
   - Transmissible.
   - Transplacental.
   - Transplantation.
   - Sexual contact.

8. **Which material from the patient with intestinal Escherichiosis will the doctors take for microbiological research?**
   + Feces.
   + Blood.
   - Mucus from nose.
- Urine.
- Bile.
- Cerebrospinal fluid.
- Pus from the wound
- Sputum.
- Foodstuff.
- Drinking water.

9. **Name methods of microbiological diagnostics of Escherichiosis.**
   + Bacteriological.
   - Microscopic.
   - Biological.
   - Serological.
   - Molecule-genetic.
   - Express method.
   - Skin-allergic test.

10. **The bacteriologist uses universal media for cultivating activators of Escherichiosis?**
    + Yes.
    - No.
    - Sometimes.
    - The right answer is not present.

11. **Name media (to destination) for cultivating of an investigated material from the patient of intestinal Escherichiosis.**
    + Differential-diagnostic.
    - Universal.
    - Enrichment medium.
    - Enriched medium.
    - Special.

12. **Name media for cultivating of an investigated material from the patient of intestinal Escherichiosis.**
    + Endo agar.
    + Eosine-methylene blue agar (Levin's medium).
    - Hiss medium.
    - Blood agar.
    - Selenite medium.

13. **Which properties does the bacteriologist investigate for identification of the activator of Escherichiosis?**
    + Morphology of bacteria.
    + Tinctorial properties.
    + Antigenic properties.
    + Cultural properties.
    + Biochemical properties.
    - Mobility of bacteria.
    - Features of breath.

14. **Characterize the cultural properties of the activator of Escherichiosis.**
    + Large red circular, convex, smooth colonies with an iridescent "sheen"
    + Colorless colonies (lactose-negative colonies).
    + Convex smooth S-colonies with equal edge (d = 3-5mm).
    + Dry R-colonies with rough edge.
    - For cultivation of bacteria it is necessary to create anaerobic conditions.

15. **Characterize the antigenic structure of the activator of intestinal Escherichiosis.**
    + O-antigene.
    + K-antigene.
    + H-antigene.
    - Vi-antigene.
    - M-antigene.

16. **Which toxins are synthesized with the activator of intestinal Escherichiosis?**
    + Endotoxin.
    + Enterotoxins.
    - Toxins does not synthesize.

17. **Characterize action of heat-stable (ST) enterotoxins on enterocytes of intestinal Escherichiosis.**
    + Activates guanylcyclase.
    + Increases in enterocytes the contents cGMP.
    - Transport Fe$^{2+}$ is broken.
    - Leads to loss mucus membrane of epithelial cells to a liquid.
- Activates adenylate cyclase.
- Increases in mucus membrane of epithelial cells to the contents cAMP.

18. **Characterize action of heat-labile (LT) enterotoxins on enterocytes of intestinal Escherichiosis.**
+ Activates adenylate cyclase.
+ Increases in enterocytes to the contents cAMP.
+ Breaks transport of electrolytes.
+ Leads to loss enterocytes to a liquid.
- Activates guanilylcyclase.
- Increases in enterocytes to the contents cGMP.

19. **Give the classification of diarrheal Escherichia coli.**
+ Enteropathogenic *E. coli*.
+ Enterotoxigenic *E. coli*.
+ Enteroinvasive *E. coli*.
+ Enterohemorrhagic *E. coli*.
+ Enterofibrinosis *E. coli*.
+ Endopathogenic *E. coli*.
+ Exopathogenic *E. coli*.
+ Autopathogenic *E. coli*.

20. **What preparations the doctor will appoint to the patient for specific preventive at intestinal Escherichiosis?**
+ Vaccination is not applied.
- Attenuated vaccine.
- Inactivated vaccine.
- Chemical vaccine.
- Toxoid.
- The right answer is not present.

21. **What diseases are activator of intestinal Escherichiosis?**
+ Coli-enteritis.
+ Food toxicinfection.
+ Cholera-like Escherichiosis.
+ Shigella-like Escherichiosis.
+ Hemorrhagic colitis.
- Shigellosis.
- Salmonellosis.
- Encephalitis.
- The right answer is not present.

22. **What diseases are caused by activators of parenteral Escherichiosis?**
+ Pyelonephritis.
+ *Neonatal* meningitidis.
+ Wound infection.
+ Secondary pneumonia.
- Shigellosis.
- Cholera-like Escherichiosis.
- Shigella-like Escherichiosis.
- Hemorrhagic colitis.

23. **What is parenteral Escherichiosis?**
+ Disease described by endogenic pyogenic and fever processes, caused by conditional-pathogenic *E. coli* on the basis of an immunodeficiency.
- Infections which activators are various serotype exogenic pathogenic *E. coli*.
- The diseases which cause diarrhea by a conditional-pathogenic *E. coli*.
- The right answer is not present.

24. **Characterize the features of immunity in persons who have been ill with intestinal Escherichiosis.**
+ Humoral.
+ Hyperimmunity.
+ Typespecific.
+ Local.
- Cellular.
- Unsterile.
- Abortive.

25. **Name eubiotics that doctor will appoint to the patient for correction of microflora** during diarrhoeagenic infections/
+ Bifidumbacterin.
+ Lactobacterin.
+ Coli-bacterin.
+ Bificol.
- Bacteriophage.
- The right answer is not present.

**CAUSATIVE AGENTS OF SHIGELLOSIS**

**Test**

1. **Characterize the morphological features of the causative agents of Shigellosis.**
   + Direct rod-shaped bacteria.
   + Bacteria nonmobile.
   + In micropreparations of a bacterium are located separately.
   + Asporogenous bacteria.
   + Monobacteria.
   + Other strains Shigella does not differ on morphology.
   + Do not form a capsule.
   - Monotrichous.
   - Always form capsule.
   - Always form spore.
   - Are capable of spore formation.
   - Bacteria mobile (peritrichous).

2. **Characterize tinctural properties of causative agents of Shigellosis.**
   + Gram-negative bacteria.
   - Gram-positive bacteria.
   - Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.
   - Gram-negative bacteria, by Loeffler’s method are painted in the blue color.
   - Gram-positive bacteria, by Burri-Gins’s method are painted in the red color.

3. **Name ways of staining causative agents of Shigellosis.**
   + Gram-method.
   - Ziehl-Neelsen’s method.
   - Burri-Gins method.
   - Loeffler’s method.
   - Neisser’s method.
   - Ojeshko method.
   - Auyeski’s method.
   - Romanovsky’s method.
   - Zdrodovsky’s method.

4. **Characterize the features of air on various serotypes of Shigella.**
   + Facultative anaerobes.
   + Aerobic.
   - Obligate anaerobic.
   - Microaerophils.
   - Obligate and facultative anaerobes.
   - Capnophiles.

5. **Name the source of infection for Shigellosis.**
   + Patient.
   + Bacteria carrier.
   - Animals.
   - The spores of the activator which are being ground.
   - The capsules of the activator which are being ground.
   - Is endogenous infection.
   - Is auto infection.

6. **Name ways of transfer of activators of Shigellosis.**
   + Alimentary.
   + Contact (fecal-oral mechanism).
   - Aerogenic.
   - Transmissible.
   - Transplacental.
   - Transplantation.
   - Sexual contact.

7. **Shigella sonnei was isolated from the faeces of a patient. What additional investigation should be done for the determination of the infection source?**
– Study sensitivity to antibiotics.
– To make the precipitation test.
– To make the complement fixation test.
+ Phage typing of the isolated pure culture.
– To make the neutralization test.

8. Which material from the patient with Shigellosis will the doctors take for microbiological research?
+ Faeces.
+ Vomiting mass.
+ Blood (at suspicion on bacteremia).
+ Blood (for serological researches).
+ Urine (at suspicion on bacteremia).
+ Autopsy material (fragments big intestinal).
- Mucus from nose.
- Bile.
- Cerebrospinal fluid.
- Pus from the wound
- Sputum.
- Foodstuff (milk, cottage cheese, sour cream).
- Drinking water.

9. Name methods of microbiological diagnostics of Shigellosis.
+ Bacteriological.
- Microscopic.
+ Biological.
+ Serological.
+ Molecule-genetic: PCR.
+ Express method: IFT.
+ Skin-allergic test.

10. The bacteriologist uses universal media for cultivating activators of Shigellosis?
+ Yes.
- No.
- Sometimes.
- The right answer is not present.

11. Name media (to destination) for cultivating of an investigated material from the patient of Shigellosis.
+ Differentiaional-diagnostic.
- Universal.
- Enrichment medium.
+ Enriched medium.
- Special.

12. Name media for cultivating of an investigated material from the patient of Shigellosis.
+ Endo agar.
+ Eosin-methylene blue agar - EMB agar (Levin's medium).
?+ Ploskyrev’s medium (MPA with bile).
+ Selenite medium.
- His medium.
- Blood agar.

13. Which properties does the bacteriologist investigate for identification of the activator of Shigellosis?
+ Morphology of bacteria.
+ Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
- Mobility of bacteria.
- Features of breath.

14. Characterize the cultural properties of the activator of Shigellosis.
+ Colorless colonies (lactose-negative colonies).
+ Convex smooth S-colonies with equal edge (d = 1-1,5mm).
+ Dry R-colonies with nonrough edge.
- For cultivation of bacteria it is necessary to create anaerobic conditions.
– Large red circular, convex, smooth colonies with an iridescent "sheen"
16. Which toxins are synthesized by the activator of Shigellosis?
+ Exotoxin – Shiga-toxin (Shigella dysenteriae 1).
+ Endotoxin.
+ Shigella-like toxins.
- Toxins does not synthesize.

17. What preparations will the doctor appoint to the patient for specific prevention of Shigellosis?
+ Vaccination is not applied.
- Attenuated vaccine.
- Inactivated vaccine.
- Chemical vaccine.
- Toxoid.
- The right answer is not present.

18. What diseases are activators of Shigellosis?
+ Shigellosis: acute and chronic.
+ Food toxicinfection.
- Cholera-like Escherichiosis.
- Salmonellosis.
- Coli-enteritis.
- Encephalitis.
- The right answer is not present.

19. Characterize the features of immunity in persons who have been ill with Shigellosis.
+ Cellular.
+ Humoral.
+ Hyperimmunity.
+ Typespecific.
+ Local.
- Cellular.
- Unsterile.
- Abortive.

20. Name eubiotics that the doctor will appoint to the patient for correction of microflora during diarrheogenic infections/
+ Bifidumbacterin.
+ Lactobacterin.
+ Coli-bacterin.
+ Bificol.
- Bacteriophage.
- The right answer is not present.

21. What tests will the bacteriologist apply for serological diagnostics of Shigellosis?
+ PHAT.
+ AR (in test tubes).
+ ELISA.
- Ring reaction.
- CFT.
- Serological research is not spent.

22. Characterize features of fermentation of sugar activators in Shigellosis.
+ Glucose usually ferment with formation of an acid.
+ Do not ferment lactose (except for Shigella sonnei).
+ Shigella sonnei slowly ferments lactose (in 48-72 hours).
+ Fermentation of mannitol puts in basic differentiation of Shigella in groups.
- Ferment all of sugar of Hiss medium.
- Ferments sugar of Hiss medium with acids synthesis.
- The right answer is not present.

23. What species of Shigella are the agents of Shigellosis?
+ Shigella sonnei.
+ Shigella flexneri.
+ Shigella boydii.
- Shigella Newcastle.
24. **What types of properties are of Shigella International classification?**
   - Features of antigenic structure.
   - Features of manitol fermentation.
   - Features of lactose’s fermentation.
   - Cultural properties in MPA.
   - Sensitivity to antibiotics.

25. **What is the difference between the agents of Shigellosis and diarrheal Escherichiosis in light microscopy?**
   - No difference: short direct monobacteria.
   - No difference: gram-negative bacilli.
   - The difference is agents of Escherichiosis peritrichous, and the agent of shigellosis- immobile bacteria.
   - No difference: no formation of spore.
   - No difference: short direct gram-negative monobacteria.

26. **What is the aim of using bacteriological method of studying shigellosis?**
   - Diagnostics of shigellosis.
   - Control of etiotropic treatment of ill person by shigellosis.
   - Faces identification with light and asymptomatic disease’s form.
   - Control for the workers of food industry and object of water supply.
   - Control for the contact faeces.

27. **What is the aim of studying the antigenic structure of Shigella?**
   - For identification of agent serotype.
   - For identification of agent subserotype.
   - For identification of agent type.
   - For identification of agent genus.
   - For identification of agent family.

28. **Shigells have particular somatic O- antigen:**
   - Common for family Enterobacteriaceae.
   - For genus Shigella.
   - For genus Escherichia.
   - For species.
   - For type and groups.

29. **In Shigella, different antigens are revealed:**
   - H- antigens.
   - K- antigens.
   - Vi- antigens.
   - Type-specific O- antigens.

30. **With the help of type-specific Shigella’s O- antigens it defines:**
   - Shigella’s serotype.
   - Shigella’s subserotype.
   - Shigella’s biotype.
   - Shigella’s type.
   - Shigella’s differ from other enterobacteria.

31. **With the help of groupspecific Shigella’s O- antigens it defines:**
   - Shigella's serotype.
   - Shigella’s subserotype.
   - Shigella’s biotype.
   - Shigella’s type.
   - Shigellas differ from other enterobacteria.

32. **What species of Shigella possesses groupspecific O- antigens?**
   - Shigella sonnei.
   - Shigella flexneri.
   - Shigella boydii.
   - Shigella newcastle.
   - Shigella dysenteriae.

33. **The source of infection of shigellosis is:**
   - Sick person with clinical form of infection.
   - Persons with subclinic form of infection.
   - Persons with light form of infection.
   - Infected animals. Shigellosis is the anthroponosis infection.
   - People not ill with Shigellosis.
34. What ways of Shigellosis’s transmission do you know?
+ Fecal-oral spread.
+ Horizontal transmission (infected water, food).
  – Vertical transmission.
  – Transmission from blood.
  – Sexual transmission.

35. What is the most common way to get infected with Shigellosis, by Shigella flexneri?
  – Alimentary (through infected milk and lactic product).
+ Alimentary (through infected drinking water).
  – Vertical transmission.
  – Faecal-oral spread.
  – Sexual transmission.

36. What is the most common way to get infected with Shigellosis, by Shigella sonnei?
+ Horizontal transmission (infected food).
  – Transmission from blood.
  – Vertical transmission.
  – Faecal-oral spread.
  – Sexual transmission.

37. What products are responsible for transmission of alimental onset, Shigellosis sonnei?
+ Milk.
+ Curds.
+ Sour cream.
  – Sausage.
+ Mashed potatoes.

38. What is the most common way to get infected with Shigellosis by Shigella dysenteriae?
  – Alimentary (through infected milk and lactic produce).
  – Alimentary (through infected drinking water).
  – Vertical transmission.
  + Faecal-oral spread.
  – Sexual transmission.

39. A patient was diagnosed with Shigellosis. What media are necessary to be used for primary agent’s cultivation at bacteriological diagnostics of Shigellosis?
+ Selenite broth.
+ Ploskirev’s medium (MPA with bile).
+ EMB.
  – Triple sugar iron agar.
  – MPA.

40. During bacteriological examination of defecation of a 6-year-old baby with the symptoms of sharp Shigellosis on the Ploskirev’s medium grew achromatic bulging shallow lustrous colonies. Can the bacteriologist define finally the type of causative agent due to cultural properties?
  – He can.
  – He can not; it is sufficiently to study biochemical properties in addition.
  – He can not; it is sufficiently to study antigenic structure of agent.
  + He can not, it is necessary to explore biochemical properties and antigenic structure of agent.
  – He can not; it is sufficiently to make optional guide serodiagnostics.

41. What is the biological effect of the pathogenic Shigella’s action on the organism of an ill person?
+ Evoke general intoxication in organism.
+ Reinforce the peristalsis of intestine.
+ Evoke abnormality of aquatic-saline interchange in the organism of ill person.
+ Evoke the abnormality of enterocytes.
+ Ensure the cellicolous and intercellular spread of Shigella’s.

42. What is the biological effect of the Shiga-toxins Shigella’s action on the organism of ill person?
  – Evoke general intoxication in organism.
  – Reinforce the peristalsis of intestine.
  + Evoke abnormality of aquatic-saline interchange in the organism of ill person.
  + Evoke the abnormality of enterocytes.
  – Ensure the cellicolous and intercellular spread of Shigella’s.

43. What is the biological effect of the invasive Shigella’s action on the organism of ill person?
+ Evoke apoptosis of phagocytes.
+ Evoke lysis of cellular membrane.
+ Ensure cellicolous spread of Shigella.
+ Ensure intercellular spread of Shigella.
– Evoke general intoxication of organism.

44. **What are the characteristic features of Shigellosis?**
+ It is characterized by the lesion of the intestine.
+ It is characterized by intoxication.
+ By anthroponosis disease.
+ It is caused by Shigella bacteria.
+ Faeces-oral mechanism of transmission.

45. **What are the peculiarities of the immunity in Shigelloisa?**
+ Tense type-specific immunodefence.
+ Crossed immunodefence is not produced.
+ Secretory IgA prevent adhesion of the agent.
+ Immunodefence is conditioned by the action of antimicrobial antibodies.
– Immune response is absent.

**CAUSATIVE AGENT OF TYPHOID FEVER**

**Test**

1. **Name the specie of Salmonella that is a causative agent of Typhoid Fever.**
+ *S. typhi* (*Salmonella enterica* serotype *typhi*).
– *Salmonella paratyphi A* (*Salmonella enterica* serotype *paratyphi A*).
– *Salmonella paratyphi B* (*Salmonella enterica* serotype *paratyphi B*).
– *S. schottmuelleri*.
– *Shigella newcastle*.

2. **Characterize the morphological features of the causative agents of Typhoid Fever.**
+ Direct rod-shaped bacteria.
+ Bacteria mobile (peritrichous).
+ In micropreparations of a bacterium are located separately.
+ Asporogenic bacteria.
+ Monobacteria.
+ Other strains Salmonella does not differ on morphology.
+ Form a microcapsule.
– Monotrichous.
– Always form spore.
– Are capable of spore formation.
– Bacteria nonmobile

3. **Characterize the tinctural properties of causative agent of Typhoid Fever.**
+ Gram-negative bacteria.
– Gram-positive bacteria.
– Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.
– Gram-negative bacteria, by Loeffler’s method are painted in the blue color.
– Gram-positive bacteria bacteria, by Burri-Gins’s method are pained in the red color.

4. **Name way of staining the causative agent of Typhoid Fever.**
+ Gram-method.
– Ziehl-Neelsen’s method.
– Burri-Gins method.
– Loeffler’s method.
– Neisser’s method.
– Ojeshko method.
– Auyeski’s method.
– Romanovsky-Giemsas’s method.
– Zdrodovsky’s method.

5. **Characterize the features of respiration of the causative agent of Typhoid Fever.**
+ Facultative anaerobes.
+ Aerobic.
– Obligate anaerobic.
– Microaerophils.
– Obligate and facultative anaerobes.
– Capnophiles.

6. **Name the sources of infection for Typhoid Fever.**
+ Patient.
+ Bacteria carrier.
Animals.
The spores of the activator which are being ground.
The capsules of the activator which are being ground.
– Is endogenous infection.
– Is auto-infection.
7. **Name ways of transmission for causative agent of Typhoid Fever.**
+ Alimentary (through water).
+ Alimentary (through food - mainly through milk, dairy and meat products)
+ Contact (fecal-oral mechanism).
- Aerogenic.
- Transmissible.
- Transplacental.
- Transplantation.
- Sexual contact.
8. **Which material from the patient with Typhoid Fever will the doctors take for microbiological research?**
+ Haemoculture (the 1st week of disease)
+ Bile culture (the 2-3 weeks of disease)
+ Stool culture (the 2-3 weeks of disease)
+ Urine culture (the 2-3 weeks of disease)
+ Blood (for serological research)
+ Autopsy material (fragments small intestinal).
- Haemoculture (the 2-3 weeks of disease)
- Stool culture (the 1st week of disease)
- Vomiting mass.
- Mucus from nose.
9. **Name methods of microbiological diagnostics of Typhoid Fever.**
+ Bacteriological.
+ Serological.
+ Molecule-genetic: PCR.
+ Express method: IFT.
+ Skin-allergic test (with typhin).
- Microscopic.
+ Biological.
10. **The bacteriologist uses universal media for cultivating a causative agent of Typhoid Fever.**
+ Yes.
- No.
- Sometimes.
- The right answer is not present.
11. **Name media (to destination) for cultivation of an investigated material from the patient of Typhoid Fever.**
+ Differential-diagnostic.
+ Enrichment medium.
- Enriched medium.
- Universal.
- Special.
12. **Name media for cultivation of an investigated material from the patient of Typhoid Fever.**
+ BSA (bismuth-sulfite agar).
+ Rapoport’s medium
+ Eosin-methylene blue agar - EMB agar (Levin’s medium).
+ Ploskyrev’s medium (MPA with bile).
+ Selenite medium.
+ Endo agar.
- Hiss media.
- Blood agar.
13. **Which properties does the bacteriologist investigate for identification of the causative agent of Typhoid Fever?**
+ Morphology of bacteria.
+ Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
- Mobility of bacteria.
- Features of breath.
14. **Characterize the cultural properties of the causative agent of Typhoid Fever in bismuth-sulfite agar.**
+ Black colonies with metallic "sheen", medium under a colony is painted in black color.
+ Colonies fine (2-4mm), muddy.
  – Colonies fine transparent smooth gentle brown-greenish color.
  – Colorless shining colonies.
  – For cultivation of bacteria it is necessary to create anaerobic conditions.
  – Large red circular, convex, smooth colonies with an iridescent "sheen"

15. **Characterize the cultural properties of the causative agent of Typhoid Fever in MPA with bile.**
+ Colonies colorless.
  – Colonies colorless are surrounded by the mucous platen.
  – Colonies of red color with metal shine.
  – Black colonies with metal shine.

16. **With what purpose in Typhoid Fever the doctor appoints haemoculture on research?**
+ For isolation of the causative agent from blood - absolute acknowledgement of the diagnosis at the patient.
  – Isolation of the causative agent from blood - relative acknowledgement of the diagnosis at the patient.
  – For acknowledgement of the maintenance of specific antibodies.
  – Research haemoculture is necessary by the general technique of bacteriological diagnostics of disease.
  – The right answer is not present.

17. **When is the reception of blood in typhoid fever for haemoculture, and what volume of blood for cropping and what are features of work with blood?**
+ Since the first day of the period of a fever up to the last.
+ On the first week of disease - 5-10ml from an ulnas vein (at adults).
+ Blood growth in Rapoport’s medium near a bed of the patient in the ratio 1:10.
  – In current of all period of disease the causative agent constantly is in blood.
  – Blood growth on bismuth-sulfite agar.
  – Blood growth in selenite medium.
  – Bacteriologist growth a blood in Rapoport’s medium for the second day after its take.
  – The right answer is not present.

18. **Characterize the antigenic structure of the causative agent of Typhoid Fever on Kauffmann-White classification.**
+ O-antigene (O9-, O12- antigenes).
+ Vi-antigene.
+ H-antigene (Hd- antigene).
  – O-antigene (O1-, O2-, O12- antigenes).
  – H-antigene (Ha- antigene).
  – O-antigene (O1-, O4-, O12- antigenes).
  – H-antigene (Hb- antigene).
  – A-antigene.
  – M-antigene.

19. **Which toxin is synthesized by the causative agent of Typhoid Fever?**
+ Endotoxin.
  – Exotoxin.
  – Exotoxin – Shiga-toxin.
  – Shigella-like toxins.
  – Toxins does not synthesize.

20. **What preparations are known for specific prevention of Typhoid Fever?**
+ Typhoid Fever spirit vaccine, with Vi-antigene.
+ TABTe- vaccine.
+ Typhoid Fever vaccine with a sixth toxoid.
  – Attenuated vaccine.
  – Toxoid.
  – The right answer is not present.

21. **Which disease is caused by Salmonella typhi?**
+ Typhoid Fever.
  – A Paratyphoid.
  – B Paratyphoid.
  – Food toxicinfection.
  – Salmonellosis.
  – Coli-enteritis.
  – Encephalitis.
  – The right answer is not present.

22. **Characterize the features of immunity in persons who have been ill with Typhoid Fever.**
+ Cellular (Hypersensitivity type IV).
23. **Which tests will the bacteriologist apply for serological diagnostics of Typhoid Fever?**

- PHAT.
- Widal test.
- ELISA.
- Ring reaction.
- CFT.
- Serological research is not spent.

24. **Characterize features of fermentation of sugar for causative agent of Typhoid Fever.**

- Glucose ferment with formation of an acid.
- Do not ferment lactose and sucrose.
- At cultivation in peptone water - forms hydrogen sulphide.
- At cultivation in peptone - does not form indole.
- Fermentation of mannitol puts in basic differentiation of Salmonella in groups.
- Ferments sugar of Hiss medium with acid and gas synthesis.
- Ferments sugar of Hiss medium with acid synthesis.
- The right answer is not present.

25. **What preparations are known for treatment of Typhoid Fever?**

- Salmonellosis polyvalent bacteriophage.
- Typhoid Fever bacteriophage.
- Antibiotics.
- Typhoid Fever spirit vaccine, with Vi-antigene.
- TABTe- vaccine.
- Typhoid Fever vaccine with a sixth toxoid.
- The right answer is not present.

26. **With what attributes do bacteriologist differentiates causative agent of Typhoid Fever, A Paratyphoid and B Paratyphoid?**

- On cultural properties on Ploskyrev’s medium.
- On cultural properties on bismuth-sulfite agar.
- On results of agglutination test with specific Salmonellosis sera.
- On features of antigenic structure according to Kauffmann-White classification of Salmonella.
- On features of a fermentation of Hiss media.
- On features cultivation the causative agent in peptone water.
- The right answer is not present.

**CAUSATIVE AGENT OF A PARATYPHOID FEVER Test**

1. **Name the specie of Salmonella that is a causative agent of A Paratyphoid Fever.**

- Salmonella paratyphi A (Salmonella enterica serotype paratyphi A).
- S. typhi (Salmonella enterica serotype typhi).
- Salmonella paratyphi B (Salmonella enterica serotype paratyphi B).
- S. schottmuelleri.
- Shigella newcastle.

2. **Characterize the morphological features of the causative agents of A Paratyphoid Fever.**

- Direct rod-shaped bacteria.
- Bacteria mobile (peritrichous).
- In micropreparations of a bacterium are located separately.
- Asporogenic bacteria.
- Monobacteria.
- Other strains Salmonella does not differ on morphology.
- Does not form capsule.
- Monotrichous.
- Always form spore.
- Are capable of spore formation.
- Bacteria nonmobile

3. **Characterize the tinctural properties of causative agent of A Paratyphoid Fever.**

- Gram-negative bacteria.
- Gram-positive bacteria.  
- Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.  
- Gram-negative bacteria, by Loeffler’s method are painted in the blue color.  
- Gram-positive bacteria bacteria, by Burri-Gins’s method are pained in the red color.

4. **Name way of staining the causative agent of A Paratyphoid Fever.**
   + Gram-method,  
   - Ziehl-Neelsen’s method.  
   - Burri-Gins method.  
   - Loeffler’s method.  
   - Neisser’s method.  
   - Ojeshko method.  
   - Auyeski’s method.  
   - Romanovsky-Giemsas’s method.  
   - Zdrodovsky’s method.

5. **Characterize the features of respiration of the causative agent of A Paratyphoid Fever.**
   + Facultative anaerobes.  
   + Aerobic.  
   - Obligate anaerobic.  
   - Microaerophils.  
   - Obligate and facultative anaerobes.  
   - Capnophiles.

6. **Name the sources of infection for A Paratyphoid Fever.**
   + Patient.  
   + Bacteria carrier.  
   - Animals.  
   - The spores of the activator which are being ground.  
   - The capsules of the activator which are being ground.  
   - Is endogenous infection.  
   - Is auto infection.

7. **Name ways of transmission for causative agent of A Paratyphoid Fever.**
   + Alimentary (through water).  
   + Contact (fecal-oral mechanism).  
   + Aerogenic.  
   - Transmissible.  
   - Transplacental.  
   - Transplantation.  
   - Sexual contact.

8. **Which material from the patient with A Paratyphoid Fever will the doctors take for microbiological research?**
   + Haemoculture (the 1st week of disease).  
   + Bile culture (the 2-3 weeks of disease).  
   + Stool culture (the 2-3 weeks of disease).  
   + Urine culture (the 2-3 weeks of disease).  
   + Blood (for serological research).  
   + Autopsy material (fragments small intestinal).  
   - Haemoculture (the 2-3 weeks of disease).  
   - Stool culture (the 1st week of disease).  
   - Vomiting mass.  
   - Mucus from nose.

9. **Name methods of microbiological diagnostics of A Paratyphoid Fever.**
   + Bacteriological.  
   + Serological.  
   + Molecule-genetic: PCR.  
   + Express method: IFT.  
   - Skin-allergic test.  
   - Microscopic.  
   - Biological.

10. **The bacteriologist uses universal media for cultivating a causative agent of A Paratyphoid Fever.**
    + Yes.  
    - No.  
    - Sometimes.  
    - The right answer is not present.
11. **Name media (to destination) for cultivation of an investigated material from the patient of A Paratyphoid Fever.**

+ Differential-diagnostic.
+ Enrichment medium.
  - Enriched medium.
  - Universal.
  - Special.

12. **Name media for cultivation of an investigated material from the patient of A Paratyphoid Fever.**

+ BSA (bismuth-sulfite agar).
+ Rapoport’s medium.
+ Eosin-methylene blue agar - EMB agar (Levin’s medium).
+ Ploskyrev’s medium (MPA with bile).
+ Selenite medium.
+ Endo agar.
+ Hiss media.
+ Blood agar.

13. **Which properties does the bacteriologist investigate for identification of the causative agent of A Paratyphoid Fever?**

+ Morphology of bacteria.
+ Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
  - Mobility of bacteria.
  - Features of breath.

14. **Characterize the cultural properties of the causative agent of A Paratyphoid Fever in bismuth-sulfite agar.**

+ Colonies fine transparent smooth gentle brown-greenish color.
  - Black colonies with metallic "sheen", medium under a colony is painted in black color.
  - Colonies fine (2-4mm), muddy.
  - Colorless shining colonies.
  - For cultivation of bacteria it is necessary to create anaerobic conditions.
  - Large red circular, convex, smooth colonies with an iridescent "sheen"

15. **Characterize the cultural properties of the causative agent of A Paratyphoid Fever in MPA with bile.**

+ Colonies colorless.
  - Colonies colorless are surrounded by the mucous platen.
  - Colonies of red color with metal shine.
  - Black colonies with metal shine.

16. **With what purpose in A Paratyphoid Fever the doctor appoints haemoculture on research?**

+ For isolation of the causative agent from blood - absolute acknowledgement of the diagnosis at the patient.
  - Isolation of the causative agent from blood - relative acknowledgement of the diagnosis at the patient.
  - For acknowledgement of the maintenance of specific antibodies.
  - Research haemoculture is necessary by the general technique of bacteriological diagnostics of disease.
  - The right answer is not present.

17. **When is the reception of blood in A Paratyphoid Fever for haemoculture, and what volume of blood for cropping and what are features of work with blood?**

+ Since the first day of the period of a fever up to the last.
+ On the first week of disease - 5-10ml from an ulnas vein (at adults).
+ Blood growth in Rapoport’s medium near a bed of the patient in the ratio 1:10.
  - In current of all period of disease the causative agent constantly is in blood.
  - Blood growth on bismuth-sulfite agar.
  - Blood growth in selenite medium.
  - Bacteriologist growth a blood in Rapoport’s medium for the second day after its take.
  - The right answer is not present.

18. **Characterize the antigenic structure of the causative agent of A Paratyphoid Fever on Kauffmann-White classification.**

+ O-antigene (O1-, O2-, O12- antigenes).
+ H-antigene (Ha- antigene).
  - O-antigene (O9-, O12- antigenes).
  - Vi-antigene.
  - H-antigene (Hd- antigene).
  - O-antigene (O1-, O4-, O12- antigenes).
  - H-antigene (Hb- antigene).
  - A-antigene.
  - M-antigene.
19. Which toxin is synthesized by the causative agent of A Paratyphoid Fever?
+ Endotoxin.
– Exotoxin.
– Exotoxin – Shiga-toxin.
– Shigella-like toxins.
– Toxins does not synthesize.

20. What preparations are known for specific prevention of A Paratyphoid Fever?
+ TABTe- vaccine.
– Typhoid Fever spirit vaccine, with Vi-antigene.
– Typhoid Fever vaccine with a sixth toxoid.
– Attenuated vaccine.
– Toxoid.
– The right answer is not present.

21. Which disease is caused by Salmonella paratyphi A?
+ A Paratyphoid.
– Typhoid Fever.
– B Paratyphoid.
– Food toxicinfection.
– Salmonellosis.
– Coli-enteritis.
– Encephalitis.
– The right answer is not present.

22. Characterize the features of immunity in persons who have been ill with A Paratyphoid Fever.
+ Cellular (Hypersensitivity type IV).
+ Hyperimmunity.
+ Type-specific.
+ Local.
– Unsterile.
– Abortive.

23. Which tests will the bacteriologist apply for serological diagnostics of A Paratyphoid Fever?
+ PHAT.
+ Widal test.
+ ELISA.
– Ring reaction.
– CFT.
– Serological research is not spent.

24. Characterize features of fermentation of sugar for causative agent of A Paratyphoid Fever.
+ Glucose ferment with formation of an acid and gas.
+ Do not ferment lactose and sucrose.
+ At cultivation in peptone water - does not form hydrogen sulphide.
+ At cultivation in peptone - does not form indole.
– Fermentation of mannitol puts in basic differentiation of Salmonella in groups.
– Ferment all of sugar of Hiss medium with acid and gas synthesis.
– Ferments sugar of Hiss medium with acid synthesis.
– The right answer is not present.

25. What preparations are known for treatment of A Paratyphoid Fever?
+ Salmonellosis polyvalent bacteriophage.
+ Antibiotics.
– Typhoid Fever bacteriophage.
– Typhoid Fever spirit vaccine, with Vi-antigene.
– TABTe- vaccine.
– Typhoid Fever vaccine with a sixth toxoid.
– The right answer is not present.

CAUSATIVE AGENT OF B PARATYPHOID FEVER

Test

1. Name the specie of Salmonella that is a causative agent of B Paratyphoid Fever.
+ Salmonella paratyphi B (Salmonella enterica serotype paratyphi B).
+ S. schottmuelleri.
– Salmonella paratyphi A (Salmonella enterica serotype paratyphi A).
– S. typhi (Salmonella enterica serotype typhi),
2. **Characterize the morphological features of the causative agents of B Paratyphoid Fever.**
   + Direct rod-shaped bacteria.
   + Bacteria mobile (peritrichous).
   + In micropreparations of a bacterium are located separately.
   + Asporogenic bacteria.
   + Monobacteria.
   + Other strains Salmonella does not differ on morphology.
   + Does not form capsule.
   - Monotrichous.
   - Always form spore.
   - Are capable of spore formation.
   - Bacteria nonmobile

3. **Characterize the tinctural properties of causative agent of B Paratyphoid Fever.**
   + Gram-negative bacteria.
   - Gram-positive bacteria.
   - Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.
   - Gram-negative bacteria, by Loeffler’s method are painted in the blue color.
   - Gram-positive bacteria, by Burri-Gins’s method are pained in the red color.

4. **Name way of staining the causative agent of B Paratyphoid Fever.**
   + Gram-method.
     - Ziehl-Neelsen’s method.
     - Loeffler’s method.
     - Neisser’s method.
     - Ojeshko method.
     - Auyeski’s method.
     - Romanovsky-Giemsas’s method.
     - Zdrodovsky’s method.

5. **Characterize the features of respiration of the causative agent of B Paratyphoid Fever.**
   + Facultative anaerobes.
   + Aerobic.
   - Obligate anaerobic.
   - Microaerophils.
   - Obligate and facultative anaerobes.
   - Capnophiles.

6. **Name the sources of infection for B Paratyphoid Fever.**
   + Patient.
   + Bacteria carrier.
   + Animals.
   - The spores of the activator which are being ground.
   - The capsules of the activator which are being ground.
   - Is endogenal infection.
   - Is autonfection.

7. **Name ways of transmission for causative agent of B Paratyphoid Fever.**
   + Alimentary (through water).
   + Contact (fecal-oral mechanism).
   - Aerogenic.
   - Transmissible.
   - Transplacental.
   - Transplantation.
   - Sexual contact.

8. **Which material from the patient with B Paratyphoid Fever will the doctors take for microbiological research?**
   + Haemoculture (the 1st week of disease).
   + Bile culture (the 2-3 weeks of disease).
   + Stool culture (the 2-3 weeks of disease).
   + Urine culture (the 2-3 weeks of disease).
   + Blood (for serological research).
   + Autopsy material (fragments small intestinal).
   - Haemoculture (the 2-3 weeks of disease).
   - Stool culture (the 1st week of disease).
9. **Name methods of microbiological diagnostics of B Paratyphoid Fever.**
   + Bacteriological.
   + Serological.
   + Molecule-genetic: PCR.
   + Express method: IFT.
   + Skin-allergic test.
   + Microscopic.
   + Biological.

10. **The bacteriologist uses universal media for cultivating a causative agent of B Paratyphoid Fever.**
    + Yes.
    + No.
    + Sometimes.
    + The right answer is not present.

11. **Name media (to destination) for cultivation of an investigated material from the patient of B Paratyphoid Fever.**
    + Differentional-diagnostic.
    + Enrichment medium.
    + Enriched medium.
    + Universal.
    + Special.

12. **Name media for cultivation of an investigated material from the patient of B Paratyphoid Fever.**
    + BSA (bismuth-sulfite agar).
    + Rapoport’s medium.
    + Eosin-methylene blue agar - EMB agar (Levin's medium).
    + Ploskyrev’s medium (MPA with bile).
    + Selenite medium.
    + Hiss media.
    + Blood agar.

13. **Which properties does the bacteriologist investigate for identification of the causative agent of B Paratyphoid Fever?**
    + Morphology of bacteria.
    + Tinctorial properties.
    + Antigenic properties.
    + Cultural properties.
    + Biochemical properties.
    + Mobility of bacteria.
    + Features of breath.

14. **Characterize the cultural properties of the causative agent of B Paratyphoid Fever in bismuth-sulfite agar.**
    + Black colonies with metallic "sheen", medium under a colony is painted in black color.
    – Colonies fine transparent smooth gentle brown-greenish color.
    – Colonies fine (2-4mm), muddy.
    – Colorless shining colonies.
    – For cultivation of bacteria it is necessary to create anaerobic conditions.
    – Large red circular, convex, smooth colonies with an iridescent "sheen".

15. **Characterize the cultural properties of the causative agent of B Paratyphoid Fever in MPA with bile.**
    + Colonies colorless are surrounded by the mucous platen.
    – Colonies of red color with metal shine.
    – Black colonies with metal shine.

16. **With what purpose in B Paratyphoid Fever the doctor appoints haemoculture on research?**
    + For isolation of the causative agent from blood - absolute acknowledgement of the diagnosis at the patient.
    – Isolation of the causative agent from blood - relative acknowledgement of the diagnosis at the patient.
    – For acknowledgement of the maintenance of specific antibodies.
    – Research haemoculture is necessary by the general technique of bacteriological diagnostics of disease.
    – The right answer is not present.

17. **When is the reception of blood in B Paratyphoid Fever for haemoculture, and what volume of blood for cropping and what are features of work with blood?**
    + Since the first day of the period of a fever up to the last.
    + On the first week of disease - 5-10ml from an ulnas vein (at adults).
    + Blood growth in Rapoport’s medium near a bed of the patient in the ratio 1:10.
    – In current of all period of disease the causative agent constantly is in blood.
Blood growth on bismuth-sulfite agar.
Blood growth in selenite medium.
Bacteriologist growth a blood in Rapoport’s medium for the second day after its take.
The right answer is not present.

18. Characterize the antigenic structure of the causative agent of B Paratyphoid Fever on Kauffmann-White classification.
+ O-antigene (O1-, O4-, O12- antigenes).
+ H-antigene (Hb- antigene).
+ M-antigene.
  – O-antigene (O1-, O2-, O12- antigenes).
  – H-antigene (Ha- antigene).
  – O-antigene (O9-, O12- antigenes).
  – Vi-antigene.
  – H-antigene (Hd- antigene).
  – A-antigene.

19. Which toxin is synthesized by the causative agent of B Paratyphoid Fever?
+ Endotoxin.
  – Exotoxin.
  – Exotoxin – Shiga-toxin.
  – Shigella-like toxins.
  – Toxins does not synthesize.

20. What preparations are known for specific prevention of B Paratyphoid Fever?
+ TABTe- vaccine.
  – Typhoid Fever spirit vaccine, with Vi-antigene.
  – Typhoid Fever vaccine with a sixth toxoid.
  – Attenuated vaccine.
  – Toxoid.
  – The right answer is not present.

21. Which disease is caused by Salmonella paratyphi B?
+ B Paratyphoid.
  – Typhoid Fever.
  – Food toxicinfection.
  – A Paratyphoid.
  – Salmonellosis.
  – Coli-enteritis.
  – Encephalitis.
  – The right answer is not present.

22. Characterize the features of immunity in persons who have been ill with B Paratyphoid Fever.
+ Cellular (Hypersensitivity type IV).
+ Hyperimmunity.
+ Type-specific.
+ Local.
  – Unsterile.
  – Abortive.

23. Which tests will the bacteriologist apply for serological diagnostics of B Paratyphoid Fever?
+ PHAT.
+ Widal test.
+ ELISA.
  – Ring reaction.
  – CFT.
  – Serological research is not spent.

24. Characterize features of fermentation of sugar for causative agent of B Paratyphoid Fever.
+ Glucose ferments with formation of an acid and gas.
+ Do not ferment lactose and sucrose.
+ At cultivation in peptone water - does not form hydrogen sulphide.
+ At cultivation in peptone water - form hydrogen sulphide.
  – At cultivation in peptone - does not form indole.
  – Fermentation of mannitol puts in basic differentiation of Salmonella in groups.
  – Ferment all of sugar of Hiss medium with acid and gas synthesis.
  – Ferments sugar of Hiss medium with acid synthesis.
  – The right answer is not present.

25. What preparations are known for treatment of B Paratyphoid Fever?
+ Salmonellosis polyvalent bacteriophage.
+ Antibiotics.
  – Typhoid Fever bacteriophage.
  – Typhoid Fever spirit vaccine, with Vi-antigene.
  – TABTe- vaccine.
  – Typhoid Fever vaccine with a sixth toxoid.
  – The right answer is not present.

**CAUSATIVE AGENTS OF CHOLERA Test**

1. **Name the taxonomic position of the causative agents of Cholera.**
   + Species *Vibrio cholerae*.
   + Serogroup *V. cholera O1*
   + Serotype *Ogawa (AB)*.
   + Serotype *Inaba (AC)*.
   + Serotype *Hikojima (ABC)*.
   + Biotype *asiatici* (classical) - *V. cholerae cholerae*.
   + Biotype *El Tor*.
   + Serogroup *V. cholerae O139*.
     – Serogroup *V. cholerae O2*.
     – Serotype *V. cholerae O1*.
     – *Vibrio parahaemolyticus*.
     – *Vibrio vulnificus*.
     – *Vibrio alginolyticus*.
     – The right answer is not present.

2. **Characterize the morphological features of the causative agents of Cholera.**
   + Spiral-shaped form.
   + Comma-shaped form.
   + In micropreparations of a bacterium form the congestions view “fish flocks”.
   + Asporogenic bacteria.
   + Does not make a capsule.
   + Monotrichous.
     – Bacteria mobile (peritrichous).
     – Always form spore.
     – Are capable of spore formation.
     – Bacteria nonmobile

3. **Characterize the tinctural properties of causative agents of Cholera.**
   + Gram-negative bacteria.
   - Gram-positive bacteria.
   - Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.
   - Gram-negative bacteria, by Loeffler’s method are painted in the blue color.
   - Gram-positive bacteria bacteria, by Burri-Gins’s method are painted in the red color.

4. **Name way of staining the causative agents of Cholera.**
   + Gram-method.
   + Pfeiffer’s fuchsine.
   + Ziehl fuchsine.
     – Ziehl-Neelsen’s method.
     – Burri-Gins method.
     – Loeffler’s method.
     – Neisser’s method.
     – Ojeshko method.
     – Auyeski’s method.
     – Romanovskiy-Giema’s method.
     – Zdrodovsky’s method.

5. **Characterize the features of respiration of the causative agents of Cholera.**
   + Facultative anaerobes.
   + Aerobic.
   – Obligate anaerobic.
   – Microaerophils.
   – Obligate and facultative anaerobes.
   – Capnophiles.
6. **Name the sources of infection for Cholera.**
   + Patient.
   + Bacteria carrier.
   - Animals.
   - The spores of the activator which are being ground.
   - The capsules of the activator which are being ground.
   - Is endogenous infection.
   - Is autoinfection.

7. **Name ways of transmission for causative agents of Cholera.**
   + Alimentary (through water).
   + Contact (fecal-oral mechanism).
     - Aerogenic.
     - Transmitable.
     - Transplacental.
     - Transplantation.
     - Sexual contact.

8. **Which material from the patient with Cholera will the doctors take for microbiological research?**
   + Faeces.
   + Vomiting mass.
   + Washing waters of stomach.
   + Bile
   + Drinking water.
   + Bed-clothes polluted by faeces.
   + Underwear of the patient.
   + Section material (fragments small intestinal).
   + Sewage water.
   + Mule.
   + Hydrobionts (toads, a fish, oysters).
     - Blood.
     - Sputum.
     - Mucus from nose.

9. **Name methods of microbiological diagnostics of Cholera.**
   + Bacteriological.
   + Molecule-genetic: PCR.
   + Express method: IFT.
     - Serological.
     - Skin-allergic test.
     - Microscopic.
     - Biological.

10. **The bacteriologist uses universal media for cultivating causative agents of Cholera.**
    + No.
    - Yes.
    - Sometimes.
    - The right answer is not present.

11. **Name media (to destination) for cultivation of an investigated material from the patient of Cholera.**
    + Differential-diagnostic.
    + Enrichment medium.
    + Enriched medium.
      - Universal.
      - Special.

12. **Name media for cultivation of an investigated material from the patient of Cholera.**
    + 1% alkaline peptone water.
    + MPA (alkaline – 8.5-9.0)
    + TCBS agar (thiosulfate-citrate-bile-sucrose)
      - EMB agar.
      - Selenite medium.
      + Endo agar.
      + Hiss media.

13. **Which properties does the bacteriologist investigate for identification of the causative agents of Cholera?**
    + Morphology of bacteria.
    + Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
+ Mobility of bacteria.
- Features of breath.

14. **Characterize the cultural properties of the causative agent of Cholera in alkaline MPA.**
+ Colonies smooth and flat with a blueish shade.
+ Colonies round (2-3mm) transparent.
+ Colonies with equal edges of oily consistence.
  – Colonies fine transparent smooth brown color.
  – Colorless colonies.
  – Colorless colonies surrounded by the mucous platen.
  – Black colonies with metallic shine.
  – For cultivation of bacteria it is necessary to create anaerobic conditions.
  – Large red circular, convex, smooth colonies with an iridescent "sheen" 

15. **Characterize the cultural properties of the causative agents of Cholera in 1% alkaline peptone water.**
+ On the surface of liquid medium it forms a blueish film.
+ At stirring medium the film easily collapses and settles on a bottom.
  – Colorless colonies
  – Colorless colonies surrounded by the mucous platen.
  – Colonies of red color with metallic shine.
  – Black colonies with metallic shine.

16. **During which period does the bacteriologist make the first account of result cultivation causative agents of Cholera in nutrient medium?**
+ In 5-6 hours.
  - At once, after a capture of material.
  - In 10-12 hours.
  - In 24 hours.
  - All answers correct.
  - The right answer is not present.

17. **Characterize the antigenic structure of the causative agents of Cholera.**
+ O-antigene (O1 and O139).
+ H-antigene.
+ Antigenes serogroups O1 are presented by subunit A,B,C.
+ AB – serotype Ogawa.
+ AC – serotype Inaba.
+ ABC – serotype Hikojima.
  – O-antigene (O1-, O2-, O12- antigenes).

18. **Which toxin is synthesized by the causative agents of Cholera?**
+ Endotoxin.
+ Exotoxin (choleragen).
  – The causative agents synthesize only exotoxin
  – Toxins does not synthesize.
  – All answers correct.

19. **What preparations are known for specific prevention of Cholera?**
+ Cholera inactivated vaccine.
+ Cholera attenuated vaccine.
+ Cholerogen-toxoid.
+ Cholera chemical vaccine.
  – The right answer is not present.

20. **Characterize the features of immunity in persons who have been ill with Cholera.**
+ Humoral.
+ Cellular.
+ Hyperimmunity.
+ Antitoxic.
+ Antimicrobial.
+ Type-specific.
  – Unsterile.
  – Abortive.

21. **Which tests will the bacteriologist apply for serological diagnostics of Cholera?**
+ Serological research of disease is not spent.
22. **Which tests will the bacteriologist apply for express-method diagnostics of Cholera?**
+ Reaction of immobilization vibrio.
+ IFT.
+ PCR.
- PHAT.
- AR with type-specific agglutination serum.
- Ring reaction.
- CFT.
- The right answer is not present.

23. **What is cholera?**
+ Acute extremely dangerous disease.
+ Quarantine infection.
+ Anthroponosis infection.
+ Disease is characterized by a profuse watery diarrhea, vomiting, dehydration an organism.
+ Disease is characterized by a powerful intoxication.
+ Disease is characterized with the fecal-oral mechanism.
+ Disease is characterized by high death rate.
+ Activator causes a little pandemic.
- The right answer is not present.

### CAUSATIVE AGENT OF PSEUDOTUBERCULOSIS

1. **Name the taxonomic position of the causative agent of Pseudotuberculosis.**
   + Family Enterobacteriaceae, genus Yersinia, species Yersinia pseudotuberculosis.
   + Family Enterobacteriaceae, genus Yersinia, species Yersinia psedotuberculosis.
   + Family Enterobacteriaceae, genus Yersinia, species Yersinia psedotuberculosisum.
   + Family Enterobacteriaceae, genus Enterobacter, species Yersinia pseudotuberculosis.
   + Family Enterobacteriaceae, genus Yersinia, species Yersinia enterocolitica.
- The right answer is not present.

2. **Characterize the morphological features of the causative agent of Pseudotuberculosis.**
   + Short plump ovoid bacillus with bipolar staining (two ends densely stained and the central area clear).
   + Bacteria motile (peritrichous).
   + Asporogenic bacteria.
   + Monobacteria.
   + Form a microcapsule.
   - Monotrichous.
- Always form spore.

3. **Characterize the tinctural properties of causative agent of Pseudotuberculosis.**
   + Gram-negative bacteria.
   + Gram-negative bacteria, by Loeffler’s method are painted in the blue colour.
   - Gram-positive bacteria.
   - Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red colour.
   - Gram-positive bacteria bacteria, by Burri-Gins’s method are painted in the red colour.

4. **Name ways of staining the causative agent of Pseudotuberculosis.**
   + Gram-method.
   + Loeffler’s method.
   - Ziehl-Neelsen’s method.
   - Burri-Gins method.
   - Neisser’s method.

5. **Characterize the features of respiration of the causative agent of Pseudotuberculosis.**
   + Facultative anaerobes.
   - Aerobic.
   - Obligate anaerobic.
   - Microaerophiles.
   - Capnophiles.

6. **Name the sources of infection for Pseudotuberculosis.**
+ Animals.
- Patient.
- Bacteria carrier.
- The spores of the activator which are being ground.
- The capsules of the activator which are being ground.
- Endogenous infection.
- Autoinfection.

7. **Name the natural sources of the activator of Pseudotuberculosis?**

+ Rodents.
+ Deers.
+ Domestic animals and birds.
- Sewage water.
- Water of standing reservoirs.

8. **Name ways of transmission for causative agent of Pseudotuberculosis.**

+ Alimentary (through water).
+ Alimentary (food - mainly through the infected vegetables and fruit and vegetables and fruit polluted by excrements and urine of sick animals).
+ Contact (fecal-oral mechanism).
- Aerogenic.
- Transmissible.
- Transplacental.
- Transplantation.
- Sexual contact.

9. **Which material from the patient with Pseudotuberculosis will the doctors take for microbiological research?**

+ Stool.
+ Urine.
+ Bile.
+ Lymph node aspirate.
+ Synovial fluid.
+ Blood (for serological research).
+ Autopsy material (material from mesenteric lymphoid node)
- Mucus from nose.

10. **Name methods of microbiological diagnostics of Pseudotuberculosis.**

+ Bacteriological.
+ Serological.
+ Express method: IFT.
+ Molecule-genetic: PCR.
+ Skin-allergic test (with pseudotuberculin).
+ Biological.
- Microscopic.

11. **The bacteriologist uses universal media for cultivating causative agents of Pseudotuberculosis.**

+ Yes (the activator cultivate at t = 20-30°C).
- No.
- Sometimes.
- The right answer is not present.

12. **Name media for cultivation of an investigated material from the patient of Pseudotuberculosis.**

+ Endo agar.
+ Serov’s medium.
- Selenite medium.
- Hiss media.

13. **What conditions should the bacteriologist execute at cultivation of the causative agent of Pseudotuberculosis?**

+ Accumulation of the activator in the buffer of phosphate (pH 7.6).
+ Accumulation of the activator at t=0 - 4°C
+ Accumulation of the activator within 28 days with periodic growing (in 3-5 days) on nutrient medium.
+ To cultivate the activator on Endo agar at t=0 - 4°C 15-20 days.
- Accumulation of the activator at t=37°C.
- Accumulation of the activator within 18-24 hours.

14. **Which properties does the bacteriologist investigate for identification of the causative agent of Pseudotuberculosis?**

+ Morphology of bacteria.
+ Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
  – Mobility of bacteria.
+ Features of breath.

15. **Characterize the cultural properties of the causative agent of Pseudotuberculosis in MPA.**
   + Colonies small.
   + Colonies of the round form.
   + Colonies muddy.
   + Colonies colorless.
   – Large red circular, convex, smooth colonies with an iridescent "sheen"

16. **Characterize the antigenic structure of the causative agent of Pseudotuberculosis.**
   + O-antigene.
   + H-antigene.
   – A- antigenе.
   – M- antigenе.
   – Vi- antigenе.

17. **What serotypes and subserotypes of the causative agent of Pseudotuberculosis cause diseases in the patient more often?**
   + О Іa, О Іb.
   + O III.
   + О IVa, О IVb.
   – O VIII.
   – H I.
   – O3.
   – O9.

18. **Name virulent factors of the causative agent of Pseudotuberculosis.**
   + Enterotoxin.
   + Cytotoxin.
   + Endotoxin.
   – The causative agents synthesize only exotoxin
   – Toxins does not synthesize.

19. **Characterize the features of immunity in persons who have been ill with Pseudotuberculosis.**
   + Cellular.
   + Type-specific.
   + Abortive.
   – Humoral (antibodies have protective properties).

20. **Which tests will the bacteriologist apply for serological diagnostics of Pseudotuberculosis?**
   + AR( in test-tube).
   – PHAT.
   + ELISA.
   – CFT.
   – Hemagglutination reaction.
   – Serological research of disease is not spent.

21. **What preparations to you are known for specific prophylaxis of Pseudotuberculosis?**
   + Specific preventive is not developed.
   - Pseudotuberculosis attenuated (live) vaccine.
   - Pseudotuberculosis inactivated vaccine.
   - Pseudotuberculosis tixoid.

22. **What actions you will recommend for nonspecific prevention of Pseudotuberculosis?**
   + Constant sanitary control over water supply.
   + Constant sanitary control over a technological mode of processing of foodstuff.
   + Constant sanitary control over a mode of storage of foodstuff.
   + Struggle against rodents.
   – People are not ill of Pseudotuberculosis.

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**CAUSATIVE AGENT OF INTESTINAL YERSINIOSIS**

Test

1. **Name the taxonomic position of the causative agent of Intestinal Yersiniosis.**
   + Family Enterobacteriaceae, genus Yersinia, species Yersinia enterocolitica.
   – Family Enterobacteriaceae, genus Yersinia, species Yersinia enterocoliticum
   – Family Enterobacteriaceae, genus Yersinia, species Yersinia pseudotuberculosis.
2. **Characterize the morphological features of the causative agent of Intestinal Yersiniosis.**

- Short plump ovoid bacillus with bipolar staining.
- Bacteria motile (peritrichous).
- Asporogenic bacteria.
- Monobacteria.
- Monotrichous.
- Bacteria nonmobile.
- Always form spore.

3. **Characterize the tinctural properties of causative agent of Intestinal Yersiniosis.**

- Gram-negative bacteria.
- Gram-negative bacteria, by Loeffler’s method are painted in the blue color.
- Gram-positive bacteria.
- Gram-negative bacteria, by Ziehl-Neelsen’s method are painted in the red color.
- Gram-positive bacteria bacteria, by Burri-Gins’s method are painted in the red color.

4. **Name ways of staining the causative agent of Intestinal Yersiniosis.**

- Gram-method.
- Loeffler’s method.
- Ziehl-Neelsen’s method.
- Burri-Gins method.
- Neisser’s method.
- Ojeshko method.

5. **Characterize the features of respiration of the causative agent of Intestinal Yersiniosis.**

- Facultative anaerobes.
- Aerobic.
- Obligate anaerobic.
- Microaerophiles.
- Obligate and facultative anaerobes.
- Capnophiles.

6. **Name the sources of infection for Intestinal Yersiniosis.**

- Animals.
- Patient.
- Bacteria carrier.
- The spores of the activator which are being ground.
- The capsules of the activator which are being ground.
- Endogenous infection.
- Autoinfection.

7. **Name the natural sources of the causative agent of Intestinal Yersiniosis?**

- Rodents.
- Domestic animals (especially pigs) and birds.
- Sewage water.
- Water of standing reservoirs.

8. **Name ways of transmission for causative agent of Intestinal Yersiniosis.**

- Alimentary (through water).
- Alimentary (food - through the infected milk, insufficiently thermally processed pork, through the infected vegetables).
- Contact (fecal-oral mechanism).
- Aerogenic.
- Transmissible.
- Transplacental.
- Transplantation.
- Sexual contact.

9. **Which material from the patient with Intestinal Yersiniosis will the doctors take for microbiological research?**

- Stool.
- Urine.
- Bile.
- CSF.
- Lymph node punctate.
- Blood.
10. **Name methods of microbiological diagnostics of Intestinal Yersiniosis.**
+ Bacteriological.
+ Serological.
+ Express method: IFT.
+ Molecule-genetic: PCR.
+ Skin-allergic test (with yersin).
+ Biological.
  – Microscopic.

11. **The bacteriologist uses universal media for cultivating causative agents of Intestinal Yersiniosis.**
+ Yes (the activator cultivate at t = 20-30ºC).
  – No.
  – Sometimes.
  – The right answer is not present.

12. **Name media for cultivation of an investigated material from the patient of Intestinal Yersiniosis.**
+ Endo agar.
  + Serov’s medium.
  – Selenite medium.
  – Hiss media.

13. **What conditions should the bacteriologist execute at cultivation of the causative agent of Intestinal Yersiniosis?**
+ Accumulation of the activator in the buffer of phosphate (рН 7.6).
+ Accumulation of the activator at t=0 - 4ºC
+ Accumulation of the activator within 28 days with periodic growthing (in 3-5 days) on nutrient medium.
+ To cultivate the activator on Endo agar at t=0 - 4ºC 15-20 days.
  - Accumulation of the activator at t=37ºC.
  - Accumulation of the activator within 18-24 hours.

14. **Which properties does the bacteriologist investigate for identification of the causative agent of Intestinal Yersiniosis?**
+ Morphology of bacteria.
+ Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
  – Mobility of bacteria.
  – Features of breath.

15. **Characterize the cultural properties of the causative agent of Intestinal Yersiniosis in MPA.**
+ Colonies small.
+ Colonies of the round form.
+ Colonies muddy.
+ Colonies colorless.
  – Large red circular, convex, smooth colonies with an iridescent "sheen"

16. **Characterize the antigenic structure of the causative agent of Intestinal Yersiniosis.**
+ O-antigene.
+ H-antigene.
  – A- antigene.
  – M- antigene.
  – Vi- antigene.

17. **What serotypes and subserotypes of the causative agent of Intestinal Yersiniosis cause diseases in the patient more often?**
+ O3.
+ O5-08.
+ O9.
  – O Ia, O Ib.
  – O III.
  – O IVa, O IVb.
  – O VIII.
  – H I.

18. **Name virulent factors of the causative agent of Intestinal Yersiniosis.**
+ Adhesins.
+ Invasins.
+ Enterotoxin.
+ Cytotoxin.
+ Endotoxin.
  - The causative agents synthesize only exotoxin
  - Toxins does not synthesize.

19. **Characterize the features of immunity in persons who have been ill with Intestinal Yersiniosis.**
+ Cellular.
+ Type-specific.
+ Abortive.
  - Humoral.

20. **Which tests will the bacteriologist apply for serological diagnostics of Intestinal Yersiniosis?**
+ AR( in test-tube).
  - PHAT.
+ ELISA.
  - CFT.
  - Hemagglutination reaction.
  - Serological research of disease is not spent.

21. **What preparations to you are known for specific prophylaxis of Intestinal Yersiniosis?**
+ Specific preventive is not developed.
  - Intestinal Yersiniosis attenuated (live) vaccine.
  - Intestinal Yersiniosis inactivated vaccine.
  - Intestinal Yersiniosis toxoid.

**CAMPYLOBACTERIOSIS AND HELICOBACTERIOSIS**

**Test**

1. **What peculiarity of bacteria – Campylobacter spp. eliminated from the patient was taken into consideration during cultivation?**
+ Microaerophility.
  - Urease ferment presence.
  - Cells of gastral type colonization.
  - Spores and capsules absence.
  - Six polar flagellums presence.

2. **During microbiological investigation of faeces of patient was made diagnosis of “campylobacteriosis”. What basic method of diagnostics was used?**
+ Bacteriological.
  - Microscopic.
  - Biological test.
  - Serological (CFT).
  - Immunoblotting.

3. **Campylobacter jejuni have next properties:**
+ S- or C-forms
+ Gram-negative
+ Gram-positive
+ Coccus

4. **For express-diagnostic Campylobacteriosos and Helicobacteriosis used ELISA. What study in this test?**
+ Bacteria in material from patient
  - Antibody against agent in serum from patient
  - Biochemical properties pure culture bacteria
  - Antigenity properties pure culture bacteria

5. **Campylobacter coli are microaerophilic. What terms do need to be observed at cultivation of these bacteria?**
+ Growing best in 5% oxygen rather than the 20% present in the atmosphere.
  - Growing best in 15% oxygen rather than the 60% present in the atmosphere.
  - Growing best in 95% oxygen rather than the 30% present in the atmosphere.

6. **Who may be Sourse of Camrylobacteriosis?**
+ Cattle
+ Chickens
+ Illness patient
+ Rabbit

7. **What pathogenic factors producer Campylobacter jejuni?**
+ Enterotoxin
+ Cytotoxin
8 What group of diseases does Campylobacteriosis and Helicobacteriosis be have to?
+Intestinal infection
-Respiratory infection
-Sexual infection
- Food intoxication

9 Rotin systematic position of exciters of Campylobacteriosis.
+Family of Campylobacteriaceae genus Campylobacter
-Family of Vibrionaceae, genus of Yersinia
-Family of Yersinia, genus of Enterobacteriaceae
-Family of Campylobacter genus Campylobacteriaceae
-Family of Enterobacteriaceae, genus of Shigella

10 Rotin systematic position of exciters of Helicobacteriosis.
+Family of Helicobacteriaceae genus Helicobacter
-Family of Vibrionaceae, genus Yersinia
-Family of Yersinia, genus Enterobacteriaceae
-Family of Campylobacter genus Campylobacteriaceae
-Family of Helicobacter genus Helicobacteriaceae

11 What types of Campylobacter are caused by diseases for a man?
+C. fetus
+C. jejuni
+C. coli
+C. lari
-E. coli

12 What types of Helicobacter are caused by diseases for man?
+H. pylori
+H. heilmannii
+H. cinaedi
+H. fennelliae
-S. aureus

13 What type of Helicobacter most often does cause a disease for man?
+H. pylori
-C. jejuni
-H. heilmannii
-H. cinaedi
-H. fennelliae

14 Describe the morphological features of H. pylori
+G– the bent sticks
+Lophotrichous
+S– the bent sticks
+Spore is not formed
-G+ the bent sticks

15 Describe morphological features Campylobacter jejuni
+S– or C-form
+As a "gull wing" (in painting from pathological material)
+Have plaits
+Spores absent
+Capsules are not formed
-Immobile

16 That is the basic source of Campylobacteriosis?
+Cattle
+Sheep
+Pigs
+Poultries (chickens)
+Parrots
-Patient
-Bacillicarrier

17 Specify the ways of infecting of man the exciter of Campylobacteriosis.
+Alimentary (food and water)
+Fecal-oral
18 Specify the ways of infecting of man H.pylori.
+Alimentary (through the infected drinking-water and green-stuffs)
+Contact (with saliva) – fecal-oral mechanism
+At endoscopic examination
+At sounding of stomach (paratherapeutic)
-Transmissive
-Vertical

19 What methods of microbiological diagnostics are utilized for authentication of excitors of Campylobacteriosis?
+Bacteriological
+Microscopic
+Express-method (IFT)
+Serological
-Skin-allergic test
-Biological

20 What methods of microbiological diagnostics are utilized for authentication of H.pylori?
+Bacteriological
+Microscopic
+Express-method (PCR)
+Serological
-Cutaneous-allergic test
-Biological

21 What nourishing environments are utilized for cultivation of H.pylori?
+Blood agar
+Chocolate agar
-Ploskirev’s agar
-MacConkey’s agar
-Keri-Blera medium

22.Patients S., 28 years, hospitalized with a sharp colitis and signs of moderate intoxication, diarrhea. Feasis with the admixture of blood. At bacteriological research faeces is selected catalyze-positive gram-negative microaerophilic bacteria. Does not grow at 25°, ureazonnegative at the association of two cages remind the wings of gull, spores and capsules are not formed, mobile. What bacteria are such signs characteristics for?
+Campylobacter jejuni
-Bacterium coli
-Haemophilus influenzae
-Proteus vulgaris
-Salmonella typhi

23.After investigation of material which was taken from a patient, bacteriological diagnosed campylobacteriosis. What feature of bacteria, selected from a patient, was taken into account at cultivation?
+Microaerophilic
-Presence of urease enzyme
-Colonization of cages of gastric type
-Absence of spores and capsules
-Presence of six arctic flagella

+Family Campylobacteriaceae Genus Campylobacter
-Family Vibrionaceae, Genus Yersinia
-Family Yersinia, Genus Enterobacteriaceae
-Family Campylobacter Genus Campylobacteriaceae
-Family Enterobacteriaceae, Genus Shigella

25. Choose systematic position of excitors of helicobacteriosis.
+ Family Helicobacteriaceae Genus Helicobacter
-Family Vibrionaceae, Genus Yersinia
-Family Yersinia, Genus Enterobacteriaceae
-Family Campylobacter Genus Campylobacteriaceae
-Family Helicobacter Genus Helicobacteriaceae

26. What types of campylobacter are caused by diseases for a man?
+C. fetus
27. What types of helicobacter are caused by diseases for a man?
+H.pylori
+H.heilmannii
+H.cinaedi
+H.fennelliae
-S.aureus

28. What type of helicobacteria most often does cause a disease for a man?
+H.pylori
-C.jejuni
-H.heilmannii
-H.cinaedi
-H.fennelliae

29. Describe morphological features H.pylori.
+Gr- bent sticks
+S-formed bent sticks
+ Spore does not form
-Gr+ bent sticks

30. Describe morphological features C.jejuni
+C-, S-likely form
+ at kind “flying ” (in painting from pathological material)
+ have flagella
+ haven’t spores
+ does not form capsule
- immobile

31. What is the basic source of campylobacteriosis?
+Cattle
+Sheep
+Pigs
+Hans
+Parrots
-Patient
-Transmitter of bacteria

32. Specify the ways of infecting of man the exciter of campylobacteriosis.
+Alimentary (food and water)
+Trough things
-Airgenic way
-Transmissive way
Vertical way

33. Specify the ways of infecting of man H.pylori.
+Alimentary (water and vegetables)
+Contact (with saliva)
+ At endoscopies
+ sounding of stomach (iatrogenic)
-Transmissive way
-Vertical way

FOOD INTOXICATION and FOOD TOXIC INJECTION

Test
1. Material obtained from a patient suspected to have botulism is sent to bacteriological laboratory. What medium should be used to isolate the agent?
+Kitt-Tarozzi medium.
-1% alkaline peptone water.
-Endo agar.
-Sotton medium.
-Lowenstein-Jensen medium.

2. Infectious disease agents produce exotoxins with different biological effect. Which of these toxins is activated in gastrointestinal tract?
+Botulotoxin.
-Haematoxin.
-Histotoxin.
-Tetanospasmin.

3. It is necessary to provide express prophylaxis of botulism to a patient who has eaten contaminated food. What preparation should be used for this?
+Polyvalent botulinic antitoxic serum.
-Placental γ (gamma) - globulin.
-Monovalent botulinic antitoxic serum.
-Toxoid.

4. A patient is taken to the infectious department with preliminary diagnosis of botulism. What reaction should be performed to investigate botulinic toxin?
+Neutralization test.
-Agglutination reaction.
-Complement fixation test.
-Immunofluorescence test.

5. Food poisoning investigation identified a culture of anaerobic spore of Gram positive bacteria. The properties of what species are they most likely to be?
+Clostridium perfringens.
-Proteus vulgaris.
-Proteus mirabilis.
-Vibrio parahaemolyticus.
-Escherichia coli.

6. Name the taxonomic position of the causative agents of Botulism.
+Species Clostridium botulinum, serotypes A, B, E.
-Species Clostridia botulinum, serotypes A, B, E.
-Species Clostridia botulinum, serotypes A,B,C,D,E,F.
-The right answer is not present.

7. Characterize the morphological features of the causative agents of Botulism.
+Sporogenic bacteria; diameter spore exceeds the cross-section size of a stick.
+Accommodation spore gives bacteria a kind of a tennis racket.
+Does not make a capsule.
+Bacteria mobile (peritrichous).
-Spiral-shaped form.
-Bacteria monotrichous.

8. Characterize the tinctorial properties of causative agents of Botulism.
+Gram-positive bacteria.
-Gram-negative bacteria.
-Gram-negative cocci.
-Gram-positive cocci.

9. Name the way of staining the causative agents of Botulism.
+Gram-method.
+Ziehl-Neelsen's method.
+Ojesko method.
+Auyeski's method.
-The organism is not painted by dyes.
-The right answer is not present.

10. Characterize the features of respiration of the causative agents of Botulism.
+Obligate anaerobic.
-Obligate anaerobic and facultative anaerobes.
-Aerobic.
-Microaerophils.
-Capnophiles.

11. Name the sources of infection for Botulism.
+Excrements homoiothermal (warm-blooded) herbivores.
+Sapronosis infection.
-Patient.
-Bacteria carrier.
-Is endogenal infection.

12. Name ways of transmission for causative agents of Botulism.
+Alimentary (at the use of tinned products of mainly domestic preparation containing toxin).
13. Which material from the patient with Botulism will the doctors take for microbiological research?
+Faeces.
+Vomiting mass.
+Washing waters of stomach.
+Urine.
+The rests of foodstuff.
+Section material (fragments of the liver, stomach, intestines, and their contents).
+Sputum.

14. Name methods of microbiological diagnostics of Botulism.
+Biological.
+Bacteriological.
+Express method: definition the parameter of the phagocytosis.
-Microscopic.
-The right answer is not present.

15. Name the media for the cultivation of an investigated material from the patient of Botulism.
+Kitt-Tarozzi medium.
+Blood agar with glucose.
-Researchers material not growth on nutrient mediums.
-The right answer is not present.

16. Characterize the cultural properties of the causative agent of Botulism.
+On the blood agar with glucose form fine yellowish colonies.
+Colonies muddy.
+On the blood agar with glucose of a colony are surrounded with zone of hemolysis.
+On Kitt-Tarozzi media - turbidity of medium and gas formation.
-The right answer is not present.

17. Characterize the morphological features of the causative agents of Salmonellosis.
+Direct rod-shaped bacteria.
+Bacteria mobile (peritrichous).
+In micropreparations of a bacterium are located separately.
+Nonsporogenic bacteria.
+Monobacteria.
+Form a microcapsule.
-Monotrichous.
-Always form spore.

18. Characterize the tinctural properties of causative agents of Salmonellosis.
+Gram-negative bacteria.
-Gram-positive bacteria.
-Gram-negative bacteria, by Ziehl-Neelsen's method are painted in the red colour.
-Gram-negative bacteria, by Loeffler's method are painted in the blue colour.
-Gram-positive bacteria bacteria, by Burri-Gins's method are pained in the red color.

19. Name way of staining the causative agent of Salmonellosis.
+Gram-method.
-Ziehl-Neelsen's method.
-Burri-Gins method.
-Loeffler's method.
-Neisser's method.
-Ojeshko method.
-Auyeski's method.

20. Characterize the features of respiration of the causative agent of Salmonellosis.
+Facultative anaerobes.
+Aerobic.
-Obligate anaerobic.
-Microaerophils.
-Obligate and facultative anaerobes.
-Capnophiles.

21. Name the sources of infection for Salmonellosis.
Patient.
Bacteria carrier.
Animals.
- The spores of the activator which are being ground.
- The capsules of the activator which are being ground.
- Is endogenous infection.

22. Name ways of transmission for causative agent of Salmonellosis.
+ Alimentary (through water).
+ Alimentary (through food - mainly through milk, dairy and meat products)
+ Contact (faecal-oral mechanism).
- Aerogenic.
- Transmissible.
- Transplacental.

23. Which material from the patient with Salmonellosis will the doctors take for microbiological research?
+ Faeces.
+ Blood (for serological research)
+ Vomiting mass.
+ Bile.
+ Autopsy material (fragments small intestinal).
+ Haemoculture (the 2-3 weeks of generation disease)
- Stool culture (the 2-3 weeks of disease)
- Urine culture (the 2-3 weeks of disease)

24. Name methods of microbiological diagnostics of Salmonellosis.
+ Bacteriological.
+ Serological.
+ Molecule-genetic: PCR.
+ Express method: IFT.
- Skin-allergic test (with typhin).
- Microscopic.

25. The bacteriologist uses universal media for cultivating a causative agent of Salmonellosis.
+ Yes.
No.
Sometimes.
The right answer is not present.

26. Name media (to destination) for cultivation of an investigated material from the patient of Salmonellosis.
+ Differentiation-diagnostics.
+ Enrichment medium.
+ Enriched medium.
- Universal.
- Special.

27. Name media for cultivation of an investigated material from the patient of Salmonellosis.
+ BSA (bismuth-sulfite agar).
+ Rapoport's medium (MPB with bile).
+ Eosin-methylene blue agar.
+ Ploskyrev's medium (MPA with bile).
+ Selenite medium.
+ Endo agar.
- Hiss media.

28. Which properties does the bacteriologist investigate for identification of the causative agent of Salmonellosis?
+ Morphology of bacteria.
+ Tinctorial properties.
+ Antigenic properties.
+ Cultural properties.
+ Biochemical properties.
Mobility of bacteria.

29. Characterize the cultural properties of the causative agent of Salmonellosis MPA with bile.
+ Colonies colorless.
- Colonies colorless are surrounded by the mucous platen.
- Colonies of red color with metal shine.
- Black colonies with metal shine.
30. Which toxin is synthesized by the causative agent of Salmonellosis?
- Endotoxin.
- Exotoxin.
- Shiga-toxin.
- Shigella-like toxins.
- Toxins does not synthesize.

31. What preparations are known for specific prevention of Salmonellosis?
- The right answer is not present.
- Typhoid Fever spirit vaccine, with Vi-antigene.
- Typhoid Fever vaccine with a sixth toxoid.
- Attenuated vaccine.

32. Which disease is caused by Salmonella typhimurium?
- Food toxic infection.
- Salmonellosis.
- Typhoid Fever.
- A Paratyphoid.
- B Paratyphoid.
- Coli-enteritis.
- Encephalitis.

33. Characterize the features of immunity in persons who have been ill with Salmonellosis.
- Cellular.
- Type-specific.
- Local.
- Unsterile.

34. Which tests will the bacteriologist apply for serological diagnostics of Salmonellosis?
- PHAT
- Ring reaction.
- CFT.
- Serological research is not spent.

35. What preparations are known for treatment of Salmonellosis?
- Salmonellosis polyvalent bacteriophage.
- Antibiotics.
- Typhoid Fever spirit vaccine, with Vi-antigene.
- Typhoid Fever vaccine with a sixth toxoid.
- The right answer is not present.

GRAM-POSITIVE AND GRAM-NEGATIVE COCCUS Test

1. Vancomycin-indeterminate S. aureus (VISA) has recently been reported in the United States. Which one of the statements concerning VISA is the most correct?
- VISA isolates are usually methicillin susceptible (methicillin-resistant S. aureus, MRSA)
- VISA isolates are infrequent, so surveillance at the present time is not warranted
- VISA isolates contain significant amounts of teichoic acid
- The extent of cross-linking of peptidoglycan is a function of different species of bacteria
- The peptidoglycan-synthesizing enzymes can be antibiotic targets

2. Virtually all prokaryotic cells (bacteria, both Gram-positive and Gram-negative) contain peptidoglycan as well as specific enzymes for its synthesis. All of the following statements concerning Gram-positive and Gram-negative bacteria are true except
- Both Gram-positive and Gram-negative bacteria contain significant amounts of teichoic acid
- The extent of cross-linking of peptidoglycan is a function of different species of bacteria
- The peptidoglycan-synthesizing enzymes can be antibiotic targets
- With the exception of the structures that are cross-linked, peptidoglycan structure is common to most bacteria
- The physical shape of bacteria is a function of peptidoglycan

3. Group B streptococcus sepsis in an infant is preventable. Which one of the following procedures is most likely to reduce the incidence of group B streptococcal disease?
- Intrapartum antibiotic treatment
- Use of a polysaccharide vaccine
- Screening of pregnant females in the last trimester
- Identification of possible high-risk births
- Screening of pregnant females at the first office visit, usually during the first trimester

4. There has been much speculation on the pathogenesis of group B streptococcal disease in the neonate. One of the most likely pathogenic mechanisms is
+In the absence of specific antibody, opsonization, phagocyte recognition, and killing do not proceed normally
-Complement C5a, a potent chemoattractant, activates PMNs
-The streptococci are resistant to penicillin
-The alternative complement pathway is activated
5. S. aureus causes a wide variety of infections, ranging from wound infection to pneumonia. Treatment of S. aureus infection with penicillin is often complicated by the
+Production of penicillinase by S. aureus
-Inability of penicillin to penetrate the membrane of S. aureus
-Production of penicillin acetylase by S. aureus
-Lack of penicillin binding sites on S. aureus
-Allergic reaction caused by staphylococcal protein
6. Acute hematogenous osteomyelitis is often diagnosed by isolation of the organism from the blood and is caused most often by
+Staphylococcus aureus
-Proteus mirabilis
-Streptococcus faecalis
-Staphylococcus epidermidis
-E. coli
7. Methicillin-resistant S. aureus (MRSA) was isolated from 7 patients in a 14-bed intensive care unit. All patients were isolated and the unit closed to any more admissions. Which one of the following reasons best explains these rigorous methods to control MRSA?
+The alternative for treatment of MRSA is vancomycin, an expensive and potentially toxic antibiotic
-MRSA is inherently more virulent than other staphylococci
-MRSA causes toxic shock syndrome
-MRSA spreads more rapidly from patient to patient than antibiotic-susceptible staphylococci do
-MRSA is resistant to penicillin
8. Recently, there have been sensational media reports of patients infected with invasive, “flesh-eating” bacteria that spread rapidly through the tissues. This necrotizing fasciitis is usually caused by
+Group A streptococci
-S. aureus
-Micrococcus
-Bacillus cereus
-Clostridium tetani
9. To isolate specific bacteria from clinical specimens, it is necessary to use a variety of artificial media, some of which is selective, others of which are nonselective. N. gonorrhoeae is a fastidious pathogen and found in sites often contaminated with normal flora. The best medium for isolation is
+Thayer-Martin agar
-Sheep blood agar
-Löffler’s medium
-Thiosulfate citrate bile salts sucrose medium
-Löwenstein-Jensen medium
10. To isolate specific bacteria from clinical specimens, it is necessary to use a variety of artificial media, some of which is selective, others of which are nonselective. S. aureus has a distinctive appearance on which one of the following media?
+Sheep blood agar
-Löffler’s medium
-Thayer-Martin agar
-Thiosulfate citrate bile salts sucrose medium
-Löwenstein-Jensen medium
11. Streptococcus mutans is best described as
+A facultative anaerobe that is highly cariogenic and sticks to teeth by synthesis of a dextran
-A facultative anaerobe that often inhabits the buccal mucosa early in a neonate’s life and can cause bacterial endocarditis
-Hemolytic organism that causes a diffuse, rapidly spreading cellulitis
-An anaerobic, filamentous bacterium that often causes cervicofacial osteomyelitis
-A facultatively anaerobic, rod-shaped bacterium that sticks to teeth and is cariogenic
12. Streptococcus pyogenes is a toxigenic bacterium causing a variety of diseases. Which of the following statements best characterizes this organism?
+It secretes erythrogenic toxin that causes the characteristic signs of scarlet fever
-It produces toxin that blocks protein synthesis in an infected cell and carries a lytic bacteriophage that produces the genetic information for toxin production
-It produces at least one protein toxin consisting of two subunits, A and B, that cause severe spasmodic cough usually in children
-It has capsules of polyglutamic acid, which is toxic when injected into rabbits
It secretes exotoxin that has been called “verotoxin” and “Shiga-like toxin”; infection is mediated by specific attachment to mucosal membranes.

13. *N. meningitidis* causes meningitis in all age groups. A characteristic physiological trait is that it:
- Possesses N-acetyleneuraminic acid capsule and adheres to specific tissues by pili found on the bacterial cell surface.
- Has capsule of polyglutamic acid, which is toxic when injected into rabbits.
- Synthesizes protein toxin as a result of colonization of vaginal tampons.
- Causes spontaneous abortion and has tropism for placental tissue due to the presence of erythritol in allantoic and amniotic fluid.
- Secretes two toxins, A and B, in large bowel during antibiotic therapy.

13. Furuncle pus smear showed spherical microbes in change. Name these microorganisms.
- *Streptococci*
- *Staphylococci*
- *Diplococci*
- *Micrococci*
- *Tetracocci*

14. Gram-positive diplococci were revealed during the examination of a patient's sputum. Which microorganism is the most likely to cause the disease?
- *Streptococcus pneumoniae*
- *Legionella pneumophila*
- *Neisseria meningitidis*
- *Klebsiella pneumoniae*
- *Streptococcus pyogenes*.

15. What preparation is expedient for appointing the pregnant woman for specific preventive maintenance of a postnatal staphylococcal infection?
- Staphylococcal toxoid.
- Inactivated Staphylococcal vaccine.
- Attenuated Staphylococcal vaccine.
- Staphylococcus bacteriophage.
- Ampicillin.

16. The child is taken to hospital with the diagnosis "a staphylococcal sepsis". What nutrient medium will bacteriologist use for growth of blood of the child for activator isolation?
- Sugar-peptone broth.
- Meat-peptone agar.
- Bile agar.
- Buczynski's medium.
- Yolk-salt agar.

17. For Staphylococcal immune diseases the following drugs are prescribed, except:
- Antistaphylococcus horse serum.
- Antistaphylococcal plasma.
- Antistaphylococcal immunoglobulin.
- Staphylococcus gamma-globulin.
- Staphylococcal toxoid.

18. A 55-year old patient was hospitalized in the surgical clinic with suspected sepsis. What material from the patient is necessary to do research, and in what bacteriological medium should material be grown in?
- Blood, sugar broth.
- Cerebrospinal fluid, serum agar.
- Urine, meat-peptone agar.
- Pus, yolk-salt agar.
- Puctured lymph node, cystein agar.

19. Sepsis is a heavy general disease of persons, in which microorganism:
- Multiply in the blood.
- Are within the gallbladder.
- Identified in the lymph.
- Transportation in blood.
- Are within the feces.

20. At the child recovering from measles, the doctor diagnosed pleuropneumonia. Disease is caused is conditional-pathogenic *S. epidermidis*. Name the infection form.
- Secondary infection.
- Superinfection.
- Re-infection.
- Persistent infection.
-Hospital infection.

21. A 17 year old youth is suffering from furunculosis, caused by *Staphylococcus epidermidis*. What test is needed to be carried out in order to correctly choose the preparation for treating the patient.

+ A carry out an antibioticogram
- To determine phagovar
- To detect antigenic factors
- Study biochemical properties

22. A spherical form microorganism secreted from a purulent wound of a patient, settles as a grape cluster on preparation. *Bacteria is gram positive*. On MPA bacteria forms S-shape colony. What type of bacteria is detected in the pus from wound?

+ Establishing a list of properties belonging to the bacteria is not possible
- *Staphylococcus aureus*
- *S. epidermidis*
- *S. saprophyticus*
- *S.pyogenes*

23. A pathogenic staphylococci was detected from a purulent wound and it’s sensitivity to antibiotics was defined: penicillin-8mm, oxacilin-9mm, ampicilin-q10mm, gentamicin-22mm, lincomicin-11mm. What bacteriological method was used for the definition of sensitivity to antibiotics.

+ Paper disc method
- Double (two) culture method
- Bacteriological method
- Bacterioscopic method

24. What is the most serious pathogen within the genus *Staphylococcus*?

+ *Staphylococcus aureus*
- *Staphylococcus epidermidis*
- *Staphylococcus saprophyticus*
- *Staphylococcus hominis*
- *Staphylococcus capitis*

25. Why is *Staphylococcus aureus* considered a troublesome hospital pathogen?

+ Because it resists the effects of many disinfectants and antibiotics.
- Because its optimum growth temperature is 37°C.
- Because it is a facultative anaerobe.
- Because it grows in large, round opaque colonies.
- Because it can digest proteins and lipids, and ferment a variety of sugars.

26. What is the most diagnostic species characteristic of *Staphylococcus aureus*?

+ The production of coagulase
- The production of hyaluronidase
- The production of penicillinase
- The production of leukocidin
- The production of -toxin

27. Which is not an effect of the *Staphylococcus aureus* -toxin?

+ It acts upon the human gastrointestinal tract.
- It lyses red blood cells of various mammals.
- It causes leukocyte damage.
- It damages skeletal and heart muscle.
- It damages kidney tissues.

28. What is the most common infection caused by *Staphylococcus aureus*?

+ Folliculitis
- Staphylococcal enterotoxosis
- Toxic shock syndrome
- Osteomyelitis
- Staphylococcal Bacteremia

29. *Staphylococcal enterotoxosis* is associated with eating all but which of the following foods?

+ Hamburger
- Custards
- Chicken salad

30. What factor appears to support colonization and proliferation of both *Staphylococcus aureus* and the coagulase-negative staphylococci within patients?

+ A foreign body
- An open wound
- A preexisting condition
- A primary infection
The use of antibiotics

31. **What is the key test that separates Staphylococcus aureus from other staphylococci?**
   - Coagulase test
   - Susceptibility to novobiocin
   - Mannose fermentation
   - Growth on blood agar
   - Urease test

32. **What is the principal reservoir for the pathogenic staphylococci?**
   - Humans
   - Large primates
   - Soil
   - Fresh and salt water
   - Herbivores

33. **How are the streptococci differentiated from the staphylococci when viewed microscopically following the Gram stain procedure?**
   - Staphylococci are Gram positive and grow in grape-like clusters, while streptococci are also Gram positive, but grow in chains.
   - Staphylococci are Gram positive, while streptococci are Gram negative.
   - Staphylococci are Gram positive cocci, while streptococci are Gram positive bacilli.
   - Staphylococci are Gram negative bacilli, while streptococci are Gram negative cocci.
   - They cannot be differentiated microscopically.

34. **What is the most serious streptococcal pathogen of humans?**
   - Streptococcus pyogenes
   - Streptococcus agalactiae
   - Streptococcus mutans
   - Enterococcus faecalis
   - Streptococcus sanguis

35. **Why do toxic shock syndrome and necrotizing fasciitis cause such severe pathology to host tissues?**
   - The streptococcal toxins act as superantigens.
   - The organisms have been infected by a temperate bacteriophage.
   - The organisms possess M protein.
   - The organisms produce streptokinase and hyaluronidase.
   - The organisms are extremely resistant to antimicrobial drugs.

36. **What species of the streptococci can be transferred to an infant during delivery?**
   - Streptococcus agalactiae
   - Streptococcus pyogenes
   - Enterococcus faecalis
   - Enterococcus faecium
   - Streptococcus bovis

37. **What test allows for the differentiation of Group A streptococci from other hemolytic streptococci?**
   - Bacitracin sensitivity
   - CAMP test
   - Hippurate hydrolysis
   - Esculin hydrolysis
   - Growth in 6.5% salt

38. **Which streptococcal species is involved in the production of cavities?**
   - Streptococcus mutans
   - Streptococcus pneumoniae
   - Streptococcus agalactiae
   - Streptococcus pyogenes
   - Enterococcus faecalis

39. **What is the major virulence factor of Streptococcus pneumoniae?**
   - Capsule
   - M protein
   - Pyogenic exotoxins
   - DNA-ase
   - Hyaluronidase

40. **What organism is responsible for the majority of cases of otitis media in children?**
   - Streptococcus pneumoniae
   - Staphylococcus aureus
   - Streptococcus pyogenes
   - Streptococcus mutans
41. Virulence factors of Neisseria gonorrhoeae include all except which of the following?
+ Hemolysis
- Pili that promote attachment
- Surface molecules that promote attachment
- IgA protease
- Pili that slow phagocytosis

43. Most cases of gonorrhea occur within what age range?
+ 18-24 years
- 14-18 years
- 24-26 years
- 26-30 years
- 30-35 years

44. How do Neisseria gonorrhoeae appear when stained with the Gram stain and viewed microscopically?
+ Gram negative diplococci
- Gram positive cocci in grape-like clusters
- Gram negative rods
- Gram positive diplococci

45. Meningitis associated with Neisseria meningitidis usually occurs as what type of disease?
+ Epidemic
- Endemic
- Pandemic
- Isolated
- Common-source

46. What is the reservoir of Neisseria meningitidis?
+ Human carriers
- Soil
- Saltwater
- Domesticated animals
- Reptiles

47. How is Neisseria meningitidis spread?
+ Through respiratory secretions or droplets
- Through contaminated fomites
- Through consumption of contaminated food or water
- By insect vectors
- Through sexual contact

48. Gonorrhea is a sexually transmitted disease that is caused by:
+ None of the above
- Drinking after too many people
- Kissing many different people
- Dirty toilet seats

49. The highest incidence of gonorrhea happens in which age group?
+ 15-24
- 9-15
- 15-35
- 30-45

50. People with gonorrhea usually also have this disease
+ Chlamydia
- Swine Flu
- Herpes
- AIDS

51. What is gonorrhea treated with?
+ Antibiotics
- Surgery
- Hands on cleaning by a doctor
- Alcoholic beverages

52. Name methods of microbiological diagnostics of Gonorrhea.
+ Bacteriological.
+ Microscopic.
+ Serological.
53. Name methods of microbiological diagnostics of Meningitis.
- Bacteriological.
- Microscopic.
- Serological.
- Molecule-genetic (PCR).
- Biological.
- Skin-allergic test.

54. What is the name of the bacteria that cause Gonorrhea:
- Neisseria gonorrhoeae
- Neisseria meningitidis
- Neisseria gonorrhoea
- Neisseria gonoroe

55. How is stained staining Neisseria gonorrhoeae?
- Gram - negative
- Aniline dye zabarvlyuyetsya

56. What is special staining methods used for dyeing Neisseria gonorrhoeae?
- Methylene blue
- Not used
- Zell-Nielsen
- Boory-Gins
- ELISA

57. In that group, depending on the oxygen consumption can be attributed Neisseria gonorrhoeae?
- Aerobe
- Facultative anaerobes and aerobic
- Anaerobes

58. What are special medium used for cultivation of Neisseria gonorrhoeae?
- Serum agar
- Ascites agar
- Thayer-Martin
- Egg-Yolk agar
- Mueller-Hinton
- Kitt-Tarocci

59. As growing Neisseria gonorrhoeae in ascites-agar?
- Forms a transparent colorless colonies similar to those drops of dew
- For environments that incorporate blood do not cause hemolysis
- In liquid environments grow diffusely, forming a film
- Creates a shiny smooth medium-sized, translucent, black colonies
- Does not grow in liquid media.
- Forms a dry yellow-brown wrinkled colonies
- Forms a shallow shiny brown colonies

60. What are pathogenicity factors in Neisseria gonorrhoeae?
- Capsule
- IgA1 Protease
- Pili
- B-lactamase
- Endotoxin
- Exotoxins
- Toxic peptide, thermostat
- Proteinpeptide polysaccharide exotoxins with hemolytic activity
- Cytolysyne, adgesine

61. What material is used for research during the bacteriological diagnosis of disease caused by Neisseria gonorrhoeae?
- Urine sediment
- Blood
- Mucus from the urethra
- Smears from conjunctive
- Vomit Discharge
- Specimens
-Liquor
-Bile
-Discharge from the wound

62. **What are serological tests used in the study of gonorrhea?**
+ CFT (Borde-Gango)
- PHAT
- IFT
- RIA
- PCR
- ELISA
- Neutralization reaction

63. **What are diseases causing by Neisseria gonorrhoeae?**
+ Gonorrhea
+ Blenorea
- Meningitis
- Fever (with pneumonia)
- Severe pneumonia
- Fever (no rash)

64. **What are features immunity to gonorrhea?**
*Humoral, non-protective*
+ Cellular and humoral typo-specific, (non-protective)
- Cellular typo-specific, humoral protective
- Cellular cytotoxic type
- Humoral (non-protective) antitoxic

65. **What are immunological drugs used for specific prevention of gonorrhea?**
+ Not developed specific prevention
- Rifampicin
- Live vaccine
- Kill vaccine

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**TUBERCULOSIS**

1. **What is the name of the tuberculosis causative agent?**
+ Mycobacterium tuberculosis
+ Mycobacterium bovis
+ Mycobacterium africanum
- Mycobacterium leprae
- Mycobacterium smegmatomicum
- Mycobacterium avium

2. **Mycobacterium tuberculosis forms spores or not?**
+ No
- Yes
- Under certain conditions

3. **Mycobacterium tuberculosis forms capsule or not?**
+ Microcapsules produces
- Yes
- No
- Only in the human

4. **Indicate Mycobacterium tuberculosis has flagella or not?**
+ No
- Yes
- Under certain conditions
- No flagella, but is fimbriyi

5. **How is Mycobacterium tuberculosis stained by Gram method?**
+ Gram - positive
- Gram - negative
- Aniline dye is not using

6. **What special staining methods used for staining Mycobacterium tuberculosis?**
+ Zell-Neelsen
- Not using
7. In what group, depending on the oxygen consumption can be attributed Mycobacterium tuberculosis?
+ Aerobic, facultative anaerobes
- Aerobe
- Anaerobes

8. Is Mycobacterium tuberculosis grows on simple nutrient media?
+ Yes
- No
- Not at all

9. What special media are used for cultivation of Mycobacterium tuberculosis?
+ Löwenstein-Jensen media
+ Finn’s media
+ Synthetic Soton’s media
- Blood agar
- MPA
- Medium with sodium sulfite
- Broth Hotinhier
- The Mac-Conkey’s media
- Chepin’s media

10. What is Mycobacterium tuberculosis growing on the media?
+ Forms a dry yellow-brown wrinkled colonies in liquid media - film without distraction
- Creates shallow milky white colonies
- Creates a shiny smooth translucent, black colonies
- Forms a transparent colorless colonies similar to those drops of dew

11. What are toxins produced by Mycobacterium tuberculosis?
+ Do not form
- Endotoxin
- Exotoxins
- Exotoxins and endotoxin

12. What are pathogenicity factors has Mycobacterium tuberculosis?
+ Cell wall lipids, phospholipids
+ Tuberculin
+ Cord factor
- Vi-antigen
- K-antigen
- O-antigen
- H-antigen and
- Antigenic structure is not known
- M-antigen

13. What is the material used for research during the bacteriological diagnosis of disease caused by Mycobacterium tuberculosis?
+ Sputum
+ Pleural fluid
+ Feces (rare)
+ Urine
+ Liquor
- Blood
- Vomiting mass
- Bile
- Food
- Wound exudate

14. What are the diagnostic methods used in the study of tuberculosis?
+ Skin- allergic test
+ Bacteriological
+ Microscopic
+ Biological
+ Serological
+ Genetic engineering
- The disease has a bright picture of the course, so do not carry out research

15. What serological tests are used in the study of tuberculosis?
16. Which animal is used for laboratory study of TB?
+Guinea pigs
-Do not put
-White mouse
-Newborn rabbits
-Hamsters

17. What disease are caused by Mycobacterium tuberculosis?
+Tuberculosis intoxication of children
+TB of respiratory tract
+Tuberculous meningitis
+Disseminated tuberculosis
+Tuberculosis of bones, reproductive and other systems
-Septic form of tuberculosis
-Primordial form of tuberculosis
-Angio-bubonic form of tuberculosis
-Primary and secondary septic form of tuberculosis

18. Features of immunity in tuberculosis?
+Cellular (delayed type), antibacterial, general,
+Humoral (protective) protective general
-Local, antitoxic
-Humoral (protective), local
-Humoral (congenital)

19. Is skin-allergic test used in diagnostics of the tuberculosis?
+So with tuberculin
-Very rarely, little is
-No

20. What medications are used to prevent tuberculosis?
+Live BCG vaccine
-Rifampicin
-Gamma globulin (planned prevention)
-No specific prevention
-Gamma globulin (emergency prevention)
-Killed vaccine

21. Why is calendar specific prevention of tuberculosis made early?
+Since neonatal are susceptibility to disease
+With the difficult course of illness in newborns (CNS lesions, generalization process)
+With the possibility of infection of newborns through mother's milk
+With the highest efficiency formation of immune response in this age
+With this complexity of combining vaccination with other preventive measures against diseases

22. Features of pathogens of TB?
+Pathogenic factors are lidase(phosphatide fraction)
+There are quite persistent in the environment
+Slowly grow on nutrient media (7 days or more)
-Infection occurs only through breathing
-Source of infection is only sick people

23. What is name of the causative agent of leprosy?
+Mycobacterium leprae
-Mycobacterium tuberculosis
-Mycobacterium bovis
-Mycobacterium africanum Mycobacterium smegmaticum
-Mycobacterium avium

LEPRAE
1. What is name of the causative agent of leprosy?
+Mycobacterium leprae
-Mycobacterium tuberculosis
-Mycobacterium bovis
-Mycobacterium africanum Mycobacterium smegmatis
-Mycobacterium avium

2. Mycobacterium leprae forms spore or not?
+No
-Yes
-Under certain conditions

3. Mycobacterium leprae forms capsule or not?
+Produces microcapsules
+No
-Yes

Only in the human

4. Indicate whether Mycobacterium leprae has flagella?
+No
-Yes
-Under certain conditions
-No flagella, but has fimbri

5. How is Mycobacterium leprae stained by Gram?
+Gram-positive
-Gram - negative
-Aniline dye is not using

6. What is the special method used for staining Mycobacterium leprae?
+Zell-Nelsen
-Not used
-Burri-Ginse
-Methylene blue

7. In what group, depending on the oxygen consumption, can be attributed Mycobacterium leprae?
+Aerobic, facultative anaerobes
-Anaerobes
-Aerobe

8. Do Mycobacterium leprae growing on simple nutrient media?
+No
-Yes
Not at all

9. What is the special medium used for cultivation of Mycobacterium leprae?
+Not used
-Kitta-Tarrocci
-Wilson-Blair
-MPA
-Endo
-EMB
-Egg-yolk agar
-Mueller-Hinton media

10. What is the nature of the colonies of the Mycobacterium leprae?
+Not form colonies
-Creates a smooth pigmented colonies (cream)
-Produces brilliant transparent colonies, like drops of dew
-Creates a shiny smooth, translucent, black colonies not growing on liquid medium.
-Forms a shallow shiny brown colonies

11. What are toxins produced by Mycobacterium leprae?
+Not producing toxin
-Exotoxins
-Exotoxins and endotoxin
-Endotoxin

12. What is the antigenic structure of Mycobacterium leprae?
+Phenolic glycolipid
13. What are pathogenic factors of the Mycobacterium leprae?
+Cell wall lipids, phospholipids
+Fibronectin-binding protein
-Lecithinase
-Collagenolytic
-DNA-aza
-Hyaluronidase
-Pili

14. What material is used for research during the bacteriological diagnosis of disease caused by Mycobacterium leprae?
+Sample from infected skin and nasal mucosa
+Blood
-Vomiting
-Feaces
-Discharge from the wound
-Urine
-Specimens
-Mucus from the mouth

15. What are the diagnostic methods used in the study of leprosy?
+Microscopic
+Biological
+Serological
+Genetic engineering (PCR)
-The disease has a bright picture of the course, so do not carry out research
-Bacteriological

16. What serological tests are used in the study of leprosy?
+TBTL
+ELISA
-CFT
-Not used
-PHAT
-AT

17. What disease is caused by Mycobacterium leprae?
+LL form of leprosy
+Leprosy TT form
-Aeruginosas infection
-ANAerobic infection
-Food poisoning
-Severity pneumonia
-Tuberculosis

18. What are the features of immunity of leprosy?
+Cellular, humoral (nonprotective), general
-Antitoxic, nonprotective, long lasting
-Humoral, protective, long lasting
-Cellular, antitoxic, protective, short

19. Is skin-allergic test used in leprosy diagnostics?
+Yes with lepromin
-No
-Very rarely, little is

20. What drugs are used for the prevention of leprosy?
+Live Vaccine BCG with lepromine
-No specific prevention
-Toxoid (sextoxoid)
-Specific gamma globulin
-Killed vaccine
-Chemical vaccine

**ANTRAX Test**

1. **Name the causative agent of antrax**
   + Bacillus anthracis
   - Brucella melitensis
   - Salmonella typhimurium
   - Pseudomonas aeruginosa
   - Treponema vincentii

2. **Bacillus anthracis forms spores or no?**
   + Yes
   - No
   - Under certain conditions

3. **Bacillus anthracis forms capsule or no?**
   + Yes (+ -)
   - No
   - Only in the human

4. **Indicate has Bacillus anthracis flagella?**
   + No
   - Yes
   - Under certain conditions

5. **How is Bacillus anthracis stained by Gram method?**
   + Gram-positive
   - Gram-negative
   Aniline dye are not using

6. **What are special staining methods used for dyeing Bacillus anthracis?**
   + Zell-Nielsen
   - Neisser’s
   - Loeffler’s
   - Brown-Ginsa
   - Methylene blue

7. **In what group, depending on the oxygen consumption can be attributed Bacillus anthracis?**
   + Facultative anaerobes
   - Aerobe
   - Obligate anaerobes

8. **Does growing Bacillus anthracis on simple nutrient media?**
   + Yes
   - No

9. **What are special medium used for cultivation of Bacillus anthracis?**
   + Blood agar
   + Serum agar
   - Loeffler’s
   - Egg yolk agar
   - Endo
   - MPA

10. **What is growing of Bacillus anthracis in special medium?**
    + In liquid media as wool nubs, without distraction
    + On solid media forms S-smooth transparent colony
    + On solid media as head of a lion or Medusa
    + On solid media forms rough, matte R-colony
    - Forms a round, smooth, shiny, translucent red color with metallic luster

11. **What are toxins produced Bacillus anthracis?**
    + Exotoxin
    - Endotoxin

12. **What is the antigenic structure of Bacillus anthracis?**
    + O-antigen
    + K-antigen
    - Vi-antigen
    - H-antigen
13. What material is used for research during the bacteriological diagnosis of disease caused by Bacillus anthracis?
+ Mucus in the mouth
+ Film from mouth
- Blood
- Liquor
- Bile
- Urine
- Discharge from the wound

14. What are the diagnostic methods used in the study of anthrax?
+ Bacteriological
+ Serological
+ Microscopic
+ Biological
+ PCR
- Methods are not using

15. What is clinical forms of disease caused by Bacillus anthracis?
+ Pulmonary form of anthrax
+ Intestinal form of anthrax
+ Skin form of anthrax
- Anthrax, latent
- Congenital anthrax

16. Features of immunity to anthrax
+ Cell (delayed tape), humoral, durable, antibacterial, cross
- Humoral (protective), resistant
- Humoral, unstable, typo-specific, cross
- Cell, cytotoxic type, mainly local

17. Is skin-allergic test using for diagnostics of anthrax?
+ Yes
- No

18. What drugs are used for prevention of the anthrax?
+ Live vaccine
- Specific immunoglobulin
- APDT
- Antitoxic serum
- Toxoid
- Eubiotic
- Killed vaccine

19. What methods are used to determine the antitoxic immunity to the anthrax?
+ Shick test
+ Serological
- Bacteriological
- Biological
- Dick test
- Pertussis

AGENT OF TULAREMIA

Test

1. Name the causative agent of tularemia
+ Francisella tularensis
- Bacillus anthracis
- Brucella melitensis
- Salmonella typhimurium
- Pseudomonas aeruginosa
- Treponema vincentii

2. Mark Francisella tularensis forms spores or no
+ No
- Yes
- Under certain conditions

3. Mark Francisella tularensis forms capsule or no?
+ No
4 Mark Francisella tularensis has flagella or no?
+No
-Yes
-Under certain conditions

5. How is Francisella tularensis stained by Gram method?
+Gram - negative
-Gram-positive
-Aniline dye are not using

6. What special staining methods used for staining of the Francisella tularensis?
+Not using
-Zell-Nielsen
-Brown-Ginsa
-Methylene blue

7. In what group, depending on the oxygen consumption can be attributed Francisella tularensis?
+Facultative anaerobes
+Aerobe
-Obligate anaerobes

8. Is Francisella tularensis growing on simple nutrient media?
+No
-Yes

9. What special medium used for culturing Francisella tularensis?
+Mc Koy media
+Chepin media
+Media with Cystein
-Egg-yolk agar
-MPA

10. As growing Francisella tularensis in special media?
+Produces shallow milky white colonies
-Forms a round, smooth, shiny, translucent red color with metallic luster
-creates a shiny smooth medium-sized, translucent, blue-colored colonies
-forms a greenish-grained shallow with jagged edges

11. What toxins containing Francisella tularensis?
+Endo-toxin
-Exo-toxin

12. What is the antigenic structure of Francisella tularensis?
+O-antigen
+K-antigen
+Vi-antigen
-M-antigen
-H-antigen

13. What material is used for research during the bacteriological diagnosis of disease caused by Francisella tularensis?
+Mucus in the mouth
+Blood
+Discharge from the conjunctive
+Sputum
+Contain of the bubo
-Liquor
-Bile
-Feces
-Urine

14. What are the diagnostic methods used in the study of tularemia?
+bacteriological
+serological
+microscopic
+biological
+skin-allergic test
-methods are not using

15. What is clinical forms of the disease caused by Francisella tularensis?
+Bubo form of tularemia
1. Name the causative agent of plegua
+Yersinia pestis
-Bacillus anthracis
-Yersinia enterocolitica
-Brucella melitensis
-Salmonella typhimurium
-Pseudomonas aeruginosa

2. Mark Yersinia pestis forms spores or no
+No
-Yes
-Under certain conditions

3 Mark Yersinia pestis forms capsule or no?
+Yes
-No
Only in the human

4 Mark Yersinia pestis has flagella or no?
+No
-Yes
Under certain conditions

5. How is Yersinia pestis stained by Gram method?
+Gram - negative
-Gram-positive
-Aniline dye are not using

6. What special staining methods used for staining of the Yersinia pestis?
+Not using
-Zell-Nielsen
-Brown-Ginsa
-Methylene blue

7. In what group, depending on the oxygen consumption can be attributed Yersinia pestis?
+Facultative anaerobes
+Aerobe
-Obligae anaerobes

8. Is Yersinia pestis growing on simple nutrient media?
+Yes
-No

9. What special medium used for culturing Yersinia pestis?
+Media with hemolytic blood
+Broth Hettinger

AGENT OF PLEGUA

Test
-Egg-yolk agar
-Mc Koy media
-Chepin media
-MPA

10. As growing *Yersinia pestis* in special media?
+Produces on the liquid media film
+Produces on the solid media colonies like glass
-forms a round, smooth, shiny, translucent red color with metallic luster
-creates a shiny smooth medium-sized, translucent, blue-colored colonies
-forms a greenish-grained shallow with jagged edges

11. What toxins containing *Yersinia pestis*?
+Endo-toxin and Exo-toxin
-Only Endo-toxin
-Only Exo-toxin

12. What is the antigenic structure of *Yersinia pestis*?
+F1- antigen
+V and W- antigen
+O-antigen
+K-antigen
+Vi-antigen
+M-antigen
+H-antigen

13. What material is used for research during the bacteriological diagnosis of disease caused by *Yersinia pestis*?
+Blood
+Sputum
+Urine
+Contain of the bubo
+Liquor
+Mucus in the mouth
+Bile
-Discharge from the conjunctive
-Feces

14. What are the diagnostic methods used in the study of plegua?
+bacteriological
+serological
+microscopic
+biological
+skin-allergic test
-methods are not using

15. What is clinical forms of the disease caused by *Yersinia pestis*?
+Bubo form of plegua
+Primary and secondary pulmonary form of plague
+Primary and secondary septic form of plague
+Skin form of plague
+Intestinal form of plague
-Plague latent
-Congenital plague

16. Features of the plague immunity
+Cellular (delayed tape), humoral, general, antibacterial antitoxic
-Humoral (protective), resistant
-Humoral, unstable, typo-specific, cross
-Cellular, cytotoxic type, mainly local

17. Is skin-allergic test in plague?
+Yes
-No

18. What medications are used to prevent plague?
+Live vaccine
-Kill vaccine
-APDT
-Bacteriophage
-Eubiotic
1. What is the name of the syphilis causative agent?
+ Treponema pallidum
- Treponema endemicum
- Treponema orale
- Treponema palidum
- Treponema vincentii

2. Treponema pallidum forms spores or not?
+ No
- Yes
- Under certain conditions

3. Treponema pallidum forms capsule or not?
+ No
- Yes
- Only in the human

4. Indicate Treponema pallidum has flagella or not?
+ No
- Yes
- Under certain conditions
- No flagella, but is fimbriyi

5. How is Treponema pallidum stained by Gram method?
+ Aniline dye is not using
- Gram - positive

6. What special staining methods used for staining Treponema pallidum?
+ Microscopically examination in dark field
+ Phase-contrast examination
+ Silver staining by Morosov
+ Romanovsky-Gimse staining
- Zell-Neelsen
- Not using
- Burri-Gins
Methylene blue

7. In what group, depending on the oxygen consumption can be attributed Treponema pallidum?
+ Micro-aerophiles
- Aerobic, facultative anaerobes
- Aerobe
- Anaerobes

8. Is Treponema pallidum grows on simple nutrient media?
+ No
- Yes
- Not at all

9. What special media are used for cultivation of Treponema pallidum?
+ It is not using
- Löwenstein-Jensen media
- Blood agar
- MPA
- Medium with sodium sulfite
- Broth Hotinher
- The Mac-Conkey’s media

10. What is Treponema pallidum growing on the media?
+ It is not growing on the media
- Forms a dry yellow-brown wrinkled colonies in liquid media - film without distraction
- Creates shallow milky white colonies
- Creates a shiny smooth translucent, black colonies
- Forms a transparent colorless colonies similar to those drops of dew

11. What are toxins produced by Treponema pallidum?
12. **What are pathogenicity factors has Treponema pallidum?**
- Cell wall lipids, phospholipids
- Tuberculin
- Andesine
- Lipoproteins
- Vi-antigen
- K-antigen
- O-antigen
- H-antigen and
- Antigenic structure is not known
- M-antigen

13. **What is the material used for research during the bacteriological diagnosis of syphilis?**
- Blood
- Contain of the hard ulcer
- Lymphoid nodes
- Sputum
- Pleural fluid
- Feaces (rare)
- Urine
- Liquor
- Vomiting mass
- Bile
- Food
- Wound exudate

14. **What are the diagnostic methods used in the study of syphilis?**
- Microscopic
- Biological
- Serological
- Genetic engineering
- Skin- allergic test
- Bacteriological

15. **What serological tests are used in the study of syphilis?**
- PHAT
- CFT (Wasserman test)
- ELISA
- Treponema immobilization test
- RIF
- Latex-agglutination
- PCR
- Neutralization test

16. **Which animal is used for laboratory study of syphilis?**
- Rabbits
- Guinea pigs
- Do not put
- White mouse
- Hamsters

17. **What forms of the disease are caused by Treponema pallidum?**
- Primary syphilis
- Secondary syphilis
- Congenial syphilis
- Neuro-syphilis
- Bubonic form of syphilis
- Septic- form of syphilis
- Angino-bubonic form of syphilis

18. **Features of immunity in syphilis?**
- Cellular (delayed type), humoral non-protective, general
19. Is skin-allergic test used in diagnostics of the syphilis?
+ Yes with luetin
- Very rarely, little is
- No

20. What medications are used to prevent syphilis?
+ It is not using
- Live BCG vaccine
- Rifampicin
- Gamma globulin (planned prevention)
- No specific prevention
- Gamma globulin (emergency prevention)
- Killed vaccine

AGENT OF LEPTOSPIROSIS

1. What is name of the causative agent of leptospirosis?
+ Leptospira interrogans
- Leptospira interhogan
- Legionella pneumophila
- Bartonella henselae
- Pseudomonas aeruginosa

2. Leptospira interrogans forms spore or not?
+ No
- Yes
- Under certain conditions

3. Leptospira interrogans forms capsule or not?
+ No
- Produces microcapsules
- Yes
- Only in the human

4. Indicate whether Leptospira interrogans has flagella?
+ No
- Yes
- Under certain conditions
- No flagella, but has fimbri

5. How is Leptospira interrogans stained by Gram?
+ Aniline dye is not using
- Gram-positive
- Gram-negative

6. What is the special method used for staining Leptospira interrogans?
+ Microscopically examination in dark field
+ Phase-contrast examination
+ Silver staining by Morosov
+ Romanovsky-Gimse staining
- Zell-Neelsen
- Not using
- Burri-Gins
- Methylene blue

7. In what group, depending on the oxygen consumption, can be attributed Leptospira interrogans?
+ Aerobic, facultative anaerobes
- Obligate anaerobes
- Obligate aerobe

8. Do Leptospira interrogans growing on simple nutrient media?
+ No
- Yes
- Not at all
9. What is the special medium used for cultivation of *Leptospira interrogans*?
+ Water-glycerin media
- Wilson-Blair
- MPA
- Endo
- EMB
- Egg-yolk agar
- Mueller-Hinton media

10. What is the nature of the colonies of the *Leptospira interrogans*?
+ Not form colonies
- Creates a smooth pigmented colonies (cream)
- Produces brilliant transparent colonies, like drops of dew
- Creates a shiny smooth, translucent, black colonies not growing on liquid medium.
- Forms a shallow shiny brown colonies

11. What are toxins produced by *Leptospira interrogans*?
+ Endotoxin
- Not producing toxin
- Exotoxins
- Exotoxins and endotoxin

12. What is the antigenic structure of *Leptospira interrogans*?
+ Lipopolysaccharide of the cell wall
- Protective antigens were not found
- Antigenic structure is not known
- H-antigen
- O-antigen
- K-antigen
- Vi-antigen

13. What are pathogenic factors of the *Leptospira interrogans*?
+ Cytotoxin
+ Plasmocoagulase
+ Lipase
- Cell wall lipids, phospholipids
- Fibronectin-binding protein
- Lecithynase
- Collagenolytic
- DNA-aza
- Hyaluronidase

14. What material is used for research during the bacteriological diagnosis of leptospirosis?
+ Blood
+ Urine
+ Spinal fluid
+ Food
- Vomiting
- Feces
- Discharge from the wound
- Sample from infected skin and nasal mucosa
- Mucus from the mouth

15. What are the diagnostic methods used in the study of leptospirosis?
+ Microscopic
+ Biological
+ Bacteriological
+ Serological
+ Genetic engineering (PCR)
- The disease has a bright picture of the course, so do not carry out research

16. What serological tests are used in the study of leptospirosis?
+ ELISA
+ CFT
+ PHAT
+ Agglutination-lyses test
+ Latex-agglutination test
16. Which animal is used for bioprobe of the study of leptospirosis?
+Newborn rabbits
-White mouse
-Armadillo
-Guinea pigs
-Bioproba is not
-Hamsters

17. What forms of disease are caused by Leptospira interrogans?
+Pneumonia
+Jaundice form
+Jaundice-less form
-Anaerobic infection
-Food poisoning

18. What are the features of immunity of leptospirosis?
+Humoral, serotype specific, long lasting
+Antitoxic, nonprotective, long lasting
-Cellular, humoral (nonprotective), general
-Cellular, antitoxic, protective, short

19. Is skin-allergic test used in leptospirosis diagnostics?
+Yes with lepromin
-Yes with lepromin
-Very rarely, little is

20. What drugs are used for the prevention of leptospirosis?
+Killed vaccine
-Live Vaccine
-No specific prevention
-Toxoid
-Specific gamma globulin
-Chemical vaccine
-Associated vaccine

RICKETTSIA

1. What is the name of the typhus causative agent?
+Rickettsia prowazekii
-Coxiella burnetii
-Leptospira interhogan
-Leptospira pneumophila
-Bartonella henselae
-Pseudomonas aeruginosa

2. Rickettsia prowazekii forms spores or not?
+Yes
-Yes
-Under certain conditions

3. Rickettsia prowazekii forms capsule or not?
+Yes
-Yes
-Only in the human

4. Indicate Rickettsia prowazekii has flagella or not?
+Yes
-Yes
-Under certain conditions
-No flagella, but is fimbriyi

5. How is Rickettsia prowazekii stained by Gram method?
+Gram - negative
-Gram - positive
-Aniline dye is not using
6. What special staining methods used for staining Rickettsia prowazekii?
+Zdrodovsky
+Romanovsky-Gymze
-Zell-Neelsen
-Not using
-Burri-Gins
-Methylene blue

7. In what group, depending on the oxygen consumption can be attributed Rickettsia prowazekii?
+Aerobic, facultative anaerobes
-Aerobe
-Anaerobes

8. Is Rickettsia prowazekii grows on simple nutrient media?
+No
-Yes
-Not at all

9. What special media are used for cultivation of Rickettsia prowazekii?
+Media are not using
-Löwenstein-Jensen media
-Blood agar
-MPA
-Medium with sodium sulfite
-Broth Hotinher
-The Mac-Conkey’s media
-Chepin’s media

10. What is Rickettsia prowazekii growing on the media?
+It is not growing on the media
-Forms a dry yellow-brown wrinkled colonies in liquid media - film without distraction
-Creates shallow milky white colonies
-Creates a shiny smooth translucent, black colonies
-Forms a transparent colorless colonies similar to those drops of dew

11. What are toxins produced by Rickettsia prowazekii?
+Endotoxin
-Do not form
-Exotoxins
-Exotoxins and endotoxin

12. What are pathogenicity factors has by Rickettsia prowazekii?
+Proteins
+Glycopolicharide
-Vi-antigen
-K-antigen
-O-antigen
-H-antigen and
-Antigenic structure is not known
-M-antigen

13. What is the material used for research during the bacteriological diagnosis of disease caused by Rickettsia prowazekii?
+Blood
-Biopate of the organs
-Sputum
-Pleural fluid
-Feaces (rare)
-Urine
-Liquor
-Vomiting mass

14. What are the diagnostic methods used in the study of typhus?
+Biological
+Serological
+Genetic engineering
-Microscopic
-Bacteriological
-Skin- allergic test
-The disease has a bright picture of the course, so do not carry out research
15. What serological tests are used in the study of typhus?
+PHAT  
+CFT  
+AT  
-ELISA  
-RIA  
-Latex-agglutination  
-PCR  
-Neutralization test  

16. Which animal is used for laboratory study of typhus?
+Chicken embryo  
+Guinea pigs  
-Do not put  
-White mouse  
-Newborn rabbits  
-Hamsters  

17. What disease are caused by Rickettsia prowazekii?
+Epidemic typhus,  
+Brill-Zinsser disease  
-Tuberculosis  
-Plegua  
-Tularemia  
-Cholera  

18. Features of immunity in epidemic typhus?
+Cellular, humoral (nonprotective) general  
-Local, antitoxic  
-Humoral (protective), local  
-Humoral (congenital)  

19. What medications are used to prevent epidemic typhus?
+Live vaccine  
-Rifampicin  
-Gamma globulin (planned prevention)  
-No specific prevention  
-Gamma globulin (emergency prevention)  
-Killed vaccine  

AGENT OF Q-FEWER  
Test  

1. What is name of the causative agent of Q-fever?
+Coxiella burnetii  
-Leptospira interhogan  
-Legionella pneumophila  
-Bartonella henselae  
-Pseudomonas aeruginosa  

2. Coxiella burnetii forms spore or not?
+No  
-Yes  
-Under certain conditions  

3. Coxiella burnetii forms capsule or not?
+Produces microcapsules  
+No  
-Yes  
-Only in the human  

4. Indicate whether Coxiella burnetii has flagella?
+No  
-Yes  
-Under certain conditions  
-No flagella, but has fimbri  

5. How is Coxiella burnetii stained by Gram?
+Gram - negative  
-Gram-positive
Aniline dye is not using

6. What is the special method used for staining Coxiella burnetii?
   +Zdrodovsky
   +Romanovsky-Gymze
   -Not used
   -Burri-Ginse
   -Methylene blue

7. In what group, depending on the oxygen consumption, can be attributed Coxiella burnetii?
   +Aerobic, facultative anaerobes
   -Anaerobes
   -Aerobe

8. Does Coxiella burnetii growing on simple nutrient media?
   +No
   -Yes
   -Not at all

9. What is the special medium used for cultivation of Coxiella burnetii?
   +Not used
   -Wilson-Blair
   -MPA
   -Endo
   -EMB
   -Egg-yolk agar
   -Mueller-Hinton media

10. What is the nature of the colonies of the Coxiella burnetii?
    +Not form colonies
    -Creates a smooth pigmented colonies (cream)
    -Produces brilliant transparent colonies, like drops of dew
    -Creates a shiny smooth, translucent, black colonies not growing on liquid medium.
    -Forms a shallow shiny brown colonies

11. What are toxins produced by Coxiella burnetii?
    +Endotoxin
    -Not producing toxin
    -Exotoxins
    -Exotoxins and endotoxin

12. What is the antigenic structure of Coxiella burnetii?
    +Antigens 1-th and 2nd phase
    -Phenolic glycolipid
    -Protective antigens were not found
    -H-antigen
    -O-antigen
    -K-antigen

13. What are pathogenic factors of the Coxiella burnetii?
    +Cell wall lipids
    +Protein
    +Phospholipase
    -Lecithynase
    -Collagenolytic
    -DNA-aza
    -Hyaluronidase
    -Pili

14. What material is used for research during the bacteriological diagnosis of disease caused by Coxiella burnetii?
    +Blood
    +Urine
    +Spinal fluid
    -Sample from infected skin and nasal mucosa
    -Vomiting
    -Feaces
    -Discharge from the wound
    -Mucus from the mouth

15. What are the diagnostic methods used in the study of Q-fever?
    +Biological
Serological
Genetic engineering (PCR)
Skin-allergic test
-Microscopic
-The disease has a bright picture of the course, so do not carry out research
-Bacteriological

16. What serological tests are used in the study of Q-fever?
+IFT
+ELISA
+CFT
-Not used
-PHAT
-AT

16. Which animal is used for bioprobe of the study of Q-fever?
+Chicken embryo
-White mouse
-Guinea pigs
-Newborn rabbits
-Hamsters

17. What disease is caused by Coxiella burnetii?
+Q fever
-Anaerobic infection
-Food poisoning
-Tularemia
-Severe pneumonia
-Tuberculosis

18. What are the features of immunity of Q fever?
+Cellular (delayed type), humoral, general life-long
-Antitoxic, nonprotective, long lasting
-Humoral, protective, long lasting
-Cellular, antitoxic, protective, short

19. Is skin-allergic test used in Q fever diagnostics?
+Yes
-No
-Very rarely, little is

20. What drugs are used for the prevention of Q fever?
+Live Vaccine
-No specific prevention
-Toxoid (sextoxoid)
-Specific gamma globulin
-Killed vaccine
-Chemical vaccine
-Associated vaccine

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**CHLAMYDIA DISEASED CAUSATIVE AGENT**

**Test**

1. What is the name of the Chlamyda diseased causative agent?
+Chlamydia trahomatis
-Hlamydia trahomatis
-Chlmydia psitacis
-Mycoplasma hominis
-Mycoplasma urogenitalis

2. Chlamydia trahomatis forms spores or not?
+No
-Yes
-Under certain conditions

3. Chlamydia trahomatis forms capsule or not?
+No
-Yes
-Only in the human

4. Indicate Chlamydia trahomatis has flagella or not?
5. How is *Chlamydia trahomatis* stained by Gram method?
+Gram - negative
-Aniline dye is not using
-Gram - positive

6. What special staining methods used for staining *Chlamydia trahomatis*?
+Romanovsky-Gimse staining
-Zell-Neelsen
- Not using
-Burri-Gins
-Methylene blue

8. Is *Chlamydia trahomatis* grows on simple nutrient media?
+No
-Yes
-Not at all

9. What special media are used for cultivation of *Chlamydia trahomatis*?
+It is not using
- Löwenstein-Jensen media
- Blood agar
- MPA
- Medium with sodium sulfite
- Broth Hotinher
- The Mac-Conkey’s media

10. What is *Chlamydia trahomatis* growing on the media?
+It is not growing on the media
- Forms a dry yellow-brown wrinkled colonies in liquid media - film without distraction
- Creates shallow milky white colonies
- Creates a shiny smooth translucent, black colonies
- Forms a transparent colorless colonies similar to those drops of dew

11. What are toxins produced by *Chlamydia trahomatis*?
+Endotoxin
- Exotoxins
- Exotoxins and endotoxin
- Do not form

12. What are pathogenicity factors has *Chlamydia trahomatis*?
+Endotoxins
- Vi-antigen
- K-antigen
- O-antigen
- H-antigen and
- M-antigen

13. What is the material used for research during the bacteriological diagnosis of chlamidia diseases?
+Blood
+ Urine
+ Smear from the sexual tract
- Sputum
- Feaces (rare)
- Liquor
- Vomiting mass
- Bile
- Food
- Wound exudate

14. What are the diagnostic methods used in the study of chlamidia diseases?
+ Microscopic
+ Biological
+ Serological
+ Genetic engineering
- Skin- allergic test
15. What serological tests are used in the study of chlamidia diseases?
+PHAT
+CFT
+ELISA
-Latex-agglutination
-PCR
-Neutralization test
-IFT

16. Which animal is used for laboratory study of chlamidia diseases?
+Chicken embryo
-Guinea pigs
-Do not put
-White mouse
-Rabbits
-Hamsters

17. What forms of the disease are caused by Chlamydia trachomatis?
+Urogenital chlamydiosis
+Congenital urogenital chlamydiosis
+Atypical pneumonia
+Chlamydia of eyes
+Phut
+Venereal lymphogranulomatosis
+Otitis
-Abdominal urogenital chlamydiosis
-Microsporia

18. Features of immunity in chlamidia diseases?
+Cellular (delayed type), humoral non-protective, general,
-Humoral (nonprotective) general,
-Local, antitoxic,
-Humoral (protective), local
-Humoral (congenital)

19. What medications are used to prevent chlamidia diseases?
+It is not using
-Live BCG vaccine
-Rifampicin
-Gamma globulin (planned prevention)
-No specific prevention
-Gamma globulin (emergency prevention)
-Killed vaccine

AGENT OF MYCOPLASMA DISEASES

1. What is name of the causative agent of mycoplasma diseases?
+Mycoplasma hominis
+Mycoplasma pneumoniae
+Ureaplasma urealiticum
+Mycoplasma genitalium
-Chlamydia trachomatis

2. Mycoplasma spp. forms spore or not?
+No
-Yes
-Under certain conditions

3. Mycoplasma spp forms capsule or not?
+No
-Produces microcapsules
-Yes
-Only in the human

4. Indicate whether Mycoplasma spp has flagella?
+No
Yes
-Under certain conditions
-No flagella, but has fimbria

5. How is Mycoplasma spp stained by Gram?
+ Gram - negative
-Aniline dye is not using
-Gram-positive

6. Do Mycoplasma spp growing on simple nutrient media?
+No
-Yes
-Not at all

7. What is the special medium used for cultivation of Mycoplasma spp?
+Blood agar
-Water-glycerin media
-Kitty-Tarrazzi
-Wilson-Blair
-MPA
-Endo
-EMB
-Egg-yolk agar
-Mueller-Hinton media

8. What is the nature of the colonies of the Mycoplasma spp?
+They form colonies in shallow center and cloudy transparent periphery surrounded by a zone hemolysis
-Not form colonies
-Creates a smooth pigmented colonies (cream)
-Produces brilliant transparent colonies, like drops of dew
-Creates a shiny smooth, translucent, black colonies not growing on liquid medium.
-Forms a shallow shiny brown colonies

9. What is the antigenic structure of Mycoplasma spp?
+Glycoproteides of the cell wall
-Protective antigens were not found
-Antigenic structure is not known
-H-antigen
-O-antigen
-K-antigen
-M-antigen

10. What are pathogenic factors of the Mycoplasma spp?
+They have high adhesive, hemadsorbion and hemolytic ability
+Cytotoxicity
-Cell wall lipids, phospholipids
-Fibronectin-binding protein
-Lecithynase
-Collagenolytic
-DNA-aza
-Hyaluronidase
-Pili

11. What material is used for research during the bacteriological diagnosis of respiratory mycoplasmosis?
+Sputum
+Mucus in the mouth
+Pleural fluid
+Broncho-pulmonary lavage
-Vomiting
-Feces
-Discharge from the wound
-Sample from infected skin and nasal mucosa
-Mucus from the mouth

12. What are the diagnostic methods used in the study of respiratory mycoplasmosis?
+Bacteriological
+Serological
+Genetic engineering (PCR)
-Biological
The disease has a bright picture of the course, so do not carry out research.

**13. What serological tests are used in the study of respiratory mycoplasmosis?**
+ ELISA
+ CFT
+ PHAT
- Agglutination-lyses test
- Latex-agglutination test
- RBTL
- Not used
- AT

**14. What forms of disease are caused by Mycoplasma spp.?**
+ Pneumonia
+ Urogenital mycoplasmosis
- Anaerobic infection
- Food poisoning

**15. What are the features of immunity of mycoplasmal diseases?**
+ Humoral, serotype specific, non-protective
- Antitoxic, nonprotective, long lasting
- Cellular, humoral (nonprotective), general
- Cellular, antitoxic, protective, short

**16. Is skin-allergie test used in mycoplasmal diseases diagnostics?**
+ No
- Yes with lepromin
- Very rarely, little is

**17. What drugs are used for the prevention of mycoplasmal diseases?**
+ No specific prevention
- Killed vaccine
- Live Vaccine
- Toxoid
- Specific gamma globulin
- Chemical vaccine
- Associated vaccine

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**FUNGUS Test**

1. **What is the name of the candidiasis causative agent?**
+ Candida albicans
- Coxiella burnetii
- Leptospira interhogan
- Legionella pneumophila
- Bartonella henselae
- Pseudomonas aeruginosa

2. **Candida albicans forms spores or not?**
+ Yes
- No
- Under certain conditions

3. **Candida albicans forms capsule or not?**
+ No
- Microcapsules produces
- Yes
- Only in the human

4. **Indicate Candida albicans has flagella or not?**
+ No
- Yes
- Under certain conditions
- No flagella, but is fimbriyi

5. **How is Candida albicans stained by Gram method?**
+ Gram - positive
- Gram - negative
- Aniline dye is not using
6. What are special staining methods used for staining Candida albicans?
+ It is not using
- Zell-Neelsen
-- Not using
- Burri-Gins
- Methylene blue

7. In what group, depending on the oxygen consumption can be attributed Candida albicans?
+ Aerobic, facultative anaerobes
- Aerobe
- Anaerobes

8. Is Candida albicans grows on simple nutrient media?
+ Yes
No
Not at all

9. What special media are used for cultivation of Candida albicans?
+ Sabouraud agar
+ Candidagar
+ Suslo agar
- Blood agar
- MPA
- Medium with sodium sulfite
- Broth Hotinher
- The Mac-Conkey’s media
- Chepin’s media

10. What is Candida albicans growing on the media?
+ Forms protuberant colonies, white, cream, grey, rose color, on consistency as sour cream
- Forms a dry yellow-brown wrinkled colonies in liquid media - film without distraction
- Creates shallow milky white colonies
- Creates a shiny smooth translucent, black colonies
- Forms a transparent colorless colonies similar to those drops of dew

11. What are toxins produced by Candida albicans?
+ Endotoxin
- Do not form
- Exotoxins
- Exotoxins and endotoxin

12. What are pathogenicity factors has Candida albicans?
+ Protease
- Vi-antigen
- K-antigen
- O-antigen
- H-antigen and
- Antigenic structure is not known
- M-antigen

13. What is the material used for research during the bacteriological diagnosis of disease caused by Candida albicans?
+ Sputum
+ Pleural fluid
+ Faeces (rare)
+ Urine
+ Liquor
+ Bile
+ Blood
- Vomiting mass
- Food
- Wound exudate

14. What are the diagnostic methods used in the study of candidiasis?
+ Skin- allergic test
+ Cultural
+ Microscopic
+ Biological
+ Serological
+ Genetic engineering
The disease has a bright picture of the course, so do not carry out research.

15. What serological tests are used in the study of candidiasis?
+ PHAT
+ CFT
+ ELISA
- RIA
- IFT
- Latex-agglutination
- PCR
- Neutralization test

16. Which animal is used for laboratory study of candidiasis?
+ Guinea pigs
- Do not put
- White mouse
- Newborn rabbits
- Hamsters

17. What forms of the disease are caused by Candida albicans?
+ Chronic candidiasis
+ Candidiasis of the skin and mucous membranes
+ Disseminated candidiasis
+ Septic- form of Candidiasis
- Candidiasis of bones
- Bubonic form of Candidiasis
- Angino-bubonic form of Candidiasis
- Primary and secondary septic form of Candidiasis

18. Features of immunity in candidiasis?
+ Cellular (delayed type), non-protective, general,
- Humoral (non-protective) general,
- Local, antitoxic,
- Humoral (protective), local
- Humoral (congenital)

19. Is skin-allergic test used in diagnostics of the candidiasis?
+ Yes
- Very rarely, little is
- No

20. What medications are used to prevent candidiasis?
+ Not using
- Live BCG vaccine
- Rifampicin
- Gamma globulin (planned prevention)
- No specific prevention
- Gamma globulin (emergency prevention)
- Killed vaccine

21. A clinical diagnosis of meningitis is confirmed with a latex agglutination test on CSF for the capsular polysaccharide of the organism. The most likely causative agent is
+ Cryptococcus
- Candida albicans
- Paracoccidioides brasiliensis
- Histoplasma capsulatum
- Aspergillus fumigatus

22. The formation of granulomas is seen in major systemic fungal infections. Which of the following groups of fungi is most likely to cause granulomas?
+ Coccidioides, Blastomyces, Histoplasma
- Aspergillus, Coccidioides, Cryptococcus
- Mucor, Candida, Malassezia
- Cladosporium, Aspergillus, Microsporum
- Epidermophyton, Blastomyces, Trichophyton

23. Which of the following best describes an infection with Coccidioides immitis?
+ Inhaled arthrospores form thick-walled spherules filled with endospores
- A negative complement-fixing (CF) antibody test
- “Fungus ball” formation
-Thrush
-Clavate macroconidia

24. Inhalation of fungal spores can cause primary lung infections. Of the following organisms, which one is most likely to be associated with this mode of transmission?
+ C. immitis
-S. schenckii
-C. albicans
-T. tonsurans
-Candida tropicalis

25. An immunocompromised patient is suspected of having an infection with A. fumigatus. Which of the clinical conditions is most likely to occur?
+Invasive aspergillosis causing thrombosis and infarction
-Wound infection
-Urinary tract infection
-Thrush
-Superficial rash

26. Patients who have disseminated coccidioidomycosis may usually demonstrate which one of the following?
+A negative coccidioidin skin test and a rising complement-fixing (CF) titer
-A negative coccidioidin skin test and a stable CF titer
-A positive skin test and a mildly elevated CF titer
-Absence of CF antibodies
-Lack of immunity to reinfection

27. Tinea corporis is caused by which of the following?
+M. canis
-E. floccosum
-Malassezia furfur
-Exophiala werneckii
-Trichosporon beigeli

28. Tinea cruris is caused by which of the following?
+E. floccosum
-M. furfur
-M. canis
-E. werneckii
-T. Beigeli

29. During the microscopy of epidermis from the digital fold and soles two – circuit sutures of micellium and round and square spores were found. What agent is under consideration?
+Epidermophytia
-Trichophytosis
-Microsporia
-Favus

30. The dominant dermatomycosis is known as a Tinea pedis – “Athlete’s Foot”. As a rule, it’s caused by:
+Trychophyturon or Epidermophyturon floccosum
-Trychophyturon violacium or Candida albicans
-Microsporum or Epidermophyturon floccosum
-Microsporum gypseum or Microsporum audouinii
-Microsporum audouinii or Microsporum canis

31. A child has a diagnosis of oral cavity candidiasis. What preparation is used for it’s therapy?
+Nystatin
-Gentamicin
-Benzylpenicillin
-Tetracyclinium hydrochloride
-Cifran

32. Which one of the following fungi is MOST likely to be found growing within reticuloendothelial cells?
+Histoplasma capsulatum
-Candida albicans
-Cryplococcus neoformans
-Sporothrix schenckii

33. Fungi often colonize lesions due to other causes. Which one of the following is LEAST likely to be present as a colonizer?
+Spowthrrix
-Aspergillus
34. Each of the following statements concerning *Cryptococcus neoformans* is correct EXCEPT:
   - Septate hyphae are found in the lesions
   - The organism is frequently found in pigeon feces
   - A latex agglutination test can detect the organism's capsular polysaccharide
   - The initial site of infection is usually the lung

35. Several fungi are associated with disease in immunocompromised patients. Which one of the following is the LEAST frequently associated?
   - *Malassezia furfur*
   - *Cryptococcus neoformans*
   - *Aspergillus fumigatus*
   - *Mucor* species

36. Fungal cells that reproduce by budding are seen in the infected tissues of patients with
   - candidiasis, cryptococcosis, and sporotrichosis
   - mycetoma, candidiasis, and mucormycosis
   - tinea corporis, tinea unguium, and tinea versicolor
   - sporotrichosis, mycetoma, and aspergillosis

37. Infection by a dermatophyte is MOST often associated with
   - adherence of the organism to perspiration-moist skin
   - intravenous drug abuse
   - inhalation of the organism from contaminated bird feces
   - fecal-oral transmission

38. Each of the following statements concerning fungi is correct EXCEPT:
   - Both yeasts and molds have a cell wall made of peptidoglycan
   - Yeasts are fungi that reproduce by budding
   - Molds are fungi that have elongated filaments called hyphae
   - Thermally dimorphic fungi exist as yeasts at 37 °C and as molds at 25 °C

39. Each of the following statements concerning yeasts is correct EXCEPT:
   - Yeasts form ascospores when they invade tissue
   - Yeasts have chitin in their cell walls and ergosterol in their cell membranes
   - Yeasts have eukaryotic nuclei and contain mitochondria in their cytoplasm
   - Yeasts produce neither endotoxin nor exotoxins

40. Each of the following statements concerning fungi and protozoa is correct EXCEPT:
   - Both fungi and protozoa use flagella as their organ of motility
   - Both fungi and protozoa are eukaryotic organisms
   - Fungi possess a cell wall, whereas protozoa do not
   - Both fungi and protozoa generate energy in mitochondria

41. Each of the following statements concerning *Histoplasma capsulatum* is correct EXCEPT:
   - Infection does not elicit a mediated immune response, and no skin test is available
   - The natural habitat of *H. capsulatum* is the soil, where it grows as a mold
   - *H. capsulatum* is transmitted by airborne conidia, and its initial site of infection is the lung
   - Within the body, *H. capsulatum* grows primarily intracellularly within macrophages

45. Each of the following statements concerning infection caused by *Coccidioides immitis* is cor-reel EXCEPT:
   - Resistance to amphoteriin B is pi as mid-mediated
   - *C. immitis* is a dimorphic fungus
   - *C. immitis* is acquired by inhalation of arthrospores
   - Infection occurs primarily in the southwestern states and California

**SANITARY MICROBIOLOGY**

**Test**

1. Sanitary-microbiologic drinking water research is being carried out in a bacteriological laboratory. Total microbial amount appeared to be nearly 100. What microorganisms were taken into account?
   - All bacteria, which have grown on nutrient medium
   - Enteropathogenic bacteria and viruses
   - Coliform bacteria
   - Pathogenic for people and animals bacteria
   - Opportunistic microorganisms

3. Sanitary-bacteriological water research is carried out to assess drinking water eligibility. What numerical symbol characterizes the amount of E.coli in one liter?
   - Coli index
-Perfringens titer
-Coli titer
-Coli phage titer
-Total microbial amount

4. Microbial amount of air in a hospital room appeared to be 1500 cells/m³. What groups of microorganisms were taken into consideration?
+All bacteria, which have grown in nutrient medium
-Bacteria and viruses — causative agents of respiratory infections
-Staphylococci and streptococci
-Hospital infection causative agents
-All pathogenic and opportunistic bacteria

5. During a sanitary-bacteriological tap water investigation the following results were obtained: the total amount of bacteria in 1.0 ml is 80, coli index is 3. How should the results of the investigation be evaluated?
+Water is eligible for drinking
-Quality of water is doubtful
-Quality of water is very doubtful
-Water is polluted
-Water is considerably polluted

6. Sanitary-bacteriological investigation of water by the method of membranous filters detects two red colonies on a membranous filter (Endo medium), through which 500 ml of the explored water has been passed. What are the coli index and coli titer of the explored water?
+4 and 250
-2 and 500
-250 and 4
-500 and 2
-250 and 2

7. During the investigation of low quality foodstuff mobile gramnegative bacilli with serpiginous growth in the shape of coal dust on MPA after 18-hours of cultivation were detected. Isolates didn’t ferment lactose, mannitol, fermented glucose, maltose and sucrose making acid and gas, produced hydrogen sulphide and indole. It was proved bacteriologically that eliminated bacteria were representatives of which kind:
+Proteus
-Escherichia
-Pseudomonas
-Salmonella
-Shigella

8. During bacteriological investigation of soured cream samples of S.aureus culture were eliminated. How can the aetiological meaning of eliminated culture S.aureus be proved as food poisoning agent, which appeared among sour cream consumers?
+Phage type determination.
-Plasmocoagulase activity determination.
-Haemotoxins determination.
-Saccharolytic properties determination.
-Lecithinase activity determination.

9. Sanitary-bacteriological water research is carried out to assess drinking water eligibility. What numerical symbol characterizes the amount of E.coli in one liter?
+Coli index
-Perfringens titer
-Coli titer
-Coli phage titer
-Total microbial amount

10. The microbiological examination of coliform bacteria in foods preferably use
-MacConkey broth
-violet Red Bile agar
-eosine Methylene blue agar
+all of these

11. Water activity can act as
-an intrinsic factor determining the likelihood of microbial proliferation
-a processing factor
-an extrinsic factor
+all of the above