

**The first answer is correct for all questions**

5. Bacteria eventually become resistant to antibacterial agents. Resistance of gram-positive bacteria to penicillin antibiotics is caused by:

- A. Beta-lactamase production
- B. Permeability of the cell wall
- C. Active synthesis of peptidoglycan
- D. Active transport of antibiotic
- E. Protein synthesis

(2012p., №150) (2014p., №93)

1. Sulfonamides are widely used as bacteriostatic agents. The mechanism of antimicrobial action of sulfonamides is based on their structural similarity to:

- A. Para-aminobenzoic acid
- B. Glutamic acid
- C. Folic acid
- D. Nucleic acid
- E. Antibiotics

(2012p., №42) (2013p., №50)

2. Bacteriological inspection of disinfection quality at a pharmacy revealed a microorganism in an utility room (in the sink). The microorganism has the following properties: mobile nonspore-forming gram-negative bacteria that form capsular substance, grow well on ordinary nutrient media, secrete the blue-green pigment. This microorganism is most likely to be of the following genus:

- A. *Pseudomonas*
- B. *Proteus*
- C. *Clostridium*
- D. *Shigella*
- E. *Vibrio*

(2012p., №89) (2013p., №84)

3. Microbiological analysis of medicinal raw materials revealed capsular bacteria. What stain method was used to detect the capsules?

- A. Gin's
- B. Ziehl-Neelsen's
- C. Neisser's
- D. Gram's
- E. Ozheshko's

(2012p., №90) (2013p., №85)

4. Before a surgical operation, a surgeon treated his hands with an alcohol containing solution. Which group of drugs does this solution relate to?

- A. Antiseptics
- B. Disinfectants
- C. Sterilizing solutions
- D. Detergents
- E. Surface-active substances

(2012p., №120) (2013p., №106)

6. A patient with tuberculosis has been prescribed some anti-TB preparations. Which of the following chemotherapeutic drugs has an effect on the tuberculosis pathogen?

- A. Ftivazide
- B. Furacilinum
- C. Methisazonum

- D. Sulfadimezinum
- E. Phthalylsulfathiazole

(2012p., №167) (2013p., №153)

8. What synthetic drug of the hydrazide group is typically prescribed for pulmonary tuberculosis?

- A. Isoniazid
- B. Rifampicin
- C. Acyclovir
- D. Metronidazole
- E. Doxycycline hydrochloride

(2013p., №41)

9. A 42-year-old female has foampurulent vaginal discharges. The smear stained by Romanovsky-Giemsa's method has been found to include flagellated bacteria. What is the most likely microorganism that has been found by the doctor?

- A. *Trichomonas vaginalis*
- B. *Leishmania donovani*
- C. *Trypanosoma gambiense*
- D. *Trichomonas hominis*
- E. *Lamblia intestinalis*

(2013p., №45)

10. Sulfanilamides inhibit the growth and development of bacteria. The mechanism of their action is based on the impairment of the following acid synthesis:

- A. Folic
- B. Lipoic
- C. Nicotinic
- D. Pantothenic
- E. Pangamic

(2013p., №49)

11. There are areas where humans or animals are exposed to the constant risk of contracting certain types of bacteria. What feature of these bacteria is responsible for their long viability in the soil?

- A. Spore formation
- B. Capsule formation
- C. Ability to multiply in the plant remains
- D. Thick cell wall
- E. Plasmids

(2013p., №71)

13. Quite often, the soil may contain a number of pathogenic microorganisms. The causative agents of the following disease may stay viable in the soil for a long time:

- A. Anthrax
- B. Diphtheria
- C. Viral hepatitis
- D. Pertussis
- E. Dysentery

(2013p.,

№81)

14. A sample of a finished dosage form was found to be contaminated with some microorganisms exhibiting the following properties: greenish fluorescent colonies of gram-negative nonsporeforming bacilli that grew on the medium for the detection of pyocyanin. The bacilli release the bluegreen pigment into the medium. What microorganisms contaminated the finished dosage form?

- A. *Pseudomonas aeruginosa*

- B. *Enterobacteriaceae*
  - C. *Staphylococcus aureus*
  - D. *Staphylococcus epidermidis*
  - E. *Staphylococcus saprophyticus*
- №124)

(2013p.,

15. Vaccines are the artificial or natural preparations produced from bacteria, viruses and other microorganisms, their chemical components and waste products. They are used for the active immunization of humans and animals for the prevention and treatment of infectious diseases. The attenuated vaccines consist of:

- A. Viable microbes
  - B. Dead microbes
  - C. Anatoxin
  - D. Dead microbes and toxoid
  - E. Immunoglobulins
- №125)

(2013p.,

16. What method of sterilization should be used during the manufacturing liquid dosage forms containing proteins?

- A. Filtering
  - B. Boiling
  - C. Gas sterilization
  - D. Autoclaving
  - E. Pasteurization
- №126)

(2013p.,

18. Many diseases of medicinal plants are caused by bacteria of the *Pseudomonas* genus. Select the bacteria relating to this genus:

- A. Blue pus bacillus
  - B. Colon bacillus
  - C. *Proteus*
  - D. *Mycoplasma*
  - E. *Micrococci*
- №154)

(2013p.,

19. Microbiological studies of air in the pharmacy room revealed the presence of pathogenic staphylococci. Select the medium in which you can detect the lecithinase activity of the isolated microorganism:

- A. Yolk-salt agar
  - B. Blood agar
  - C. Bismuth sulfite agar
  - D. Sugar agar
  - E. Meat-extract agar
- №155)

(2013p.,

20. Therapeutic preparations for topical use (transdermal, vaginal, etc.) do not require sterility. However, the total permissible number of microbial cells and fungi in 1 g (ml) of a drug should not exceed:

- A. 100
- B. 10
- C. 500
- D. 1000

**E. 10 0000  
№157)**

**(2013p.,**

**21.** P.Ehrlich is considered to be the founder of modern chemotherapy. What chemotherapy drug was developed by this scientist?

- A.** Salvarsan
  - B.** Solusurminum
  - C.** Calomel
  - D.** Novarsenolum
  - E.** Osarsolum
- №158)**

**(2013p.,**

**22.** For cultivation of Brucella, pure cultures should be incubated in *CO2* enriched atmosphere. What type of breathing is typical for Brucella?

- A.** Capnophilic
  - B.** Facultative anaerobic
  - C.** Obligate anaerobic
  - D.** Obligate aerobic
  - E.** Any
- №163)**

**(2013p.,**

**23.** Some success in reducing malaria transmission was achieved through the mass destruction of transmitting mosquitoes and their larvae. The measures aimed at the destruction of insects are called:

- A.** Disinfestation
  - B.** Disinfection
  - C.** Deratization
  - D.** Sterilization
  - E.** Decontamination
- №164)**

**(2013p.,**

**24.** After a contact with a person having an infectious diseases, the disease pathogens entered the patient's body and started to multiply, but the symptoms of the disease were not yet observable. What period of the disease is this typical for?

- A.** Latent
  - B.** Prodromal
  - C.** Manifest illness stage
  - D.** Clinical outcome
  - E.** Relapse
- №176)**

**(2013p.,**

**25.** Allantoic fluid of a chicken embryo contaminated with nasopharyngeal flush of a patient was found to contain a virus. What diagnostic agents should be used to identify it?

- A.** Standard antiviral sera
  - B.** Viral diagnosticums
  - C.** Serum preparations
  - D.** Diagnosticums produced of standard virus strains
  - E.** Polyvalent immune diagnostic sera
- №183)**

**(2013p.,**

**26.** A 40-year-old female farmworker has been diagnosed with brucellosis and administered causal chemotherapy. What group of drugs will be used for this purpose?

- A. Antibiotic
  - B. Donor immunoglobulin
  - C. Inactivated therapeutic vaccine
  - D. Polyvalent bacteriophage
  - E. Antitoxic serum
- №186)**

**(2013p.,**

**27.** A laboratory received a food product that had been taken from the focus of food poisoning and presumably contained botulinum toxin. To identify the type of toxin, the neutralization reaction must be performed on white mice. What biological product is used in this reaction?

- A. Antitoxic serum
  - B. Normal serum
  - C. Antibacterial serum
  - D. Diagnosticum
  - E. Allergen
- №193)**

**(2013p.,**

**6.** Botulism agent causes severe food toxicoinfection. Point out the most characteristic morphologic feature of botulism agent.

- A. Gram-positive spore-forming bacilli with subterminal spore
  - B. Thick gram-positive non-sporeforming bacilli
  - C. Gram-positive spore-forming bacilli with terminal spore
  - D. Thin mobile spore-forming bacilli with central spore
  - E. Thick gram-positive non-sporeforming non-filament-forming bacilli
- №37)**

**(2014p.,**

**7.** Virological laboratory has received patient's nasopharyngeal lavage. What can be used to single out influenza virus from the patient's lavage?

- A. Chick embryo
  - B. Meat infusion agar
  - C. Meat infusion broth
  - D. Endo's medium
  - E. Lowenstein–Jensen medium
- №42)**

**(2014p.,**

**8.** Staphylococci grow well in ordinary media but inoculation of blood and egg-yolk salt agar should be done to separate pure bacterial cultures from diseased tissue. What is the purpose of those media?

- A. To define disease-producing factor
  - B. To define tinctorial properties
  - C. To study antigenic properties
  - D. To define bacterial mobility
  - E. To define antibiotic susceptibility
- №47)**

**(2014p.,**

**9.** The following spore-forming bacteria can be preserved in soil over a long period of time: clostridia of tetanus, botulism, anaerobic gas infection. Name the way with which these microorganisms get into soil.

- A. With feces
- B. With urine
- C. With water
- D. With industrial waters

E. With expectoration  
№52)

(2014p.,

10. Meat infusion broth is prepared for sterilization in bacteriological laboratory. What sterilization method is advisable?

- A. Autoclaving
  - B. Ignition
  - C. Boiling
  - D. Filtering
  - E. Dry heat
- №53)

(2014p.,

11. Capsuliferous bacteria has been detected during microbiological inspection of crude drugs. What method of staining has been used to detect capsules?

- A. Burri-Gins
  - B. Ziehl–Neelsen
  - C. Neisser
  - D. Gram
  - E. Aujeszky
- №60)

(2014p.,

12. Antibiotics produced by fungi belonging to *Penicillium* and *Aspergillus* genera are widely used in medicine. What class do these genera belong to?

- A. Ascomycetes
  - B. Basidiomycetes
  - C. Zygomycetes
  - D. Deuteromycetes
  - E. Chytridiomycetes
- №61)

(2014p.,

13. The patient has been prescribed oral drug to treat diarrhea. In accordance with WHO and Pharmacopoeia demands 1 g (ml) of drug has to contain the following number of microorganisms:

- A. 1000 bacteria and 100 mold fungi
  - B. 100 bacteria and 10 mold fungi
  - C. 10 bacteria and no mold fungi
  - D. No bacteria and no mold fungi
  - E. 1000 bacteria and 200 mold fungi
- №90)

(2014p.,

16. The following have been detected in hand lavage of the kindergarten chef: colibacilli, ray fungi, staphylococci, bacilli, mold fungi. What microbes are evidential of fecal contamination of hands?

- A. Colibacilli
  - B. Ray fungi
  - C. Staphylococci
  - D. Bacilli
  - E. Mold fungi
- №94)

(2014p.,

17. A person has been in contact with influenza patient. What drug should be administered for specific passive influenza prophylaxis?

- A. Antigrippal immunoglobulin
  - B. Vaccine influenza virus inactivated
  - C. Leukocytic interferon
  - D. Amizon
  - E. Anaferon
- №95)**

**(2014p.,**

- 18.** Which one of the listed substance causes formation of acquired artificial passive immunity?
- A. Tetanus serum
  - B. BCG vaccine
  - C. Tetanus anatoxin
  - D. DPT vaccine
  - E. –
- №96)**

**(2014p.,**

- 19.** In microbiology class students had been growing pure bacterial culture. Bacterial inoculation of solid medium was performed to obtain separate visible colonies, resulting in two colonies, R-type and S-type, grown in thermostat after one day of incubation. What microorganism properties were described by students?
- A. Cultural
  - B. Tinctorial
  - C. Biochemical
  - D. Morphologic
  - E. Antigenic
- №122)**

**(2014p.,**

- 21.** Infectious agents of various ultrastructures can be etiological agents of infectious diseases. Which of the groups named below **HAS NO** cellular structure, protein synthesizing, enzyme and energy systems?
- A. Viruses
  - B. Fungi
  - C. Bacteria
  - D. Protozoa
  - E. Rickettsia
- №136)**

**(2014p.,**

- 22.** Production of injections in pharmacies requires strict control of sterilization quality. What is placed in autoclave sterilization chamber to ensure proper control?
- A. Ampoule with microbe spores
  - B. Ampoule with staphylococcus culture
  - C. Ampoule with colibacillus culture
  - D. Ampoule with fungi spores
  - E. Ampoule with viruses
- №139)**

**(2014p.,**

- 23.** The child has been hospitalized with scalded skin syndrome. Staphylococcus aureus was detected in blisters. What virulence factor causes exfoliation and necrosis of epidermis?
- A. Exfoliative toxin
  - B. Enterotoxin
  - C. Hemolysin
  - D. Toxic shock syndrome toxin

**E. Hyaluronidase**  
**№147)**

**(2014p.,**

**24.** There is a suspicion of active tuberculosis development in patient. The doctor has appointed Mantoux test to make a diagnosis. What immunobiological agent has to be administered?

- A.** Tuberculine
  - B.** BCG vaccine
  - C.** DPT vaccine
  - D.** Tularin test
  - E.** DT vaccine
- №157)**

**(2014p.,**

**25.** At the sixth day since illness onset the patient has been diagnosed with leptospirosis. What sample should be taken for microbiological study of disease?

- A.** Blood and cerebrospinal fluid
  - B.** Nasopharyngeal lavage
  - C.** Ulcer secretion
  - D.** Lymph node puncture sample
  - E.** Urine and feces
- №158)**

**(2014p.,**

**26.** The patient has been prescribed drug with antibacterial effect on tuberculosis mycobacteria. What drug is used in tuberculosis treatment and is pyridoxine antivitamin?

- A.** Isoniazid
  - B.** Heparin
  - C.** Trimethoprim/sulfamethoxazole (Co-trimoxazole)
  - D.** Streptomycin
  - E.** Sulfanilamide
- №172)**

**(2014p.,**

**27.** Pathogenic microorganisms produce various enzymes in order to penetrate body tissues and spread there. Point out these enzymes among those named below.

- A.** Hyaluronidase, lecithinase
  - B.** Lyase, ligase
  - C.** Transferase, nuclease
  - D.** Oxydase, catalase
  - E.** Esterase, protease
- №177)**

**(2014p.,**

**28.** The 32-year-old patient has been taking antituberculosis drugs. Later he noticed that his urine had become redorange in color. What drug is conducive to this phenomenon?

- A.** Rifampicin
  - B.** Isoniazid
  - C.** Pyrazinamide
  - D.** Ethambutol
  - E.** Streptomycin sulphate
- №180)**

**(2014p.,**

**29.** What drug is more advisable for the patient with amebic dysentery?

- A.** Metronidazole
- B.** Pyrantel
- C.** Levamisole

**D. Bicillin-5**

**E. Benzylpenicillin sodium salt (Penicillin G sodium salt)**

**(2014p.,**

**№189)**

**30. What chemotherapeutic agent is a drug of choice for treatment of herpes?**

**A. Acyclovir**

**B. Rifampicin**

**C. Doxycycline hydrochloride**

**D. Chingamin**

**E. Metronidazole**

**(2014p.,**

**№193)**