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

**2.** What drug should be administered for individual prevention of malaria?

**A.** Chingamin

**B.** Rifampicin

**C.** Ampicillin

**D.** Gentamicin

**E.** Biseptol (Co-Trimoxazolel)

**3.** In course of long-term treatment of an infectious patient with penicillin, the pathogen transformed into the L-form. What changes occur in the pathogen cell in case of L-transformation?

**A.** Absence of a cell wall

**B.** Absence of flagella

**C.** Absence of a capsule

**D.** Absence of a spore

**E.** Absence of inclusions

**4.** A sample of water used in drug production has been sent to a laboratory for sanitary and virological analysis. Presence of what virus group will be indicative of fecal contamination of water and thus the need for its additional purification?

**A.** Picornaviridae

**B.** Herpesviridae

**C.** Orthomyxoviridae

**D.** Retroviridae

**E.** Flaviviridae

**5.** For the specific prevention of influenza, the employees of an enterprise were vaccinated with "Influvac". What type of immunity will develop in the body of the vaccinated?

**A.** Artificial active

**B.** Innate congenital

**C.** Artificial passive

**D.** Natural active

**E.** Natural passive

**6.** Soil microflora often includes the representatives of pathogenic microorganisms. Specify the diseases, whose causative agents may say viable in the soil for a long time:

**A.** Tetanus and gas anaerobic infection

**B.** Tuberculosis and mycobacterioses

**C.** Colibacillosis and cholera

**D.** Leptospirosis and plague

**E.** Typhoid fever and dysentery

**7.** 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

**8.** 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

**9.** 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

**10.** 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

**11.** 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

**12.** 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

**13.** Antibiotics prodused 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

**14.** 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

**15.** Microbiological purity of tableted drugs had been tested at factory. Samples cultivation in mannitol salt agar resulted in growth of golden yellow colonies, microscopic examination of colonies detected gram-positive globular bacteria positioned in clusters; microorganisms had plasma coagulation prorerties. What pure bacterial culture was obtained?

**A.** Staphylococcus aureus

**B.** Enterobacteriaceae

**C.** Staphylococcus epidermidis

**D.** Staphylococcus saprophyticus

**E.** Pseudomonas aeruginosa

**16.** Leaves damage by mosaic discoloration has been detected at medicinal plantations. What microorganisms are the cause?

**A.** Plant-pathogenic viruses

**B.** Plant-pathogenic bacteria

**C.** Plant-pathogenic fungi

**D.** Protozoa

**E.** Rickettsia

**17.** 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

**18.** 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

**19.** 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.** –

**20.** 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

**21.** Pharmacy has received viricides. Choose the viricide used for influenza treatment from the list given below.

**A.** Rimantadine

**B.** Metisazone

**C.** Levamisole

**D.** Azidothimidine

**E.** Acyclovir

**22.** 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

**23.** Production of injections in pharmacies requires srtict 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

**24.** 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

**25.** 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

**26.** 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

**27.** 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

**28.** 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

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

**A.** Rifampicin

**B.** Isoniazid

**C.** Pyrazinamide

**D.** Ethambutol

**E.** Streptomycin sulphate

**30.** 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)

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

**A.** Acyclovir

**B.** Rifampicin

**C.** Doxycycline hydrochloride

**D.** Chingamin

**E.** Metronidazole

**32.** Microbe survial in environment is facilitated by spore formation. What microorganisms of those listed below are spore formers:

A.Clostridium

B.Bacteroides

C.Staphylococcus

D.Peptococcus

E.Peptostreptococcus

**33.** Bacteria rapidly become resistant to drugs in the course of antibacterial treatment. What structural components of bacteria provide for their resistance?

A.R-plasmids

B.Spores

C.Capsule

D.Flagella

E.Volutine granules

**34.** In a surgical unit an outbreak of purulent infections has been registered. The infections are caused by Staphylococcus aureus with multiple resistance to antibiotics. What plasmid has provided this property?

A.R

B.F

C.Col

D.Tox

E.Hly

**35.** Analysis of the cerebrospinal fluid of a child with signs of purulent lesion of brain tunics revealed gram-negative beanshaped diplococci. What provisional diagnosis can be made on the basis of the analysis results?

A.Meningitis

B.Gonorrhea

C.Cholera

D.Plague

E.Anthrax

**36.** During feces analysis of a 3-month old child with signs of enteric infection, numerous dark-red colonies has grown on Endo agar. What microorganisms can be the cause of such enteric infection?

A.Escherichia

B.Streptococci

C.Gonococci

D.Salmonellae

E.Shigella

37**.** During assessment of air purity in an aseptic unit of a pharmacy, sedimentation analysis had been applied. Test resulted in growth of the small colonies with areas of hemolysis. What medium was used for inoculation?

A.Blood agar

B.Levine’s formulation (Eosin Methylene Blue agar)

C.Endo agar

D.Ploskirev’s agar

E.Egg-yolk salt agar

**38.** What enzyme allows for synthesys of various genes from template-RNA to DNA in genetic engineering (this enzyme catalyzes the process detected in RNA-viruses)?

A.Reverse transcriptase

B.Exonuclease

C.DNA-ligase

D.Helicase

E.Endonuclease

**39.** A dry-heat box is used for sterilization of various materials and instruments in a bacteriological laboratory. This sterilization method can be applied to the following objects:

A.Glass test tubes

B.Rubber gloves

C.Simple nutrient medium

D.Wire inoculating loops

E.Physiological solution

**40.** A 3,5-year-old child has been diagnosed with dysbacteriosis in the form of critical reduction of gram-positive anaerobic bacteria and increased number of staphylococci and yeast fungi. What preparation should be used for the correction of dysbacteriosis?

A.Bifidumbacterin

B.Colibacterin

C.Coli-Proteus bacteriophage

D.Furazolidone

E.Lactoglobulin

**41.** A student in severe condition was delivered into a contagious isolation ward of a hospital. He is diagnosed with toxic diphtheria of the pharynx. What drug should be administered immediately for specific

treatment and prevention of complications?

A.Antidiphtheric serum

B.Diphtheria and tetanus toxoids and pertussis adsorbed vaccine

C.Diphtheria anatoxin

D.Penicillin antibiotic

E.-

**42.** Microorganisms that reach blood and other biological systems have negative surface charge. What surfactants are used as antibacterial agents to suppress the action of microorganisms?

A.Cationic

B.Anionic

C.Lyophilic

D.Lyophobic

E.Micellar

**43.** A ready-made drug was inoculated on Sabouraud’s agar and incubated under 22oC for 5 days. This nutrient medium was used to determine the following:

A.Number of mold and yeast fungi

B.Total number of bacteria

C.Presence of E. coli

D.Presence of S. aureus

E.Presence of Salmonella

**44.** Plant pathogens are represented by various microorganisms: bacteria, fungi, actinomycetales, viruses. Name the main location of plant pathogens in the natural environment:

A.Soil

B.Wa t e r

C.Air

D.Plant parts

E.Plant vascular system

**45.** Prolonged application of broad spectrum antibacterial drugs resulted in the patient being hospitalised with diagnosis of candidiasis. What side effect of antibiotic therapy has developed in the patient?

A.Disbacteriosis

B.Endotoxic reaction

C.Toxic reaction

D.Allergic reaction

E.Formation of resistant microorganism strains

**46.** An impression smears of the dead person’s brain and salivary glands revealed Negri bodies, when coloured with Mann methyl blue-eosin stain. These results confirm the presence of the following disease:

A.Hydrophobia

B.Influenza

C.Parotitis

D.Parainfluenza

E.Encephalitis

**47.** Bacterial culture obtained from patient DOES NOT grow when exposed to oxygen. Conditions suitable for bacterial culture growth can be created in:

A.Anaerobic culture jar

B.Serum-supplemented medium

C.Pasteur oven

D.Krotov apparatus

E.Oxidative medium

**48.** Sedimentation analysis has been applied for assessment of air purity in an aseptic unit of a phamacy. The test resulted in growth of the small colonies with areas of hemolysis. What medium was used for inoculation?

A.Blood agar

B.Levine’s agar (Eosin Methylene Blue agar)

C.Endo agar

D.Ploskirev’s agar

E.Egg-yolk salt agar

**49.** Smears from tonsillar coating of a patient were stained by Neisser’s method. Microscopy revealed thin yellow V-shaped bacilli with dark-blue grains at their ends. Make the preliminary diagnosis:

A.Diphtheria

B.Measles

C.Tuberculosis

D.Whooping cough

E.Influenza

**50.** According to the Pharmacopoeia regulations non-sterile drugs can contain certain microorganisms. Name the microorganisms that CANNOT be present:

A.Enterobacteriaceae

B.Yeast fungi

C.Micrococci

D.Mold fungi

E.Sarcinae

**51.** A pharmaceutical enterprise produces a tetanus-specific preventive drug. Which drug of those listed below is it?

A.Anatoxin

B.Dead vaccine

C.Live vaccine

D.Immunoglobulin

E.Recombinant vaccine

**52.** Inoculation in a nutrient medium was performed to determine probable contamination of a drug with fungi. The colonies are large, resembling sour cream. What nutrient medium had been used in this case?

A.Sabouraud

B.Loewenstein-Jensen medium

C.Roux

D.Loeffler

E.FINN-II

**53.** During influenza epidemic a patient with severe case of disease developed hacking cough and chest pain; signs of focal pneumonia were visible on X-ray. Microscopy of sputum detected large number of pneumococci. What type of infection is it?

A.Secondary

B.Superinfection

C.Abortive

D.Relapse

E.Reinfection

**54.** A factory producing typhoid fever vaccine cultivates bacteria of virulent strain in optimal nutrient medium. Then the cells are separated from culture fluid by means of centrifugation and processed with formalin. What type of vaccine is it?

A.Inactivated

B.Attenuated

C.Chemical

D.Anatoxin

E.Autovaccine

**55.** A pharmaceutical enterprise offers wide range of antimicrobial agents. Select the broad spectrum antimicrobial agent:

A. Tetracycline

B. Rimantadine

C. Nystatin

D. Griseofulvin

E. Phthalazolum

**56.** Aurococcus culture was obtained from the nasal cavity of a child suffering from chronic tonsillitis. Causative agent’s sensitivity towards a number of antibiotics was tested to choose the optimal drug. What drug WAS NOT included in antibiotic susceptibility testing?

A. Nystatin

B. Ampicillin

C. Tetracycline

D. Levomycetin (Chloramphenicol)

E. Erythromycin

**57.** Air contamination with pathological microorganisms can be anticipated by the presence of indicator bacteria. Specify the bacteria that indicate immediate epidemiologic danger:

A. Hemolytic streptococci

B. Sarcinae

C. Mold fungi

D. Yeast fungi

E. Micrococci

**58.** Different structures of a bacterial cell perform different functions. What dispensable component of a cell ensures its survival within hostile environment?

A. Spores

B. Flagella

C. Capsule

D. Cilia

E. Inclusions

59. In a child-rearing facility there was an outbreak of measles. What speciﬁc urgent prophylaxis should be administered to contact UNVACCINATED children?

A. Gamma globulin against measles

B. Measles virus vaccine live

C. DPT vaccine

D. Medical screening of the children

E. Isolation and treatment of infected children

60. A chemotherapeutic agent has bactericidal effect against streptococci, staphylococci, bacilli, and clostridia. According to its action spectrum this drug belongs to the following group:

A. Broad spectrum antibacterial agents

B. Narrow spectrum antibacterial agents

C. Broad spectrum antifungal agents

D. Antiviral agents

E. Antituberculous agents

61. The following should be used for sterilization of laboratory glassware in a microbiological laboratory:

A. Hot-air sterilizer

B. Bacteria-excluding ﬁlters

C. Koch’s steam sterilizer

D. Disinfectant

E. Bactericidal lamps

62. A smear of purulent excharge from urethra contains gram-negative beanshaped diplococci with both extra- and intracellular positions. Make the provisional microbiological diagnosis:

A. Gonorrhea

B. Syphilis

C. Chlamydiosis

D. Trichomoniasis

E. Candidiasis

63. During investigation of bacterial contamination of air it is necessary to take into account both total amount of microorganisms in a certain volume and qualitative content of microﬂora. What microorganisms are the sanitary indicators of air contamination within enclosed spaces?

A. Staphylococcus aureus

B. Colibacillus

C. Hay bacillus

D. Yeast fungi

E. Mold fungi

64. Microorganisms in the environment are being affected by various physical factors. What is the effect of high temperature on a microbial cell?

A. Irreversible degradation of all cellular structures

B. Mutagenic effect

C. Transition into anabiosis state

D. Albuminolysis

E. Fats saponiﬁcation

65. During examination of a patient with intestinal infection, inoculation in Endo medium resulted in multi-colored colonies: red and colorless. According to its purpose this medium can be determined as:

A. Differential diagnostic

B. Universal

C. Special

D. Selective

E. -

66. Since 2005 in Asian and European countries there was recorded unusually high avian ﬂu morbidity. Such spread of epidemic process can be determined as:

A. Pandemia

B. Epidemic

C. Endemia

D. Sporadic

E. Epizooty

67. In a research center there is a live vaccine against dysentery being created. What property of attenuated vaccine strain should coincide with the properties of original virulent strain of dysentery bacillus?

A. Antigenic structure

B. Morphology

C. Biochemical activity

D. Antibiotic susceptibility

E. Toxin production

68. Microbiological investigation of vaginal suppositories determined them to be CONTRARY to the Pharmacopoeia demands. What microﬂora was detected in the suppositories, resulting in such a conclusion?

A. Blue pus bacillus

B. Sarcina

C. Micrococcus

D. Tetracoccus

E. Citrobacter

69. What antiprotozoal drug can be recommended to a woman with trichomoniasis?

A. Metronidazole

B. Primaquine

C. Chloridine

D. Solusurminum (Sodium stibogluconate)

E. Chiniofon

70. A patient developed herpetic rashes. What drug should be prescribed in this case?

A. Acyclovir

B. Gentamicin

C. Clotrimazole

D. Benzylpenicillin

E. Biseptol (Co-trimoxazole)

71. A drug solution sterilized by means of boiling was tested for sterility. Inoculation on Kitt-Tarozzi medium revealed clostridia. Clostridia survived the boiling because they are:

A. Spore-formers

B. Thermophilic

C. Anaerobic

D. Prototrophic

E. Acid-fast

72. Selective medium can be used to separate various species of bacteria in a bacteriological laboratory. What medium of those listed below can be determined as selective?

A. Alkaline peptone water

B. Meat infusion broth

C. Meat infusion agar

D. Hiss’ serum water medium

E. Endo agar

73. To obtain exotoxins of some microorganisms, these microorganisms are inoculated into liquid nutrient medium, where microbial cultivation occurs and toxins are produced. At a certain stage it is necessary to remove the microbial cells from the medium, that is, to separate the toxins from microbes. What method should be applied in this case?

A. Bacteria-excluding ﬁlters

B. Boiling

C. Autoclaving

D. Ultraviolet irradiation

E. Disinfectants (chloramine)

74. On autopsy there are numerous suppurative foci within many of the internal organs. What pathological process is it characteristic of?

A. Septicopyemia

B. Septicemia

C. Sepsis

D. Bacteriemia

E. Toxemia

75. A pregnant woman was diagnosed with vaginal dysbacteriosis. What drug should be prescribed in this case?

A. Probiotic

B. Antibiotic

C. Bacteriophage

D. Interferon

E. Polyvitamins

76. A local general practitioner recommends taking interferon for inﬂuenza prevention. What is the mechanism of action of this drug?

A. Blocks virus protein synthesis

B. Blocks virus stripping

C. Inhibits virion exit from cells

D. Prevents adsorption of virus in cell receptors

E. Disrupts the process of virus assembly

77. A child had been administered anti-diphtheric serum. What resistance was formed in the child?

A. Passive

B. Active

C. Primary

D. Pathologic

E. Physiological

78. In a nursery-garden some medicinal plants developed signs of a disease: there are yellow spots and necrotic foci on the leaves. Sap of the diseased plants remained infectious even after passing through a bacteria-excluding ﬁlter. No microorganisms growth was detected on the nutrient medium. What microorganisms could be the cause of this disease?

A. Viruses

B. Fungi

C. Ray fungi

D. Bacteria

E. Mycoplasma

79. In 9 days after administration of a therapeutic serum the patient developed urticaria, itching, edemas, and lymph nodes enlargement. What type of allergic reaction has occurred in the patient?

A. Immune complex

B. Cytotoxic

C. Anaphylactic

D. Stimulating

E. Cellular

80. A group of children in the kindergarten (6-year-olds) received Mantoux test; 15 children presented with negative results. What measures should be taken towards these children?

A. BCG vaccination

B. Tuberculosis antitoxin

C. Isolation

D. Repeat the test

E. Referral for ﬂuorography

81. Antibiotics derived from various species of actinomycetes are widely used in medical practice. Point out these drugs among those listed below:

A. Aminoglycosides (streptomycin, monomycin)

B. Penicillin, cephalosporin, griseofulvin

C. Polymyxin, bacitracin

D. Chloreline, arenarinum

E. Lysozyme, erytrinum

82. Many drugs must be manufactured under strictly aseptic conditions. One such possible source of microbiological contamination of drugs is laboratory glassware. What method should be used to sterilize the glassware?

A. Dry heat

B. Ignition

C. Boiling

D. Tyndallization

E. Pasteurization

83. Cerebrospinal ﬂuid of a patient diagnosed with meningitis was taken for analysis. To detect the causative agent the sample was inoculated in a nutrient medium. Prior to that a serum had been added to the medium. What causative agent is expected to be obtained in this case?

A. Meningococcus

B. Mycobacteria

C. Staphylococcus

D. Viruses

E. Rickettsia

84. A structural analog of vitamin PP (nicotinic acid) is used as an antituberculous medicine. Name this medicine:

A. Isoniazid

B. Streptocide

C. Riboﬂavin

D. Tetracycline

E. Aspirin

85. The defensive mechanisms against some infectious diseases can be greatly reinforced with interferon. Interferon preparations will be the most advisable incases of the following type of infections:

A. Viral

B. Helminthic

C. Protozoal

D. Microbioses

E. Fungal

86. A chemotherapeutic agent has bactericidal effect against streptococci, staphylococci, bacilli, and clostridia. According to its action spectrum this drug belongs to the following group:

A. Broad spectrum antibacterial agents

B. Narrow spectrum antibacterial agents

C. Broad spectrum antifungal agents

D. Antiviral agents

E. Antituberculous agents

87. A certain infection leads to fetus malformation if a pregnant woman is affected. What vaccine should be used for prevention of this infection?

 A. Rubella virus vaccine

B. Inﬂuenza virus vaccine

C. Mumps vaccine

D. Poliovirus vaccine

E. Antirabic vaccine

88. HIV-infection occupational risk groups include people of various professions, healthcare workers included. Specify the most likely route of infection transmission for healthcare workers:

 A. Parenteral transmission

B. Fecal-oral transmission

C. Droplet transmission

D. Transmission via airborne dust particles

E. Vector-borne transmission

89. Microbial survival within environment is facilitated by spore formation. What microorganisms of those listed below are spore formers:

A. Clostridia

B. Bacteroides

C. Staphylococci

D. Peptococci

E. Peptostreptococci

90. After the pus sample taken from the urethra had been inoculated on ascitic agar, it resulted in growth of round transparent colonies. Microscopy of the colonies shows gram-negative kidney bean-shaped diplococci. What causative agent is it?

A. Gonococcus

B. Pneumococcus

C. Meningococcus

D. Micrococcus

E. Streptococcus

91. During assessment of air purity in an aseptic unit of a phamacy, sedimentation analysis had been applied. Test resulted in growth of the small colonies with areas of hemolysis. What medium was used for inoculation?

A. Blood agar

B. Levine’s formulation (Eosin Methylene Blue agar)

C. Endo agar

D. Ploskirev’s agar

E. Egg-yolk salt agar

92. Microorganisms in the environment are being affected by various physical factors. What is the effect of high temperature on a microbial cell?

A. Irreversible degradation of all cellular structures

B. Mutagenic effect

C. Transition into anabiosis state

D. Albuminolysis

E. Fats saponiﬁcation

93. Causative agents of infectious diseases can be carried both by humans and animals. Name the group of infections that affect animals and can be passed onto humans:

A. Zooanthroponoses

B. Sapronoses

C. Anthroponoses

D. Zoonoses

E. Mixed

94. In the age of 5 months the child had measles antibodies in the blood. By the age of 1year these antibodies disappeared from the child’s blood. Why were these antibodies present in the child’s blood?

A. Acquired natural passive immunity

B. Non-speciﬁc resistance

C. Acquired natural active immunity

D. Innate immunity

E. Artiﬁcial immunity

95. A Gram stained smear shows large oval violet cells that form pseudomycelium. Name these microorganisms:

A. Candida fungi

B. Mucor fungi

C. Plasmodium vivax

D. Actinomycetales

E. Penicillium fungi

96. During skill building session in the ﬁeld of microbiology, a student performed inoculation of microorganisms into the solid nutrient medium to obtain isolated colonies. How should inoculation loops be sterilized after that?

A. Heating in the burner ﬂame

B. Boiling under 60oC ﬁve times

C. Soaking in 1% chloramine-B solution

D. Dry heat sterilization under 160oC for 120-150 minutes

E. Formaldehyde vapor sterilization

97. A dry-heat box is used for sterilization of various materials and instruments in a bacteriological laboratory. This sterilization method can be applied to the following objects:

A. Glass test tubes

B. Rubber gloves

C. Simple nutrient medium

D. Wire inoculating loops

E. Physiological saline

98. What is the main mechanism of benzylpenicillin bactericidal action on the coccal ﬂora?

A. Disturbed synthesis of microbial cell wall

B. Inhibition of protein synthesis

C. Disturbed cytoplasmic membrane permeability

D. Activation of macroorganism immune system

E. Increased phagocytic activity of leukocytes

99. Sanitary microbiological investigation of potable water has detected coliphages. What conclusion can be made about the sanitary-hygienic status of this water?

A. Fecal contamination

B. The water is safe to drink

C. The water is safe to drink after boiling

D. Artesian water

E. The water is for industrial use only

100. Investigation of bacterial contamination of indoor air in a pharmacy takes into account the total number of microorganisms present in a certain air volume, as well as qualitative content of indoor air microﬂora. Name the sanitary-indicative microorganisms for indoor air:

A. Staphylococcus and streptococcus

B. Colibacillus

C. Sarcina

D. Chromobacterium

E. Fungi and yeasts

101. Preliminary disinfection of air and working surfaces of the equipment was conducted in the operating room of the surgical inpatient unit. What method of sterilization would be the most advisable in this case?

A. Ultraviolet irradiation

B. Irradiation sterilization

C. High-frequency current

D. Flowing steam

E. Formaldehyde vapor

102. In a nursery-garden some medicinal plants developed signs of a disease: there are yellow spots and necrotic foci on the leaves. Sap of the diseased plants remained infectious even after passing through a bacteria-excluding ﬁlter. No microorganisms growth was detected on the nutrient medium. What microorganisms could be the cause of this disease?

A. Viruses

B. Fungi

C. Ray fungi

D. Bacteria

E. Mycoplasma

103. A pharmacy has received a batch of drugs for treatment of upper respiratory tract infection. What drug is used to treat inﬂuenza?

A. Rimantadine

B. Methisazone

C. Levamisole

D. Idoxuridine

E. Doxycycline

104. Mother of a 10-year-old child came to the pharmacy to obtain a drug for prevention of upper respiratory tract infections. What drug would be recommended by the dispensing chemist?

A. Interferon

B. Benzoteph

C. Carvedilol

D. Tetracycline

E. Doxorubicin

105. A pharmacy produces a batch of vials with physiological saline for injections. How should they be sterilized?

A. Under pressure in an autoclave

B. In a steam-jacketed autoclave chamber

C. In a dry heat sterilizer

D. X-ray irradiation

E. Ultraviolet irradiation

106. It can be safely assumed that the infants born from the mothers with the history of measles will not be affected by the measles outbreak during their stay in the maternity ward. What classes of antibodies provide the infants with the resistance to this disease?

A. IgG

B. IgA

C. IgD

D. IgM

E. IgE

107. The children attending a kindergarten were hospitalized with diagnosis of poliomyelitis. What was the route of infection transmission in this case?

A. Fecal-oral transmission

B. Alimentary transmission

C. Direct contact transmission

D. Transmission via airborne dust particles

E. Vector-borne transmission