МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

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Кафедра военной и экстремальной медицины

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ВОПРОСЫ ДЛЯ ТЕСТОВОГО КОНТРОЛЯ ПО МЕДИЦИНЕ ЭКСТРЕМАЛЬНЫХ СИТУАЦИЙ

Учебно-методическое пособие
для студентов 3 и 4 курсов факультета по подготовке
специалистов для зарубежных стран медицинских вузов

QUESTIONS FOR TESTING CONTROL IN MEDICINE OF EXTREME SITUATIONS

Teaching workbook
for 3rd and 4th year students of the Faculty on preparation of experts
for foreign countries of medical highest educational institutions

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Учебно-методическое пособие рассматривает вопросы организации и оказания медицинской помощи при возникновении чрезвычайных ситуаций. Рекомендовано для практического использования студентами факультета по подготовке специалистов для зарубежных стран при подготовке к занятиям и итоговому тестированию, а также преподавателям при подготовке к проведению текущего тестирования по дисциплине «Медицина экстремальных ситуаций».

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CONTENTS

GLOSSARY

ALV — artificial lung ventilation

APG — all-service protective gear

ARS — acute radiation syndrome

BA — bacterial agents

CHO — chemically hazardous object

CNS — central nervous system

CPR — cardiopulmonary resuscitation

DIC — disseminated intravascular coagulation

ES — emergency situations

HID — highly infectious diseases

HTS — highly toxic substances

im — intramuscularly

iv — intravenous

L-1 — light protective clothing

OPA — organophosphorus agents

RA — radioactive agents

TA — toxic agents

SECTION 1. DISASTER MEDICINE

Specify a correct variant of the answer

1. Depending on the territorial distribution, the volume of financial damage, the number of affected people emergencies are divided into: 1) local; 2) sublocal; 3) regional; 4) republican; 5) transboundary; 6) federal; 7) interregional.

Variants of answer:

a) 1, 2, 3, 4, 5;
b) 1, 2, 5, 6, 7;
c) 1, 3, 4, 5, 7;
d) 2, 3, 4, 5, 6;
e) 1, 2, 4, 5, 7.

2. The biological classification of natural disaster do not include:

Variants of answer:

a) infectious human diseases;
b) infectious animal diseases;
c) infectious diseases of plants;
d) all of the above;
e) there is no right answer.

3. What emergencies are not typical for the territory of the Republic of Belarus:

Variants of answer:

a) meteorological;
b) geological;
c) hydrological;
d) telluric and tectonic;
e) cosmic.

4. Environmental emergencies include:

Variants of answer:

a) industrial accidents and catastrophes;
b) changes in the hydrosphere, biosphere, atmosphere, geosphere;
c) natural disruptions;
d) social upheaval;
e) mass diseases.

5. Factors that contribute to the appearance of man-made emergencies do not include:

Variants of answer:

a) the production, storage, transportation of hazardous materials;
b) aging of equipment;
c) violation of safety;

d) poor training of staff;
e) socio-economic situation in the country.

6. Stages of development of emergency do not include:
Variants of answer:
a) the accumulation of risk factors;
b) the systematization of risk factors;
c) induction of risk factors;
d) beginning, flowing and the growth;
e) attenuation.

7. Affecting factors of emergency does not include:
Variants of answer:
a) mechanical impact;
b) temperature impact;
c) ionizing radiation;
d) psycho-emotional factor;
e) there is no correct answer.

8. The medical and tactical situation in the area of emergency is determined by the following factors: 1) the destruction of buildings and structures; 2) large number of sanitary losses and their complex structure; 3) The difficult socio-economic situation in the region at the time of a disaster; 4) losses among health personnel; 5) increasing psycho-emotional stress.
Variants of answer:
a) 1, 2, 3, 4;
b) 1, 2, 4, 5;
c) 2, 3, 4, 5;
d) 1, 2, 3, 5;
e) 1, 2, 3, 4, 5.

9. Highly toxic substances (HTS) — are:
Variants of answer:
a) substances with high toxicity that can cause mass poisoning;
b) substances capable in certain conditions cause mass poisoning;
c) substances with high toxicity that can under certain conditions cause mass poisoning;
d) substances which have highly toxic metabolic products;
e) chemicals used in industry.

10. Chemically hazardous object (CHO) — are:
Variants of answer:
a) social objects, on which can be spread highly toxic substances;
b) industrial enterprises using chemical substances and compounds in the manufacturing process;

c) industrial enterprises using highly toxic substances in the manufacturing process;

d) industrial enterprises on which can appear emergency situations;

e) all industrial enterprises.

11. The zone of chemical contamination includes: 1) territory of HTS flooding; 2) territory, suspected for HTS; 3) territory within which steam of HTS spreads; 4) territory close to the zone of disaster; 5) the territory of the chemically hazardous object.

Variants of answer:

a) 1, 2;

b) 1, 3;

c) 2, 3;

d) 4, 5;

e) 5.

12. HTS by speed of onset of clinical effects can be:

Variants of answer:

a) active and inactive;

b) fast active and slow active;

c) systemic toxic and asphyxiating;

d) organic or inorganic;

e) simple and complex.

13. Area affected by fast active HTS is characterized by: 1) a slow, gradual onset of persistent symptoms of intoxication; 2) the rapid development of clinical intoxication; 3) the sudden appearance of a large number of victims; 4) gradual increase in the number of victims.

Variants of answer:

a) 1, 2;

b) 1, 3;

c) 2, 3;

d) 1, 4;

e) 2, 4.

14. Area affected by slow active HTS is characterized by: 1) a slow, gradual onset of persistent symptoms of intoxication; 2) the rapid development of clinical intoxication; 3) the sudden appearance of a large number of victims; 4) gradual increase in the number of victims.

Variants of answer:

a) 1, 2;

b) 1, 3;

c) 2, 3;

d) 1, 4;
e) 2, 4.

15. List the features of medical and tactical situation in the area affected by fast active HTS: 1) necessary to provide health care in a very short period of time; 2) lack of time to assess the situation and adjust the action of medical units; 3) the need for the quick evacuation of casualties from the affected area; 4) possibility to assess the situation in detail; 5) the need to actively identify potential victims; 6) possibility to conduct detailed evacuation and transport triage.

Variants of answer:

a) 1, 2, 4;
b) 1, 2, 3;
c) 4, 5, 6;
d) 1, 4, 5;
e) 2, 4, 6.

16. List the features of medical and tactical situation in the area affected by slow active HTS: 1) necessary to provide health care in a very short period of time; 2) lack of time to assess the situation and adjust the action of medical units; 3) the need for the quick evacuation of casualties from the affected area; 4) possibility to assess the situation in detail; 5) the need to actively identify potential victims; 6) possibility to conduct detailed evacuation and transport triage.

Variants of answer:

a) 1, 2, 4;
b) 1, 2, 3;
c) 4, 5, 6;
d) 1, 4, 5;
e) 2, 4, 6.

17. List the features of the organization of medical care to victims during accident at chemically hazardous object (CHO): 1) the need for chemical protection measures; 2) the need for decontamination; 3) the need for final disinfection; 4) the need for medical assistance to large number of victims at the same time; 5) the maximum distance of medical units from the border of affected area for safety; 6) the minimum distance of medical units from the border of affected area for safety.

Variants of answer:

a) 1, 2, 4, 5;
b) 1, 2, 4, 6;
c) 1, 2, 3, 4;
d) 1, 3, 4, 5;
e) 2, 3, 4, 6.

18. The radiation-hazardous objects (RHO) — are: 1) industrial enterprises and other economic entities that use sources of ionizing radiation during their activity; 2) industrial enterprises and other economic entities producing radioactive substances; 3) industrial enterprises and other economic entities that use radioactive substances in medical practice; 4) industrial enterprises and other economic entities recycling and storing radioactive substances; 5) all industrial enterprises on which can appear emergency situation.

Variants of answer:

a) 1, 2, 4, 5;
b) 1, 2, 3, 5;
c) 1, 2, 3, 4;
d) 1, 3, 4, 5;
e) 5.

19. List the factors that determine the level of radioactive contamination of area during radiation accidents: 1) activity of focal point (reactor); 2) the level of training of personnel; 3) the composition of the radiation emission; 4) coordinates of damaged reactor; 5) the dynamics of ejection of radioactive substances into the atmosphere.

Variants of answer:

a) 1, 2, 4, 5;
b) 1, 2, 3, 4;
c) 2, 3, 4, 5;
d) 1, 3, 4, 5;
e) 1, 2, 3, 5.

20. Sanitary protection zone for radiation safety has a radius:

Variants of answer:

a) 3 km;
b) 30 km;
c) 50 km;
d) 100 km;
e) 200 km.

21. Zone of possible dangerous pollution has a radius:

Variants of answer:

a) 3 km;
b) 30 km;
c) 50 km;
d) 100 km;
e) 200 km.

22. Zone of observation has a radius:

Variants of answer:

a) 3 km;
b) 30 km;
c) 50 km;
d) 100 km;
e) 200 km.

23. List the entry routes of the radioactive substances into the body during radioactive contamination of areas: 1) inhalation; 2) nutritional; 3) through the damaged skin; 4) through intact skin; 5) through the mucous membranes.

Variants of answer:

a) 1, 2, 4, 5;
b) 1, 2, 3, 4;
c) 2, 3, 4, 5;
d) 1, 3, 4, 5;
e) 1, 2, 3, 5.

24. Who may <u>not</u> receive iodine (potassium iodide) for emergency prevention during radioactive accidents?

Variants of answer:

a) adults after 60 years;
b) children up to 3 years;
c) pregnant women;
d) breastfed newborn babies
e) there is no correct answer.

25. After radioactive accidents controlled obligatory iodine prophylaxis must be conducted among population living within:

Variants of answer:

a) 3-kilometer zone;
b) 30-kilometer zone;
c) 50-kilometer zone;
d) 100-kilometer zone;
e) 200-km zone.

26. People staying at the open places is limited, carried out sealing of residential and office rooms (seal doors and windows, turning off the ventilation systems), begins iodine prophylaxis, and ban usage of milk and leafy vegetables when the exposure dose higher than:

Variants of answer:

a) 1 mR/hr;
b) 20 mR/hr;

c) 50 mR/hr;
d) 100 mR/hr;
e) 1000 mR/hr.

27. Points for collection of victims are deployed:
Variants of answer:
a) far and downwind from chemically contaminated area;
b) near the area of chemical contamination on the windward side in uncontaminated place;
c) in the chemical contamination area on the windward side;
d) on the nearest hill;
d) without taking in consideration the wind direction and the distance from the zone of chemical contamination.

28. List the basic principles of the protection of population in case of emergencies: 1) early preparation for emergency situations; 2) differentiated approach to the event; 3) vaccination; 4) the complexity of the activities; 5) introduction of health-protective modes.
Variants of answer:
a) 1, 2, 4;
b) 1, 2, 3;
c) 2, 3, 4;
d) 1, 3, 5;
e) 2, 3, 5.

29. The concept of early preparation for actions to protect the population in emergency situations may include: 1) accumulation of shelters fund; 2) carrying out of vaccination; 3) preparations for the evacuation of the population; 4) accumulation of personal protective equipment.
Possible answers:
a) 1, 2, 4;
b) 1, 2, 3;
c) 2, 3, 4;
d) 3, 4;
e) 2, 3, 4.

30. List the main ways of protection the population during emergency situations: 1) sheltering; 2) the introduction of health-protective regimes; 3) complex evacuation measures; 4) the use of personal protective equipment.
Variants of answer:
a) 1, 2, 4;
b) 1, 2, 3;
c) 2, 3, 4;

d) 1, 3, 4;
e) 3, 4.

31. List the groups for dividing the population for conducting of differentiated evacuation measures: 1) workers and employees of categorized entities; 2) unemployed; 3) workers and employees of not categorized entities; 4) population unoccupied in the production and maintenance.

Variants of answer:

a) 1, 2, 4;
b) 1, 2, 3;
c) 1, 3, 4;
d) 3, 4;
e) 2, 3, 4.

32. During the evacuation of medical institutions to the pre-planned areas in the first and foremost are evacuated:

Variants of answer:

a) health services administration;
b) the formation of emergency medical services («ambulance teams» and specialized healthcare teams);
c) transportable patients, staff and their families, property, medicines, food and water supplies;
d) non-transportable patients;
d) there is no correct answer.

33. Treatment-evacuation support is:

Variants of answer:

a) the system of science-based activities for the full treatment of victims in the area of emergency;
b) the system of science-based measures to provide medical care to the victims, their treatment with simultaneous evacuation to the specialized hospitals to continue treatment until the final outcome;
c) the system of science-based measures for the evacuation of victims to the specialized hospitals to continue their treatment;
d) the system of science-based measures to provide medical care during the evacuation.

34. Organization of the medical-evacuation support is built as:

Variants of answer:

a) single-stage system;
b) two-stage system;
c) three-stage system;

d) four-stage system;
e) five-stage system.

35. List the types of medical care at the pre-hospital stage: 1) first aid; 2) pre-doctor aid; 3) first doctor aid; 4) qualified aid; 5) specialized aid.

Variants of answer:

a) 1, 2, 4;
b) 1, 2, 3;
c) 1, 3, 4;
d) 1, 3, 4;
e) 2, 3, 4.

36. First aid is provided by: 1) qualified health professional at hospital; 2) as a mutual aid or self-aid; 3) personnel of rescue units; 4) outside the emergency area by nursing teams; 5) members of sanitary teams.

Variants of answer:

a) 1, 2, 4;
b) 1, 2, 3;
c) 2, 3, 4;
d) 1, 3, 4;
e) 2, 3, 5.

37. The main purpose of first aid:

Variants of answer:

a) treatment of life-threatening complications until complete recovery;
b) rescue of victims' life (elimination of the harmful effects and evacuation from the danger zone);
c) treatment of complications;
d) rapid evacuation of the victims to medical institutions to provide them medical care;
e) maximum recovery of lost functions of organs and systems and treatment until the final outcome, including rehabilitation.

38. Optimally allowable period of providing first aid to the victims:

Variants of answer:

a) 30 minutes;
b) 1 hours;
c) 2 hours;
d) 3 hours;
e) 4–6 hours.

39. Optimally allowable period of providing pre-doctor aid to the victims:

Variants of answer:

a) 30 minutes;
b) 1 hours;

c) 2 hours;
d) 3 hours;
e) 4–6 hours.

40. Optimally allowable period of providing first doctor aid to the victims:
Variants of answer:
a) 30 minutes;
b) 1 hours;
c) 2 hours;
d) 3 hours;
e) 4–6 hours.

41. List the types of medical care at the hospital stage: 1) first aid; 2) pre-doctor aid; 3) first doctor aid; 4) qualified aid; 5) specialized aid.
Variants of answer:
a) 1, 4;
b) 2, 4;
c) 3, 5;
d) 1, 5;
e) 4, 5.

42. Activities of qualified therapeutic aid, the implementation of which may be delayed: 1) antibiotics for preventive purposes; 2) introduction of antidotes and tetanus vaccine; 3) infusion of blood components; 4) the use of tranquilizers and antipsychotic drugs during acute reactive states; 5) use of symptomatic medications.
Variants of answer:
a) 1, 3, 4;
b) 1, 2, 4;
c) 1, 3, 5;
d) 2, 3, 5;
e) 3, 4, 5.

43. The main purpose of the planned specialized care is:
Variants of answer:
a) treatment of life-threatening complications until complete recovery;
b) rescue of victims' life (elimination of the harmful effects and evacuation from the danger zone);
c) treatment of complications;
d) rapid evacuation of the victims to medical institutions to provide them medical care;
e) maximum recovery of lost functions of organs and systems and treatment until the final outcome, including rehabilitation.

44. Primary surgical debridement of hand wounds using microsurgical techniques is performed on stage:

Variants of answer:

a) first aid;
b) pre-doctor aid;
c) first doctor aid;
d) qualified aid;
e) specialized aid.

45. Primary surgical debridement of soft tissue wounds is performed on stage:

Variants of answer:

a) first aid;
b) pre-doctor aid;
c) first doctor aid;
d) qualified aid;
e) specialized aid.

46. The use of standard equipment for artificial lung ventilation («S»-shaped tube, combitube, manual breathing apparatus) is performed on stage:

Variants of answer:

a) first aid;
b) pre-doctor aid;
c) first doctor aid;
d) qualified aid;
e) specialized aid.

47. Imposing of trocar epicystotomy for acute urinary retention is performed on stage:

Variants of answer:

a) first aid;
b) pre-doctor aid;
c) first doctor aid;
d) qualified aid;
e) specialized aid.

48. Specify the types of triage: 1) medical; 2) interstate; 3) evacuation and transportation; 4) specialized; 5) all of the above.

Variants of answer:

a) 1, 3;
b) 1, 2;
c) 1, 4;
d) 2, 3;
e) 5.

49. List the sorting signs for medical triage: 1) danger to others; 2) therapeutic indications; 3) time of the entry; 4) evacuation sign; 5) completeness of the activities performed in the previous stage.

Variants of answer:

a) 1, 3, 4;
b) 2, 3, 5;
c) 1, 2, 3;
d) 2, 3, 4;
e) 1, 2, 4.

50. To provide first pre-doctor aid are:

Variants of answer:

a) sanitary teams;
b) doctor's assistant teams;
c) doctor and nursing teams;
d) rescue units;
e) specialized brigades of permanent readiness.

51. To provide first doctor aid are:

Variants of answer:

a) sanitary teams;
b) doctor's assistant teams;
c) doctor and nursing teams;
d) rescue units;
e) specialized brigades of permanent readiness.

52. To provide specialized aid are:

Variants of answer:

a) sanitary teams;
b) doctor's assistant teams;
c) doctor and nursing teams;
d) rescue units;
e) specialized brigades of permanent readiness.

53. Medical forces and resources of the first stage of care are deployed:

Variants of answer:

a) in the safe part of emergency area;
b) on the boundary with emergency area, in the safe place;
c) at a distance of 10 km from the border of emergency area;
d) on the nearest high ground;
e) at any convenient location.

54. To provide qualified aid are:

Variants of answer:

a) sanitary teams;

b) doctor's assistant teams;

c) doctors (surgeons, physicians, anesthetist) in hospitals;

d) rescue units;

e) specialized brigades of permanent readiness.

55. Forces and health care resources deployed at the medical evacuation routes for victim's receiving, triage, providing certain types of care, to prepare them for further treatment and final evacuation are called:

Variants of answer:

a) type of medical care;

b) medical evacuation point;

c) volume of medical care;

d) type of medical triage;

e) evacuation direction.

56. The list of therapeutic and preventive measures carried out for care lesions (wounds, injuries, diseases) by medical personnel at the border of emergency area and at the medical evacuation points is called:

Variants of answer:

a) type of medical care;

b) medical evacuation point;

c) volume of medical care;

d) type of medical triage;

e) evacuation direction.

57. The volume of medical care can be:

Variants of answer:

a) full and reduced;

b) primary and secondary;

c) prehospital and hospital;

d) qualified and specialized;

e) continuity and consistency.

58. Timely conducted anti-shock measures reduced mortality on:

Variants of answer:

a) 25–30 %;

b) 10–15 %;

c) 75–100 %;

d) 50–75 %;

e) there is no correct answer.

59. In order to identify the causes and conditions of occurrence of infectious diseases with the subsequent justification of measures on localization and liquidation of epidemic focus is carried out:

Variants of answer:

a) epidemiological investigation or reconnaissance;

b) epidemiological control;

c) epidemiological surveillance;

d) epidemiological examination;

e) all of the above.

60. Systematic obtaining of information about the state of public health in emergency area is called:

Variants of answer:

a) epidemiological investigation or reconnaissance;

b) epidemiological control;

c) epidemiological surveillance;

d) epidemiological examination;

e) all of the above.

61. Sanitary and epidemiological state of emergency area considered safe if:

Variants of answer:

a) no signs of infectious disease or have a place isolated unrelated cases that are typical for the area and for time of year;

b) there are isolated, not registered earlier cases of diseases not typical for the area and for time of year, without signs of epidemic;

c) there are group, related to each other cases of infectious diseases that tend to spread, or cases of highly infectious diseases (HID);

d) the whole territory of the emergency area is an epidemic hotbed or occurs group cases of HID;

e) there is control over unrelated outbreaks of infectious diseases.

62. Sanitary and epidemiological state of emergency area considered <u>unstable</u> if:

Variants of answer:

a) no signs of infectious disease or have a place isolated unrelated cases that are typical for the area and for time of year;

b) there are isolated, not registered earlier cases of diseases not typical for the area and for time of year, without signs of epidemic;

c) there are group, related to each other cases of infectious diseases that tend to spread, or cases of highly infectious diseases (HID);

d) the whole territory of the emergency area is an epidemic hotbed or occurs group cases of HID;

e) there is control over unrelated outbreaks of infectious diseases.

63. Sanitary and epidemiological state of emergency area considered <u>adverse</u> if:

Variants of answer:

a) no signs of infectious disease or have a place isolated unrelated cases that are typical for the area and for time of year;

b) there are isolated, not registered earlier cases of diseases not typical for the area and for time of year, without signs of epidemic;

c) there are group, related to each other cases of infectious diseases that tend to spread, or cases of highly infectious diseases (HID);

d) the whole territory of the emergency area is an epidemic hotbed or occurs group cases of HID;

e) there is control over unrelated outbreaks of infectious diseases.

64. The complex of anti-epidemic measures consist of the following types of regimen-restrictive measures: 1) observation; 2) insulation; 3) temporary hospitalization for dynamic monitoring; 4) quarantine; 5) intense medical surveillance.

Variants of answer:

a) 1, 3, 4;

b) 1, 4, 5;

c) 1, 2, 3;

d) 2, 3, 4;

e) 1, 2, 4.

65. Complex of medical activities carried out in relation to population exposed to pathogens of infectious diseases, to prevent the development of infection is called:

Variants of answer:

a) emergency treatment;

b) emergency prevention;

c) emergency care;

d) emergency diagnostics

e) emergency supervision.

66. Initial examination of the victim at the site of injury is performed:

Variants of answer:

a) to establish a preliminary diagnosis;

b) to diagnose the life-threatening conditions at the time of examination;

c) to justify the priority of providing health care to the victim;

d) to determine the priority of evacuation;

e) to establish the forecast.

67. What state is the indication for cardiopulmonary resuscitation (CPR)?

Variants of answer:

a) anaphylactic shock;

b) clinical death;

c) terminal coma;
d) traumatic shock;
e) absence of consciousness.

68. The three main signs of clinical death: 1) absence of consciousness; 2) acrocyanosis; 3) absence of breath; 4) the absence of a pulse in the carotid arteries; 5) different diameter of the pupils.

Variants of answer:

a) 1, 2, 3;
b) 1, 3, 4;
c) 2, 3, 5;
d) 1, 2, 5;
e) 3, 4, 5.

69. Technique «See-Hear-Sense» includes the following steps: 1) check for the respiratory movements of the chest and abdomen; 2) feel the breath (hear breath from the mouth of the victim); 3) check the integrity of the skin; 4) assess the condition of the pupils; 5) feel pulse at the carotid artery.

Variants of answer:

a) 1, 2, 3;
b) 1, 3, 4;
c) 2, 3, 5;
d) 1, 2, 5;
e) 3, 4, 5.

70. Safar Triple maneuver — is a combination of: 1) extension of the head at the cervical spine; 2) carrying out of artificial respiration; 3) moving of the under-jaw forward and upward; 4) opening of the mouth; 5) external cardiac massage.

Variants of answer:

a) 1, 2, 3;
b) 1, 3, 4;
c) 2, 3, 5;
d) 1, 3, 5;
e) 3, 4, 5.

71. During the artificial lung ventilation (ALV) in the adult person minimum required volume of one passive inhalation is:

Variants of answer:

a) 100 ml;
b) 5000 ml;
c) 500 ml;
d) 2000ml;
e) 1000 ml.

72. Precardiac thrust must not be performed: 1) in the presence of a pulse in the carotid arteries; 2) in the absence of a pulse in the carotid arteries; 3) in children; 4) in adults over 50 years; 5) during sudden cardiac arrest (electrical accident).

Variants of answer:

a) 1, 2;
b) 1, 3;
c) 2, 4;
d) 1, 5;
e) 4, 5.

73. To conduct cardiopulmonary resuscitation (CPR) most appropriate ratio of chest compressions (CC) and ventilations (V) (CC:V):

Variants of answer:

a) 5:1;
b) 15:2;
c) 30:2;
d) 1:2;
e) 2:5.

74. The criteria of adequately conducted external cardiac massage are: 1) appearance of the pulse in the carotid and femoral arteries with every push; 2) restoration of passability of the upper respiratory tract; 3) pulse waves on a monitor at every push; 4) pupillary constriction (if they were expanded); 5) dilation of the pupils.

Variants of answer:

a) 1, 4;
b) 1, 3;
c) 2, 4;
d) 1, 5;
e) 2, 5.

75. During deciding about transportation of the patient to the hospital the doctor should obtain answers to the following questions: 1) what is the route of ambulance; 2) what transport conditions are necessary for this state of the victim; 3) who must accompany victim during transportation; 4) what medicinal manipulations should be continued during transportation of the victim; 5) what is the chance of death.

Variants of answer:

a) 1, 4;
b) 2, 4;
c) 2, 3;
d) 1, 5;
e) 2 5.

SECTION 2. MEDICAL PROTECTION OF POPULATION DURING EMERGENCIES

1. Indicators of efficiency of radioprotectors are the following <u>except</u>:
Variants of answer:
a) speed of effect onset;
b) duration of the radioprotective effect;
c) dose reduction factor;
d) rate of excretion of radionuclides;
e) radioprotective latitude (tolerance).

2. Radioprotectors from group of imidazolines are:
Variants of answer:
a) gammafos, cystamine;
b) cystamine, cysteamine;
c) indralin, naphthyzinum;
d) serotonin, tryptamine;
e) naphthyzinum, gammafos.

3. Complex of symptoms that develops only during the cerebral form of radiation (more than 80 Gy) and excludes survival:
Variants of answer:
a) first reaction to radiation;
b) acute radiation reaction;
c) early transient incapacity;
d) radiation alopecia;
e) radiation damage of the skin.

4. The remedies for primary prevention of reaction to radiation are:
Variants of answer:
a) etaperazin, potassium iodide;
b) metoclopramide, etaperazin;
c) metoclopramide, indometafen;
d) cystamine, gammafos;
e) serotonin, aminostigmin.

5. The remedies for medical protection include:
Variants of answer:
a) repellents, gas masks, camouflage nets;
b) gas masks, respirators, skin protectors;
c) the remedies for collective protection;
d) radioprotective agents, antidotes, antibiotics, partial sanitizing agents;
e) all of the above.

6. The types of antagonism determining the action of antidotes are all of the following <u>except</u>:

Variants of answer:

a) chemical;
b) modification of metabolism;
c) biological;
d) biochemical;
e) physiological.

7. The concept of the sorption includes:

Variants of answer:

a) adsorption, chemisorption;
b) chemisorption, absorption;
c) adsorption, absorption, capillary condensation;
d) adsorption, absorption, chemisorption;
e) adsorption, absorption, chemisorption, capillary condensation.

8. Radioprotector with intramuscular route of administration:

Variants of answer:

a) cystamine;
b) cysteamine;
c) cysteine;
d) amphetamine;
e) gammafos.

9. The main groups of radioprotectors:

Variants of answer:

a) tioalkilamines, imidazolines, benzodiazepines;
b) indolylalkylamines, cytostatics, imidazolines;
c) tioalkilamines, indolylalkylamines, imidazolines;
d) tioalkilamines, fluoroquinolones, cytostatics;
e) cytotoxic agents, fluoroquinolones, benzodiazepines.

10. Antidotes for organophosphorus agents (OPA) are the following <u>except</u>:

Variants of answer:

a) atropine;
b) armin;
c) budoksim;
d) dipiroksim;
e) aminostigmin.

11. The type of antagonism determining the action of substances that normalize conduction of nerve impulse in the synapses:

Variants of answer:

a) chemical;

b) modification of metabolism;

c) biological;

d) biochemical;

e) physiological.

12. Ethanol is an antidote for methanol poisoning, because:

Variants of answer:

a) directly binds to methanol and neutralizes it;

b) prevents the conversion of methanol to toxic metabolites;

c) accelerates detoxication of methanol;

d) accelerates the elimination of methanol from the body;

e) normalizes conducting of the nerve impulses in the central nervous system (CNS).

13. The radiometric control of contamination is carried out for:

Variants of answer:

a) receiving the information about radiation doses of staff, victims and patients;

b) forecasting medical losses, determining treatment strategy;

c) changing the rates of acceptable levels of radiation;

d) identifying bypass routes;

e) determining the extent of contamination of objects (including people) to determine necessity in decontamination.

14. Activities carried out to obtain information about radiation doses of staff, victims and patients to predict the medical losses and determine the medical evacuation tactics are called:

Variants of answer:

a) radiometry;

b) assessment of the radioresistance of the organism;

c) dosimetric control of contamination;

d) radiation reconnaissance;

e) radiometric control of contamination.

15. Radiation control of radiation is divided into:

Variants of answer:

a) planned, emergency;

b) military, civilian;

c) medical, household;

d) individual, group;

e) γ-control, α-control.

16. The main objectives of radiation reconnaissance and control are the following <u>except</u>:

Variants of answer:

a) detection of the fact of radioactive contamination;

b) determine the nature and extent of radioactive contamination;

c) determine the radionuclide composition of the contaminated areas;

d) control of the change in the degree of radioactive contamination;

e) establishing the boundaries of contaminated areas.

17. Evaluation of the radiation situation is carried out by the following methods: 1) radiation reconnaissance; 2) aerial photography; 3) forecasting method.

Variants of answer:

a) 1, 2;

b) 2, 3;

c) 1, 3;

d) 1,2,3;

e) 1.

18. During control for the content of the products of a nuclear explosion in water and food should be applied methods for the quantitative determination: 1) chemical; 2) calculating; 3) titration method; 4) gamma-method; 5) laboratory.

Variants of answer:

a) 1, 2, 3;

b) 2, 3, 4;

c) 1, 3, 4;

d) 2, 4, 5;

e) 1, 3, 5.

19. It is allowed to use water and food contaminated with products of a nuclear explosion:

Variants of answer:

a) up to 0.02 mCi/kg;

b) up to 0.04 mCi/kg;

c) up to 0.06 mCi/kg;

d) up to 0.08 mCi/kg;

e) up to 0.1 mCi/kg.

20. The area of possible contamination during forecasting of radiation situation is:

Variants of answer:

a) a circle with a radius of 1-5 km depending on the kind of pollution;

b) a quadrate with given coordinates;

c) a sector with an angle of 45°, within which would be a trace of radioactive cloud with a probability of 90%;

d) triangle, one corner of which is turned to the wind direction;

e) area, which is under a radioactive cloud.

21. Maximum allowable level of radioactive contamination of the human body by γ-radiation is:

Variants of answer:

a) 20 mR/hr;

b) 200 mR/hr;

c) 100 mR/hr;

d) 0.4 mR/hr;

e) 0.9 mR/hr.

22. Maximum allowable level of radioactive contamination of drinking water by γ-radiation is:

Variants of answer:

a) 20 mR/hr;

b) 200 mR/hr;

c) 100 mR/hr;

d) 0.4 mR/hr;

e) 0.9 mR/hr.

23. Maximum allowable level of radioactive contamination of equipment by γ-radiation is:

Variants of answer:

a) 20 mR/hr;

b) 200 mR/hr;

c) 100 mR/hr;

d) 0.4 mR/hr;

e) 0.9 mR/hr.

24. Protective constructions <u>do not</u> include:

Variants of answer:

a) bunkers;

b) antiradiation shelters;

c) tent camps;

d) simple shelters;

e) dug-out shelters.

25. By location protective constructions are divided into:

Variants of answer:

a) built-in and free-standing;

b) modular and separate;

c) overground and underground;
d) there is no division;
e) urban and rural.

26. Protective constructions of small capacity can accommodate:
Variants of answer:
a) up to 600 people;
b) 600–2000 people;
c) more than 2000 people;
d) up to 5000 people;
e) up to 200 people.

27. Water supply standards in the shelter (per person for a day):
Variants of answer:
a) 2 liters;
b) 3 liters;
c) 4 liters;
d) 5 liters;
e) 1.5 liters.

28. Antiradiation shelter designed to protect against:
Variants of answer:
a) light radiation;
b) thermal radiation;
c) contact of toxic substances with skin and clothes;
d) contact of bacterial agents with the skin and clothes;
e) all stated damaging factors.

29. The concentration of CO_2 in the air of shelter space must not exceed:
Variants of answer:
a) 0.3 %;
b) 0.5 %;
c) 0.8 %;
d) 0.9 %;
e) 1 %.

30. The minimum number of exits in the shelter:
Variants of answer:
a) two;
b) three;
c) four;
d) five;
e) any number.

31. Gas masks are designed to protect:

Variants of answer:

a) respiratory organs and eyes from exposure of toxic agents (TA), radioactive agents (RA) and bacterial agents (BA);

b) respiratory organs from exposure of TA, RA and BA;

c) eyes from exposure of TA, RA and BA;

d) skin of the face from exposure of TA, RA and BA;

e) organs of the senses from exposure of TA, RA and BA.

32. Personal protective equipment includes:

Variants of answer:

a) gas mask, all-service protective gear (APG), light protective clothing (L-1);

b) gas mask, trench, tank-cut;

c) hopcalite cartridge, respirator, first aid dressing package;

d) respirator, trench;

e) gloves, gas mask.

33. Hopcalite cartridge protects against:

Variants of answer:

a) CO_2;

b) CO;

c) OPA;

d) sarin;

e) mustard gas.

34. Regenerative cartridge of insulating gas mask is designed for:

Variants of answer:

a) energy recovery;

b) purifying the inhaled air from the dust;

c) sorption of poisons and toxins from the inhaled air;

d) removing excess pressure;

e) obtaining the necessary oxygen for breathing.

35. For indicating of toxic agents is not applicable method:

Variants of answer:

a) organoleptic;

b) physiological;

c) biological;

d) biochemical;

e) physical.

36. Evaluation of chemical situation is performed for:

Variants of answer:

a) determining the possible medical losses in the contaminated area;

b) determining the number of people and equipment, contaminated by toxic agents;

c) determining the duration of the harmful effect of toxic agents;

d) definition of measures to protect people in conditions of chemical contamination;

e) all of the above.

37. Evaluation of chemical situation is performed by the following methods: 1) chemical reconnaissance; 2) aerial photography; 3) forecasting method.

Variants of answer:

a) 1, 2;

b) 2, 3;

c) 1, 3;

d) 1, 2, 3;

e) all of the options are incorrect.

38. During forecasting of chemical situation the following weather data is not taken into account:

Variants of answer:

a) wind speed and direction;

b) vertical air resistance;

c) horizontal air resistance;

d) air and earth temperature;

e) all of the options are incorrect.

39. In the winter (at low temperatures) resistance of V-gases at the ground is:

Variants of answer:

a) 1 day;

b) 12 hours;

c) up to 7 days;

d) more than a month;

e) all of the options are incorrect.

40. In the winter (at low temperatures) resistance of mustard gas at the ground is:

Variants of answer:

a) 1 day;

b) 12 hours;

c) up to 7 days;

d) more than a month;

e) mustard gas is frozen in winter.

41. During evaluating of chemical situation using chemical reconnaissance data primarily is performed following:

Variants of answer:

a) determine the approximate depth of the chemical cloud distribution;

b) image on the map the focus of chemical contamination with borders;

c) determine the stability of TA in the contaminated area;
d) determine the contamination of public water supplies;
e) calculating the possible medical losses.

42. The initial data for forecasting of chemical situation not include:
Variants of answer:
a) characteristics of the nearest chemical plants;
b) information about population;
c) meteorological conditions;
d) data of geological reconnaissance;
e) topographical features of the area.

43. Sanitary disposal — is complex of measures aimed to:
Variants of answer:
a) removing TA, RA and BA from the surface of medical equipment, instruments and consumables;
b) decontamination of TA, RA and BA entered in the body;
c) removal and decontamination TA, RA and BA on the skin;
d) disinfection of wards and isolation wards;
e) there is no correct answer.

44. For decontamination of mustard gas, lewisite, V-gas are used compositions containing:
Variants of answer:
a) alkali;
b) acid;
c) active chlorine;
d) alcohols;
e) phenol derivatives.

45. For decontamination of sarin and soman are used compositions containing:
Variants of answer:
a) alkali;
b) acid;
c) active chlorine;
d) alcohols;
e) phenol derivatives.

46. Full sanitary disposal includes:
Variants of answer:
a) personnel bathing under a shower;
b) personnel bathing in the shower with soap for at least 0.5 hours;
c) personnel bathing in the shower with dry wiping;

d) personnel bathing in the shower, change of clothes and uniforms;
e) there is no correct answer.

47. Full sanitary disposal is performed as a part of following type of medical aid: 1) first aid; 2) first doctor aid; 3) qualified aid; 4) specialized aid.

Variants of answer:

a) 1, 2;
b) 2, 3;
c) 3, 4;
d) 2, 3, 4;
e) 1, 2, 3, 4.

48. Methods of degassing include: 1) physical; 2) chemical; 3) oxidation; 4) neutralization; 5) mixed.

Variants of answer:

a) 1, 2;
b) 3, 4;
c) 1, 2, 5;
d) 3, 4, 5;
e) 2, 4.

49. Methods of disinfection include: 1) physical; 2) chemical; 3) spraying; 4) mechanical; 5) biological.

Variants of answer:

a) 1, 2;
b) 3, 4;
c) 1, 2, 5;
d) 3, 4, 5;
e) 2, 4.

50. Methods for deactivation are based on the following processes:

Variants of answer:

a) physical, chemical;
b) physical, physical-chemical;
c) physical, radiation;
d) chemical, intranuclear;
e) natural, artificial.

51. Disinfection which is conducted systematically in places of possible accumulation of infectious agents (toilets, catering facilities, accommodations):

Variants of answer:

a) focal;
b) preventive;

c) current;
d) final;
e) sanitary.

52. Absolute indications for ALV: 1) complete absence of spontaneous breathing; 2) persistent hypoventilation; 3) abnormal breathing arrhythmia; 4) status asthmaticus; 5) pulmonary embolism.

Variants of answer:
a) 1;
b) 1, 2, 3;
c) 1, 4;
d) 1, 5;
e) 1, 2, 3, 4, 5.

53. During interaction of carbon monoxide with hemoglobin is formed:

Variants of answer:
a) carboxyhemoglobin;
b) karbgemoglobin;
c) deoxyhemoglobin;
d) methemoglobin;
e) carbogen.

54. During interaction of carbon dioxide with hemoglobin is formed:

Variants of answer:
a) carboxyhemoglobin;
b) karbgemoglobin;
c) deoxyhemoglobin;
d) methemoglobin;
e) carbogen.

55. To hemic hypoxia leads poisoning by: 1) carboxyhemoglobin formers; 2) methemoglobin formers; 3) thiolic poisons; 4) vinegar.

Variants of answer:
a) 1;
b) 1, 2, 3;
c) 1, 4;
d) 3, 4;
e) 1, 2, 3, 4.

56. Hydrogen cyanide causes following hypoxic state:

Variants of answer:
a) respiratory hypoxia;
b) hemic hypoxia;

c) tissue hypoxia;
d) exogenous hypoxia;
e) circulatory hypoxia.

57. During interaction of carbon monoxide with hemoglobin:
Variants of answer:
a) bivalent iron becomes trivalent;
b) carboxyhemoglobin is formed;
c) takes place hemolysis;
d) methemoglobin is formed;
e) there is no correct answer.

58. The mechanism of hypoxia in carbon monoxide poisoning:
Variants of answer:
a) binding to hemoglobin;
b) neurotoxic effect on the cerebral cortex and respiratory center;
c) inhibitory effect on tissue respiration;
d) all of the above;
e) there is no correct answer.

59. Reduction of the partial pressure of O_2 in the inhaled air leads to:
Variants of answer:
a) respiratory hypoxia;
b) mixed hypoxia;
c) tissue hypoxia;
d) exogenous hypoxia;
e) endogenous hypoxia.

60. By type of drive apparatuses for AVL are classified into the following:
Variants of answer:
a) manually, hydraulically, electrically operated;
b) pneumatically, hydraulically operated;
c) manually, pneumatic, electrically operated;
d) electrically, hydraulically operated;
e) manually operated, full drive.

61. Damaging factors of the nuclear explosion are the following except:
Variants of answer:
a) electromagnetic impulse;
b) ionizing radiation;
c) radioactive contamination;
d) chemical isotope contamination;
e) light radiation.

62. It <u>does not</u> have a direct damaging effect on the human body:

Variants of answer:

a) a shock wave;
b) ionizing radiation;
c) radioactive contamination;
d) electromagnetic impulse;
e) light radiation.

63. For practical calculations it is assumed that after 7 days the radiation level in the radioactive cloud reduced in:

Variants of answer:

a) 2 times;
b) 7 times;
c) 10 times;
d) 14 times;
e) 49 times.

64. Acute radiation syndrome (ARS) — a symptom that develops as a result of total external X-ray, gamma- and (or) neutron irradiation at a dose not less than:

Variants of answer:

a) 1 Gy;
b) 10 Gy;
c) 1 rad;
d) 1000 rad;
e) 10 Sv.

65. Clinical forms of ARS are the following except:

Variants of answer:

a) cerebral;
b) intestinal;
c) bone marrow;
d) toxemic;
e) hidden.

66. Clinical forms of ARS excluding survival: 1) bone marrow; 2) intestinal; 3) toxemic; 4) cerebral.

Variants of answer:

a) 4;
b) 1, 4;
c) 3, 4;
d) 2, 3, 4;
e) 1, 2, 3, 4.

67. Routes of radionuclide entering to the body: 1) inhalation; 2) through the gastro-intestinal tract; 3) through the intact skin; 4) through the wound and burn surfaces.

Variants of answer:

a) 2;

b) 1, 2;

c) 1, 2, 4;

d) 1, 3, 4;

e) 1, 2, 3, 4.

68. Radiation having a low penetrating power, which can only cause destruction of the skin and mucous membranes:

Variants of answer:

a) gamma;

b) beta;

c) beta, gamma;

d) neutron;

e) beta, neutron.

69. The most effective way to protect population against external gamma radiation:

Variants of answer:

a) sheltering;

b) timely evacuation;

c) drug prevention;

d) use of protective clothing;

70. During medical sorting are allocated the following groups of victims:

Variants of answer:

a) lightly injured, moderately injured, seriously injured;

b) moribund, non-transportable, dangerous to others;

c) dangerous to others, lightly injured, non-transportable;

d) dangerous to others, needed in medical care at this stage, not needed in medical care at this stage.

71. Prevention of wound infection at the stages of medical evacuation includes:

Variants of answer:

a) primary surgical debridemen of wounds, aseptic wound dressings, evacuation to hospital;

b) antibiotic therapy, anesthesia, infusion therapy;

c) transport immobilization, aseptic wound dressings, pain relief, primary surgical debridemen of wounds;

d) imposition of aseptic dressings on the affected place, reliable transport immobilization, early antibiotic therapy, procaine blockade, active immunization, comprehensive primary surgical treatment of wounds, blood loss replenishment.

72. Method of water disinfection in the emergency area:

Variants of answer:

a) filtration;
b) hyperchlorination followed by dechlorination;
c) sludging;
d) use of perhydrol.

73. Severe burn shock is developed when burned area about:

Variants of answer:

a) 10.5 %;
b) 10–20 %;
c) 20–50 %;
d) 50–70 %.

74. Diseases which make most difficult conducting of rescue operations in the disaster area:

Variants of answer:

a) colds;
b) highly infectious diseases;
c) cardiovascular diseases;
d) diseases of the skin and subcutaneous tissue.

75. The basic principle of medical care in the emergency area:

Variants of answer:

a) continuity;
b) integrity;
c) promptness and completeness of first aid;
d) sequence.

SECTION 3. TOXICOLOGY OF EXTREME SITUATIONS

1. Toxicity — is:

Variants of answer:

a) ability of chemicals to cause in certain doses and concentrations damaging or death of biological systems;

b) high sensitivity of the body to the action of toxic substances;

c) probability of adverse effects of chemical substances on the body;

d) ratio of the speed of toxic effects onset to the dose of the substance;

e) ability of a substance to cause 50 % mortality.

2. Formation and development of bio-system reactions to the action of toxicant, resulting in damage or death — is:

Variants of answer:

a) mechanism of toxicant action;

b) toxic effect;

c) toxicity;

d) intoxication;

e) toxic process.

3. Section of toxicology, which studies principles and methods for quantitative assessment of toxicity, is called:

Variants of answer:

a) toxicodynamics;

b) toxicokinetics;

c) toxicometry;

d) toxicopharmacology ;

e) toxicomania.

4. At the basis of methods for determining the toxicity is finding the relationship between:

Variants of answer:

a) time – dose;

b) dose – effect;

c) time – effect;

d) dose – concentration;

e) concentration – time.

5. The amount of substance got into the internal environment of the body and caused toxic effects, is called:

Variants of answer:

a) toxic concentration;

b) toxodose;

c) toxic dose;
d) absorbed dose;
e) equivalent dose.

6. The amount of substance located in the unit of volume (mass) of environmental object, in contact with which is developed toxic effects is called:

Variants of answer:
a) toxic concentration;
b) toxodose;
c) toxic dose;
d) absorbed dose;
e) equivalent dose.

7. Toxicokinetics — section of toxicology, which studies: 1) electronic structure of chemical compounds; 2) delivery of chemicals into the body; 3) the nature of the bonds in chemical compounds; 4) transport of chemicals; 5) the distribution of chemicals in the body; 6) conversion and excretion of chemicals from the body.

Variants of answer:
a) 2, 4;
b) 4, 5, 6;
c) 2, 4, 5;
d) 2, 5, 6;
e) 1, 3, 6.

8. Toxicodynamics — section of toxicology, which studies:

Variants of answer:
a) methods of neutralization of toxic substances;
b) mechanisms of toxic action and laws of formation of toxic process;
c) methods of deactivation of contaminated areas;
d) methodology of toxicity assessment;
e) dynamics of toxicology development.

9. Toxic agents (TA) — are:

Variants of answer:
a) toxic substances used as insecticides;
b) pesticides for combat use;
c) toxicants used in combat conditions to attack manpower, for contamination of the terrain and military equipment;
d) toxins of certain animals and plants;
e) all answers are correct.

10. Substances capable to form areas of mass medical losses during accidents and disasters at industrial facilities, are called:

Variants of answer:

a) chemical warfare agents;
b) subversive agents;
c) industrial poisons;
d) highly toxic substances (HTS);
e) toxins.

11. Poor urinary excretion of fat-soluble substances is due to:

Variants of answer:

a) change in pH;
b) poor solubility in water;
c) decrease in the formation of primary urine;
d) abnormality in reabsorption of sodium;
e) all of the above.

12. The general principles of poisoning therapy include:

Variants of answer:

a) termination of exposure of the poison and removing it from the body;
b) antidote therapy;
c) elimination of pathological events caused by poison;
d) prevention and treatment of complications;
e) all of the above.

13. Action of chemicals accompanied by the formation of deep structural and functional changes in cells, which leads in future to their destruction, is called:

Variants of answer:

a) neuroparalytic;
b) pulmonotoxic;
c) cytotoxic;
d) systemic;
e) irritating;

14. Metabolism of mustard gas is performed with the participation of:

Variants of answer:

a) hexokinase;
b) microsomal enzymes;
c) rodanaza;
d) cholinesterase;
e) cytochrome P-450.

15. Toxic substances with dermatovesical action include:

Variants of answer:

a) sarin, soman, V-gases;

b) sulfur mustard, nitrogen mustard, lewisite;

c) hydrogen cyanide, cyanogen chloride, cyanogen bromide;

d) ammonia, nitric acid, perhydrol;

e) phosgene, diphosgene.

16. During mustard gas erythema: 1) painless; 2) sharply painful; 3) bright red; 4) pale pink; 5) lie above healthy skin; 6) lie not above healthy skin.

Variants of answer:

a) 1, 4, 6;

b) 1, 3, 6;

c) 1, 3, 5;

d) 2, 4, 5;

e) 2, 3, 6.

17. Antidote during affecting of lewisite is:

Variants of answer:

a) aphin;

b) unithiol;

c) amyl nitrite;

d) sodium thiosulfate;

e) acyzol.

18. Lewisite has an odor of:

Variants of answer:

a) rotten hay;

b) mustard;

c) bitter almonds;

d) geranium;

e) lily-of-the-valley.

19. After mustard gas lesions: 1) rapid healing, 1–2 weeks; 2) slow healing, 1–4 months; 3) pigmentation does not remain; 4) remains pigmentation.

Variants of answer:

a) 1, 3;

b) 1, 4;

c) 2, 3;

d) 2, 4;

e) there is no correct answer.

20. Persistent focus on areas is created by:
Variants of answer:
a) phosgene, diphosgene;
b) mustard gas, lewisite;
c) hydrogen cyanide, cyanogen chloride;
d) cyanogen chloride, diphosgene;
e) hydrocyanic acid, phosgene.

21. Mustard gas has an odor of:
Variants of answer:
a) rotten hay;
b) mustard;
c) bitter almonds;
d) geranium;
e) lily-of-the-valley.

22. Chemical focus, formed on the terrain by hydrocyanic acid:
Variants of answer:
a) persistent, slow acting;
b) resistant, quick acting;
c) unstable, slow acting;
d) unstable, quick acting;

23. Antidotes during affecting of hydrocyanic acid are:
Variants of answer:
a) methylene blue, glucose, amyl nitrite;
b) acetylcysteine, glucose, amyl nitrite;
c) methylene blue, acetylcysteine, amyl nitrite;
d) acetylcysteine, amyl nitrite;
e) acetylcysteine, glucose.

24. The main exposure route of hydrocyanic acid to the body:
Variants of answer:
a) through the gastro-intestinal tract;
b) through the unprotected skin;
c) inhalation;
d) through unprotected mucous membranes;
e) mixed.

25. The main exposure route of carbon monoxide to the body:
Variants of answer:
a) through the gastro-intestinal tract;
b) through the unprotected skin;

c) inhalation;
d) through unprotected mucous membranes;
e) mixed.

26. Arsenic hydrogen belongs to the group:
Variants of answer:
a) disconnector of oxidative phosphorylation processes;
b) inhibitors of Krebs cycle enzymes;
c) substances forming carboxyhemoglobin;
d) metgemoglobin formers;
e) hemolytics.

27. After carbon monoxide poisoning the skin and mucous membranes become:
Variants of answer:
a) bluish color;
b) bronze color;
c) pink color;
d) yellow color;
e) pale color.

28. The mechanism of toxic action of the carbon monoxide is related to its interaction with the biochemical structures containing:
Variants of answer:
a) Ca^{2+};
b) Fe^{2+};
c) Fe^{3+};
d) K^{+};
e) Na^{+}.

29. Antidotal mechanism of acyzol action is mediated by:
Variants of answer:
a) direct binding of carbon monoxide;
b) decreasing of the affinity of hemoglobin to carbon monoxide;
c) acceleration of the binding of carbon monoxide to myoglobin;
d) increasing of the affinity of hemoglobin to carbon monoxide;
e) oxidation of carbon monoxide to carbon dioxide.

30. Acute poisoning by hydrocyanic acid can occur in two forms:
Variants of answer:
a) peracute, latent;
b) edematous, asphyxial;
c) lethal, non-lethal;
d) cerebral, circulatory;
e) slow, apoplectic (peracute).

31. Qualitative tests on carboxyhemoglobin are conducted with 1) tannins; 2) distilled water; 3) formaldehyde; 4) methylene blue; 5) acetic acid.

Variants of answer:

a) 1, 2;
b) 4, 5;
c) 1, 2, 3;
d) 1, 4, 5;
e) 1, 2, 4.

32. Cyanogen chloride is characterized by the following:

Variants of answer:

a) quick acting, irritates mucous membranes, systemic action;
b) slow acting, cytotoxic action;
c) quick acting, cytotoxic action;
d) quick acting, non-irritating mucous membranes;
e) slow acting, non-irritating mucous membranes, systemic action.

33. Hydrocyanic acid – colorless, transparent liquid with odor of:

Variants of answer:

a) geranium;
b) rotten hay;
c) freesia;
d) bitter almonds;
e) mustard.

34. Highest toxicity during entering through the skin is observed in:

Variants of answer:

a) sarin;
b) soman;
c) tabun;
d) V-gases;
e) mixture of sarin and soman.

35. The manifestations of inhalation lesions by organophosphorus agents (OPA) occur within:

Variants of answer:

a) few days;
b) 2–3 hours;
c) first week after exposure;
d) first day;
e) several minutes.

36. First signs of percutaneous lesions by OPA occur within:

Variants of answer:

a) few days;
b) 2–3 hours;
c) first week after exposure;
d) first day;
e) several minutes.

37. Paralysis of cross-striped muscle tissue during poisoning by OPA – is consequence of failure in:

Variants of answer:

a) conducting of nerve impulse in the neuromuscular synapses;
b) synthesis of glycogen in muscle tissue;
c) bioenergetics of muscle tissue;
d) muscle tissue oxygenation;
e) decay of glycogen in muscle tissue.

38. Substances capable to detach a part of OPA from phosphorylated cholinesterase and restore enzyme activity are called:

Variants of answer:

a) cholinesterase inhibitors;
b) cholinesterase regenerators;
c) cholinesterase inductors;
d) cholinesterase reactivators;
e) cholinesterase blockers.

39. Basic antidotes in OPA lesions:

Variants of answer:

a) antipsychotics;
b) anticonvulsants;
c) benzodiazepines;
d) adrenoblockers;
e) cholinolytics.

40. The main cause of death in severe lesions by OPA is:

Variants of answer:

a) bleeding from the gastrointestinal tract;
b) decompensated stenosis of the larynx;
c) secondary pneumonia;
d) central and peripheral respiratory paralysis;
e) heart arrest.

41. Clinical forms corresponding to mild lesions by OPA:

Variants of answer:

a) neurotic;
b) convulsive-paralytic;
c) psychotic;
d) bronchospastic;
e) paralytic.

42. Clinical forms corresponding to moderate lesions by OPA:

Variants of answer:

a) miotic, cardiac;
b) convulsive-paralytic, dyspnoic;
c) psychoneurotic, bronchospastic;
d) convulsive-paralytic, spastic;
e) paralytic, neurotic.

43. Nerve agents include: 1) organophosphorus compounds; 2) bicyclophosphates; 3) derivatives of hydrazine; 4) derivatives of carbamic acid; 5) tetrodotoxin, saxitoxin; 6) botulinum toxin, tetanospasmin.

Variants of answer:

a) 1, 2;
b) 1, 2, 3;
c) 1, 2, 3, 4;
d) 1, 2, 3, 4, 5;
e) 1, 2, 3, 4, 5, 6.

44. Presynaptic blocker of acetylcholine release is:

Variants of answer:

a) botulotoxin;
b) tetanotoxin;
c) saxitoxin;
d) tetrodotoxin;
e) norbornane.

45. During prolonged exposure to high concentrations of lacrimators cause of death is:

Variants of answer:

a) acute glomerulonephritis;
b) toxic pulmonary edema;
c) acute heart failure;
d) hypertension;
e) acute renal failure.

46. After exposure of lacrimators toxic effect is developed during:

Variants of answer:

a) in 1–2 minutes;

b) after 1–2 hours;

c) after 1 day;

d) at the end of one week;

e) in summer after 1 hour, in winter after 2–4 hours.

47. To provide self- and mutual aid after lesions by irritants is used:

Variants of answer:

a) calcium gluconate;

b) unithiol;

c) aphin;

d) antismoke mixture;

e) acyzol.

48. The majority of irritating agents in normal conditions are:

Variants of answer:

a) volatile substances, create stable focus;

b) non-volatile substances, create stable focus;

c) volatile substances, create unstable focus;

d) non-volatile substances, create unstable focus;

e) gases, create stable focus.

49. Phosgene is:

Variants of answer:

a) colorless, odorless gas;

b) dark brown oily liquid with garlic odor;

c) crystalline powder with almond odor;

d) colorless gas with odor of rotten apples or rotten hay, in small concentrations with a fruity odor;

e) colorless liquid with alcoholic odor.

50. Phosgene poisoning is characterized by:

Variants of answer:

a) stenosis of the larynx;

b) paralysis of the respiratory center;

c) failure of the tissue respiration;

d) formation of ulcers on the skin and mucous membranes;

e) toxic pulmonary edema.

51. The main route of phosgene entrance to the body:
Variants of answer:
a) parenteral;
b) inhalation;
c) percutaneous;
d) oral;
e) through broken skin and mucous membranes.

52. Diphosgene belongs to toxic agents of:
Variants of answer:
a) systemic action;
b) cytotoxic action;
c) choking agents;
d) psychotomimetic action;
e) nerve agents.

53. Antidotes for choking agents are:
Variants of answer:
a) amyl nitrite, glucose;
b) there is no antidotes;
c) acyzol, oxygen;
d) atropine, budaksim;
e) oxygen, aphin.

54. Care principles of the victims with TA of pulmonotoxic action are the following <u>except</u>:
Variants of answer:
a) immediate cessation of contact with poison (putting on the gas mask);
b) conducting of evacuation of victims;
c) consideration of each victim as a litter patient;
d) conducting of oxygen therapy;
e) conducting of antidote therapy.

55. Toxicants causing toxic pulmonary edema:
Variants of answer:
a) cyanides, carbon monoxide, ethylene glycol;
b) chlorine, ammonia, thallium, cadmium;
c) arsine, phosphine, armin;
d) diphosgene, chlorine, ammonia, paraquat;
e) carbon monoxide, ammonia, arsine.

56. Toxicants causing hemodynamic pulmonary edema:
Variants of answer:
a) cyanides, carbon monoxide, ethylene glycol;
b) chlorine, ammonia, thallium, cadmium;

c) arsine, phosphine, phosgene;
d) diphosgene, chlorine, ammonia, paraquat;
e) carbon monoxide, ammonia, chloropicrin.

57. For degassing of phosgene should be used:
Variants of answer:
a) alkali;
b) acids;
c) chlorine;
d) diphosgene;
e) oxygen.

58. Oxygen starvation developing after exposure of choking agents is characterized as:
Variants of answer:
a) hypoxic hypoxia;
b) tissue hypoxia;
c) circulatory hypoxia;
d) mixed hypoxia;
e) there is no correct answer.

59. The action of chemical agents, specifically disrupting higher nervous activity with the formation of psychosis, called:
Variants of answer:
a) sedative;
b) stimulating;
c) psychotomimetic
d) teratogenic;
e) neurogenic.

60. Substance BZ:
Variants of answer:
a) liquid, penetrates the blood-brain barrier;
b) gas, penetrates the blood-brain barrier;
c) solid, penetrates the blood-brain barrier;
d) liquid, not penetrate the blood-brain barrier;
e) solid, not penetrate the blood-brain barrier.

61. Tetraethyl lead used as:
Variants of answer:
a) special additive for fuels and lubricants;
b) component of rocket fuel;
c) pesticide component;

d) radioprotector;
e) solvent.

62. Antidote for poisoning with substance BZ:
Variants of answer:
a) aminostigmin 0.1 % — 1 ml;
b) 0.1 % atropine — 1 ml;
c) 0.1 % epinephrine — 1 ml;
d) 0.15 g of acetylcysteine;
e) methylene blue.

63. Clinical signs of poisoning by BZ are the following except:
Variants of answer:
a) mydriasis;
b) dry skin;
c) psychomotor agitation;
d) aggression;
e) miosis.

64. The clinical picture of poisoning by lysergic acid diethylamide (LSD): 1) sudden difficulty in speech; 2) there is no sudden difficulty in speech; 3) impaired memory; 4) not impaired memory; 5) impaired thermoregulation; 6) thermoregulation is not broken.
Variants of answer:
a) 1, 3, 5;
b) 1, 3, 6;
c) 2, 4, 5;
d) 2, 4, 6;
e) 1, 4, 6.

65. Psychodysleptics are the following except:
Variants of answer:
a) psilocin;
b) psilocybin;
c) mescaline;
d) mexamine;
e) amphetamine.

66. Tetanotoxin — is exotoxin of microorganism that causes an infectious disease:
Variants of answer:
a) plague;
b) botulism;

c) anthrax;
d) tetanus;
e) cholera.

67. Prevention of tetanotoxin lesions is performed using:
Variants of answer:
a) anti-plague serum;
b) tetanus anatoxin;
c) P-10M;
d) antibotulinic serum;
e) amyl nitrite.

68. Chemical nature of botulotoxin:
Variants of answer:
a) lipid;
b) carbohydrate;
c) protein;
d) nucleotide;
e) nucleic acid.

69. In severe poisoning by tetrodotoxin is necessary as soon as possible:
Variants of answer:
a) enter anticonvulsants;
b) give pure oxygen;
c) transfer the victim to artificial lung ventilation;
d) conduct hemodialysis;
e) conduct inhalation with antismoke mixture.

70. The predominant route of elimination of the ethanol from the body:
Variants of answer:
a) with urine;
b) with perspiration;
c) with expired air;
d) with bile;
e) only as metabolites by kidneys.

71. The main metabolites of methanol are:
Variants of answer:
a) formaldehyde, formic acid;
b) formaldehyde, acetic acid;
c) acetaldehyde, formic acid;
d) acetaldehyde, acetic acid;
e) ketones.

72. When poisoning with methanol:
Variants of answer:
a) introduction of activated charcoal is ineffective;
b) antidote is ethanol;
c) acute hepatic and renal failure is not developed;
d) metabolic acidosis is developed;
e) all answers are correct.

73. Ethylene glycol is a component of:
Variants of answer:
a) liquid rocket fuels;
b) solid rocket fuels;
c) motor oils;
d) cooling and brake fluids;
e) all answers are correct.

74. Intermediate product of ethylene glycol metabolism is:
Variants of answer:
a) glycol aldehyde;
b) oxalic acid;
c) glycolic acid;
d) acetic acid;
e) all answers are correct.

75. The specific condition that occurs after ethylene glycol poisoning:
Variants of answer:
a) eye glaucoma;
b) pulmonary glaucoma;
c) renal glaucoma;
d) heart glaucoma;
e) all answers are correct.

76. Severe poisoning with ethylene glycol is followed by:
Variants of answer:
a) faint temulence;
b) long latent period (12 hours);
c) irreversible loss of vision;
d) acute renal failure;
e) all answers are correct.

77. For the clinical picture of poisoning by carbon tetrachloride is not typical:
Variants of answer:
a) damage of parenchymal organs;
b) development of exotoxic shock;

c) development of coma;
d) absence of drug intoxication;
e) all answers are correct.

78. Alcohol coma develops when the ethanol concentration in the blood is above:
Variants of answer:
a) 0.5 g/l (0.5 ‰);
b) 1 g/l (1 ‰);
c) 2 g/l (2 ‰);
d) 3 g/l (3 ‰);
e) 5 g/l (5 ‰).

79. The speed of ethanol resorption after intake is increased:
Variants of answer:
a) in the presence of carbon dioxide;
b) in the fasting state;
c) after re-admission;
d) in the presence of gastritis, peptic ulcer;
e) all answers are correct.

80. In the treatment of poisoning with ethanol is ineffective:
Variants of answer:
a) gastric lavage;
b) infusion therapy;
c) forced diuresis;
d) introduction of activated carbon;
e) all answers are correct.

81. Antidote of ethanol:
Variants of answer:
a) EDTA;
b) unithiol;
c) ethylene glycol;
d) acyzol;
e) is absent.

82. For antidotal therapy for methanol poisoning:
Variants of answer:
a) ethanol is not appointed;
b) ethanol is assigned *per os* and intravenously (*iv*);
c) ethanol is assigned only *per os*;
d) ethanol is assigned only *iv*;
e) ethanol is only indicated for severe poisoning.

83. Regimen of unithiol injection for poisoning with carbon tetrachloride:

Variants of answer:

a) 5 ml of 5–10 % solution intramuscularly (*im*) every 6 hours;

b) 10 ml of a 30 % solution *iv* every 6 hours;

c) 50 ml of a 30 % solution *iv* every 8 hours;

d) 50 ml of a 1 % solution *iv* every 12 hours;

e) 1 ml of 1 % solution every 2 h.

84. 51–73 % of ethylene dichloride and its metabolites are excreted from the body:

Variants of answer:

a) through the lungs;

b) with urine;

c) with bile;

d) with perspiration;

e) there is no correct answer.

85. The feature of inhalation poisoning by carbon tetrachloride in comparison with oral poisoning:

Variants of answer:

a) rapid development of clinical manifestations;

b) slow development of clinical manifestations;

c) slow recovery of liver and kidney function;

d) ability to reduce the severity of poisoning by ethanol intake;

e) there is no correct answer.

86. Ineffective method of extracorporeal detoxification for poisoning with technical liquids:

Variants of answer:

a) hemodialysis;

b) haemodiafiltration;

c) peritoneal dialysis;

d) hemosorbtion;

e) there is no correct answer.

87. Characteristics of technical liquids:

Variants of answer:

a) high toxicity;

b) widespread in the army;

c) widespread in the industry;

d) difficult diagnostics of poisoning;

e) all of the above.

88. Selectively effects on the optic nerve and retina:

Variants of answer:

a) ethanol;
b) dichloroethane;
c) methanol;
d) carbon tetrachloride;
e) all of the above.

89. Ammonia is a substance having:

Variants of answer:

a) only asphyxiant effect;
b) asphyxiant and neurotropic effect;
c) only neurotropic effect;
d) only systemic effect;
e) systemic and asphyxiant effect.

90. Type of necrosis after tissues contact with acids:

Variants of answer:

a) colliquative;
b) coagulation;
c) combined;
d) wet;
e) there is no correct answer.

91. The most frequent serious complication of poisoning with hydrogen peroxide is:

Variants of answer:

a) thrombosis of the coronary arteries;
b) pulmonary embolism;
c) gas embolism of cerebral vessels;
d) thrombosis of gastrointestinal vessels;
e) fat embolism of the renal arteries.

92. Leading syndrome in the clinical picture of oral poisoning by mineral acids:

Variants of answer:

a) hemolysis;
b) intestinal dyspepsia syndrome;
c) combustion of the digestive tract;
d) disseminated intravascular coagulation (DIC);
e) metabolic syndrome.

93. Chlorine features:
Variants of answer:
a) gas, creates unstable quick acting focus;
b) gas, creates stable quick acting focus;
c) gas, creates unstable slow acting focus;
d) liquid, creates unstable quick acting focus;
e) liquid, creates stable quick acting focus.

94. For light ammonia poisoning is not typical:
Variants of answer:
a) appearance of rhinitis;
b) tickle in the throat;
c) oliguria;
d) hoarseness;
e) flushing the mucous membranes.

95. After the skin lesions by ammonia:
Variants of answer:
a) no action is required;
b) need to wash with water, lotions with 5 % acetic acid;
c) need to wash with water and sodium bicarbonate;
d) need to use antidote;
e) required an early transfer to ALV.

96. Hydrogen sulfide:
Possible answers:
a) damages the cell membrane;
b) selectively damages the respiratory center;
c) cause hemolysis;
d) suppresses tissue respiration;
e) disturbs the transmission of impulses in the synapses.

97. Usage of ammonia:
Variants of answer:
a) as a refrigerant in refrigerators;
b) for the production of fertilizers;
c) in silvering of mirrors;
d) in organic synthesis;
e) all of the above.

98. The maximum permissible concentration of ammonia:
Variants of answer:
a) 0.002 mg/l;
b) 0.2 mg/l;
c) 0.8 mg/l;
d) 0.6 mg/l;
e) 0.4 mg/l.

99. Carbon disulphide as opposed to hydrogen sulfide:
Variants of answer:
a) is non-toxic;
b) has the antidote;
c) is liquid;
d) destroyed by atmospheric air;
e) is a chemical warfare agent.

100. To neutralize the chlorine is used:
Variants of answer:
a) albucidum solution (sodium sulfacyl);
b) aqueous solution of sodium hyposulphite;
c) 10 % ethyl alcohol;
d) 5 % acetic acid;
e) bromine.

ANSWERS TO THE QUESTIONS OF THE TEST

SECTION 1. DISASTER MEDICINE

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	20	a	39	b	58	a
2	d	21	b	40	e	59	a
3	d	22	c	41	e	60	c
4	b	23	e	42	c	61	a
5	d	24	d	43	e	62	b
6	b	25	d	44	e	63	c
7	d	26	b	45	b	64	b
8	b	27	b	46	b	65	b
9	c	28	a	47	c	66	b
10	c	29	d	48	a	67	b
11	b	30	d	49	e	68	b
12	b	31	c	50	b	69	d
13	c	32	b	51	c	70	b
14	d	33	b	52	e	71	e
15	b	34	b	53	b	72	b
16	c	35	b	54	c	73	c
17	b	36	e	55	b	74	a
18	c	37	b	56	c	75	b
19	d	38	a	57	a		

SECTION 2. MEDICAL PROTECTION OF POPULATION DURING EMERGENCIES

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	20	c	39	d	58	d
2	c	21	a	40	e	59	d
3	c	22	d	41	b	60	c
4	b	23	b	42	d	61	d
5	d	24	c	43	c	62	d
6	c	25	c	44	c	63	c
7	d	26	a	45	a	64	a
8	e	27	b	46	d	65	e
9	c	28	e	47	c	66	d
10	e	29	b	48	c	67	e
11	e	30	a	49	e	68	b
12	b	31	a	50	b	69	a
13	e	32	a	51	b	70	d
14	c	33	b	52	b	71	d
15	d	34	e	53	a	72	b
16	c	35	b	54	b	73	c
17	c	36	e	55	e	74	b
18	d	37	c	56	c	75	c
19	a	38	c	57	b		

SECTION 3. TOXICOLOGY OF EXTREME SITUATIONS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	26	e	51	b	76	d
2	e	27	c	52	c	77	d
3	c	28	b	53	b	78	d
4	b	29	b	54	e	79	e
5	c	30	e	55	d	80	d
6	a	31	c	56	c	81	e
7	d	32	a	57	a	82	b
8	b	33	d	58	d	83	a
9	c	34	d	59	c	84	b
10	d	35	e	60	c	85	b
11	b	36	b	61	a	86	d
12	e	37	a	62	a	87	e
13	c	38	d	63	e	88	c
14	b	39	e	64	d	89	b
15	b	40	d	65	d	90	b
16	a	41	a	66	d	91	c
17	b	42	c	67	b	92	c
18	d	43	e	68	c	93	a
19	d	44	a	69	c	94	c
20	b	45	b	70	c	95	b
21	b	46	a	71	a	96	d
22	d	47	d	72	e	97	e
23	a	48	b	73	d	98	b
24	c	49	d	74	e	99	c
25	c	50	e	75	c	100	b

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Учебно-методическое пособие для студентов 3 и 4 курсов факультета по подготовке специалистов для зарубежных стран медицинских вузов

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