

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ  
«ХАРКІВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ»

**МЕТОДИЧНІ ВКАЗІВКИ**

**до виконання самостійної роботи**

**«Контрольні запитання з практичного матеріалу для виміру якості  
навчання»**

**з курсу «Цивільний захист»**

**для студентів, що вивчають предмет на іноземній мові**

**METHODICAL INSTRUCTIONS**

**for independent work**

**«Control questions on the lecture material to determine the quality of  
learning »**

**on the course «Civil protection»**

**for students who are studying the subject in English**

Харків 2018

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## **INTRODUCTION**

The main tasks of state civil protection system in Ukraine are:

1) to ensure readiness of ministries and other central and local executive bodies, local authorities, their subordinate forces and means to take actions aimed at preventing and responding to emergencies;

2) to ensure the implementation of activities to prevent emergencies;

3) to train people to act and take appropriate actions in the event of emergency;

4) to implement specialized state programs aimed at preventing emergencies, to ensure sustainable operation of enterprises, institutions and organizations, to reduce possible material losses;

5) to compile data on emergency situations, to publish informational materials on protection of people and territories from the consequences of emergencies;

6) to predict and estimate socio-economic consequences of emergencies, to determine the need for forces, means, material and financial resources based on forecasting;

7) to create, rationally preserve, use reserves of material and financial resources required for preventing and responding to emergencies;

8) to alert people about the threat and occurrence of emergencies, to inform timely and accurately about actual situation and measures taken;

9) to protect people in the event of emergencies;

10) to perform rescue and other urgent operations on the elimination of consequences of emergencies, to be able to organize life supporting activities for the people affected by undesirable circumstances;

11) to mitigate possible consequences of emergencies in the case of their occurrence;

12) to implement activities aimed at social protection of the people affected by emergencies;

13) to provide for the rights, defined by the law, aimed at protecting people from the consequences of emergencies, including those persons (or their families) who directly participated in the elimination of such situations

Questions of the practice material of the subject «Civil protection» for students knowledge self-control, obtained on the practices, are driven at the methodical indications. Also, the answers on the proposed questions are driven in chaotic order. Its necessary that to invoke of the students thinking about correct answers, answering to the questions.

## **1 QUESTIONS BY PRACTICE MATERIAL**

- 1.** List the main tasks of the Civil Protection of Ukraine.
- 2.** List the basic principles of Civil Protection.
- 3.** Functions of enterprise management with regard to employees in the field of civil protection.
- 4.** What is the unwarranted formation of the Civil Protection and what works are they designed for?
- 5.** List the specialized Civil Protection Services.
- 6.** What is an emergency (provide definition)?
- 7.** Identify the division of emergencies that may occur in the territory of Ukraine in peacetime and wartime.
- 8.** To bring the division of emergencies on the scale of possible consequences.
- 9.** What emergency situations belong to man-made emergencies?
- 10.** What emergency situations belong to natural emergencies?
- 11.** What are the most extraordinary situations of a natural nature in Ukraine?
- 12.** What are the associated emergencies of a social nature?
- 13.** What are the associated military-related emergencies?
- 14.** List the main tasks of protecting people and territories from emergencies of anthropogenic nature.
- 15.** List the main tasks of protecting the population and territories from natural emergencies.
- 16.** To list the basic principles of protection of population and territories from natural emergencies.
- 17.** List the basic principles of protection of people and territories from man-made emergencies.
- 18.** List the ways of ensuring the notification and informing of the population about the threat of man-made and natural emergencies.

- 19.** List the steps that are taken to ensure timely protection of the population and territories from emergencies of anthropogenic and natural character.
- 20.** List the ways of creating a fund of protective structures.
- 21.** List cases in which circumstances a general evacuation is planned.
- 22.** What should be envisaged measures of engineering protection of population and territories (list).
- 23.** What steps (list) implies biological protection?
- 24.** What measures include radiation and chemical protection?

## 2 ANSWERS

Find the correct answers to questions

1. Radiation and chemical protection includes measures for the detection and evaluation of radiation, chemical environment, organization and implementation of dosimetric and chemical control, development of typical radiation protection regimes, provision of means for individual and collective protection, organization and implementation of special treatment.

2. The main tasks of state civil protection system in Ukraine are:

1) to ensure readiness of ministries and other central and local executive bodies, local authorities, their subordinate forces and means to take actions aimed at preventing and responding to emergencies;

2) to ensure the implementation of activities to prevent emergencies;

3) to train people to act and take appropriate actions in the event of emergency;

4) to implement specialized state programs aimed at preventing emergencies, to ensure sustainable operation of enterprises, institutions and organizations, to reduce possible material losses;

5) to compile data on emergency situations, to publish informational materials on protection of people and territories from the consequences of emergencies;

6) to predict and estimate socio-economic consequences of emergencies, to determine the need for forces, means, material and financial resources based on forecasting;

7) to create, rationally preserve, use reserves of material and financial resources required for preventing and responding to emergencies;

8) to alert people about the threat and occurrence of emergencies, to inform timely and accurately about actual situation and measures taken;

9) to protect people in the event of emergencies;

10) to perform rescue and other urgent operations on the elimination of consequences of emergencies, to be able to organize life supporting activities for the people affected by undesirable circumstances;

11) to mitigate possible consequences of emergencies in the case of their occurrence;

12) to implement activities aimed at social protection of the people affected by emergencies;

13) to provide for the rights, defined by the law, aimed at protecting people from the consequences of emergencies, including those persons (or their families) who directly participated in the elimination of such situations

**3. Biological protection implies the following:**

1. timely use of collective and individual means of protection.

2. introduction of quarantine and surveillance regimes.

3. decontamination of the contamination site.

4. mandatory disinfection of people, animals, etc.

5. timely localization of the zone of biological damage.

6. emergency and specialized prevention.

7. compliance of people, enterprises, institutions and organizations with the requirements of epidemiological regime.

**4. Basic principles of civil protection:**

1) to guarantee and provide constitutional rights of citizens for protection of life, health and property;

2) to apply integrated approach to solving the problems of civil protection;

3) to prioritize tasks aimed at saving lives and preserving health of citizens;

4) to justify maximally possible cost-efficient reduction of the risk of emergencies;

5) to ensure centralization of control, unified command, subordination, and discipline of the Operational Rescue Service of Civil Protection, of emergency squads and rescue services;

6) to provide open access, transparency, and free dissemination of public information on the state of civil protection, except for the limitations established by law;

7) to ensure voluntary engagement of citizens for the implementation of civil protection activities associated with risk to their life and health;

8) to provide for the accountability of officials from state authorities and local self-government bodies in terms of compliance with requirements of the legislation on civil protection;

9) to ensure justifiable level of risk and high responsibility of the civil protection management when conducting emergency rescue and other urgent operations.

**5. Measures of the engineering protection of people and territories should include the following:**

1. development of general plans for human settlements with possible manifestations in certain regions and in certain areas of dangerous and catastrophic phenomena.

2. rational placement of high-risk objects taking into account possible consequences of their business activity in the case of accidents to save the people and the environment.

3. construction of buildings, structures, engineering networks and transport communications with the appropriate levels of safety and reliability.

4. development and implementation of emergency mitigation activities for high-risk objects.

5. creation of a comprehensive protection scheme of settlements and objects of management from hazardous natural processes.

6. development and implementation of regional and local plans for the prevention and elimination of consequences of anthropogenic and natural emergencies.

7. organization of constructing anti-slip, flame-retardant, anti-ice, anti-freeze, anti-erosion special-purpose engineering structures.

8. implementation of measures for sanitary protection of territory.

6. A very important issue when protecting people is the organization of civil protection system at the facility, enterprise, and any institution where people work. The head of civil protection system at the enterprise, regardless of the form of ownership, is the head of the enterprise.

The management of enterprises, institutions and organizations provides employees with means of individual and collective protection, organizes implementation of evacuation activities, creates forces for the elimination of consequences of emergencies and ensures their readiness for practical action, enables the availability of related material and financial expenses in the amount stipulated by the legislation.

Owners of potentially dangerous objects are responsible for the protection of people living in the areas of potential damage, from the consequences of accidents at these sites.

At radioactive, chemical and explosive-substance enterprises, local systems are created for detecting the threat of emergency and alerting staff and people living in the areas of potential damage. Technological measures are implemented that reduce the risk of accidents, fires and explosions; the costs for their implementation are provided by appropriate regulatory documents.

7. People that live in settlements located in the areas of possible catastrophic flooding, possible hazardous radioactive contamination, chemical damage, in the areas of natural disasters, accidents, are subject to evacuation.

General evacuation is carried out for all categories of people; it is planned in the case of:

1. possible dangerous, radioactive contamination of territories around nuclear power plants (if there is an immediate threat to life and health of people that live in the area of damage).

2. emergence of the threat of catastrophic flooding of the area with a four-hour-delayed arrival of a breakthrough wave.

**8.** Forces of civil defense include, among others, voluntary organizations of civil protection. Voluntary forms of civil protection are created when a threat or emergency occurs in order to carry out auxiliary operations on preventing or eliminating consequences of such situations, based on decisions taken by central executive authority, local state administration, or local self-government bodies. Voluntary organizations of civil protection are formed by citizens on a voluntary basis.

**9.** Creation of the fund of protective structures includes the following:

1. Integrated development of cities' underground space and population centers for mutually agreed placement of structures for social, military and economic purposes with rooms inside, taking into account the requirement to adapt and use part of constructed facilities to cover people in the case of emergencies.

2. Examination and registration of under- and above-ground buildings and facilities that meet the requirements to underground protection of buildings, mining workings and natural voids.

3. Additional equipment of basement and underground facilities taking into account actual state.

4. Construction of deepened structures that are separated from production facilities and adapted for protection.

5. Mass construction of simplest shelters for the period of the threat of emergencies of.

6. Construction of separate facilities and anti-radiation shelters.

**10.** Specialized professional rescue services whose activities relate to the organization and performance of rescue operation are paramilitaries. Such specialized civil protection services (energy, protection of agricultural animals and plants, engineering, municipal and technical, material support, medical, communication and alert, fire fighting, trade and catering, technical, transport, public order protection) are formed for conducting specialized operations aimed at civil protection, which require engagement of specialists with specialized equipment and organizations that have special-purpose facilities.

**11.** Protection of people and territories is a system of nation-wide measures implemented by central and local executive authorities, executive bodies of the councils, authorities for Emergency Situations and Civil Defense, their subordinate forces and by means of enterprises, institutions and organizations, regardless of their ownership forms, voluntary formations, which ensure the implementation of organizational, engineering, sanitary, hygienic, anti-epidemic and other measures for preventing and eliminating the consequences of emergencies.

In order to protect people and territory from anthropogenic emergencies, to prevent and respond to them, the following activities must be implemented:

1. to create and maintain in operational readiness national and territorial surveillance systems.

2. to collect, process and transmit information regarding the state of environment, food products and water contamination with radioactive, chemical substances, microorganisms and other biological agents.

3. to ensure development of underground space in urban territories, taking into account the requirement to adapt and use some part of construction sites to save people in the case of anthropogenic emergencies.

4. to construct immersed structures that are separated from production facilities and adapted for protection.

5. to ensure mass construction, over the period of threat of emergencies, of the simplest facilities and shelters for protecting people.

**12.** Emergency is the situation at a separate territory or legal entity on it, or a water object, characterized by the interruption of normal living conditions of people, caused by a disaster, accident, fire, natural disaster, epidemic, epizootic, epiphytotic, or other dangerous activity, which leads (may lead) to a threat to life or health of people, to the large number of victims, to significant material damage, as well as the impossibility for people to live on that territory or for an enterprise to carry on its business.

**13.** Alerts of people about anthropogenic and natural emergencies imply the following:

1. Timely creation and maintenance in operation readiness of national and territorial automated systems for centralized alerting of people.

2. Organizational-technical combination of territorial centralized alerting systems and alerting systems at business facilities.

3. Timely creation and organizational-technical unification with systems for surveillance and monitoring for informing the people in areas of possible catastrophic flooding, areas of radioactive and chemical plants, other objects of this type.

4. Centralized usage of national and industrial communication systems, radio, television alert systems, radio broadcasting networks and other technical means of information transmission.

**14.** Emergencies are categorized according to the nature of origin, extent of distribution, the magnitude of human losses and the amount of material damage. Depending on the nature of events that may lead to an emergency on the territory of Ukraine, the following types of emergencies are identified:

- 1) of anthropogenic character;
- 2) of natural origin;
- 3) social;
- 4) military.

**15.** In Ukraine, there are about 500 emergencies of anthropogenic nature annually, during which about 400 people die and 500 people suffer from various injuries. Most of the emergencies are local. About 1% of them is at the national level, and 4 % of the total number of accidents are regional.

In order to protect people and territory from anthropogenic emergencies, to prevent and respond to them, the following activities must be implemented:

1. to create and maintain in operational readiness national and territorial surveillance systems.

2. to collect, process and transmit information regarding the state of environment, food products and water contamination with radioactive, chemical substances, microorganisms and other biological agents.

3. to ensure development of underground space in urban territories, taking into account the requirement to adapt and use some part of construction sites to save people in the case of anthropogenic emergencies.

4. to construct immersed structures that are separated from production facilities and adapted for protection.

5. to ensure mass construction, over the period of threat of emergencies, of the simplest facilities and shelters for protecting people.

**16.** Depending on the magnitude of consequences of emergencies, the amount of technical and material resources required for their elimination, the following levels of emergencies are determined:

- 1) state;
- 2) regional;
- 3) local;
- 4) object-specific.

The procedure for categorizing emergencies depending on their levels is established by the Cabinet of Ministers of Ukraine.

Classification signs of emergencies are determined by the central executive body, which provides for the formation and implementation of state policy in civil protection.

**17.** Protection of population and territories from natural emergencies is carried out according to the following principles:

1. Priority of tasks aimed at saving lives and preserving health of people and the environment.
2. The unambiguous priority of rational and preventive security.
3. Free access of people to information about protection of their territory from natural emergencies.
4. Personal responsibility and care of citizens about their own safety, strict observance of their rules of conduct and actions in the case of natural emergencies.
5. Accountability of officials within the limits of their responsibility.

6. Mandatory implementation of measures aimed at preventing emergencies of natural origin and minimizing their negative psychosocial consequences.

7. Consideration of economic, natural, and other features of territories and the level of actual danger of occurrence of natural emergencies.

8. Maximally possible, efficient and integrated use of available resources and means for the prevention of natural emergencies.

**18.** Emergencies of anthropogenic nature include transport accidents, fires, unintended explosions or threats, accidents with the release of hazardous chemicals, of radioactive, biological substances, accidental destruction of buildings and facilities, accidents in engineering networks and life-support facilities, hydrodynamic accidents on dams, etc.

Emergencies of anthropogenic origin typically arise at potentially dangerous industrial facilities. Such industries include chemically dangerous objects, radiation dangerous objects, explosive and flammable objects, as well as hydrodynamically dangerous objects.

Recent years have seen an increase in the risk of accidents on transport and during transportation.

**19.** Depending on the situation that happened during an emergency of natural character, a general or partial evacuation of people may be required.

General evacuation is carried out for all categories of people; it is planned in the case of:

1. possible dangerous, radioactive pollution of territories around nuclear power plants (if there is an immediate threat to the life and health of people that live in the area of damage).
2. emergence of threat of catastrophic flooding of the area with a four-hour penetration of a breakthrough wave.

Partial evacuation is carried out in the case of threat or occurrence of emergency of natural character.

When conducting partial evacuation, the people who are not engaged in the production and service are taken care of: children, pupils, orphanages, together

with teachers; students, pensioners and disabled people, along with support staff and members of their families.

The following emergencies should be considered:

1. Accidents at the nuclear power plants with possible contamination of the territory.
2. All types of accidents with the release of potentially poisonous substances.
3. Threats of catastrophic flooding of the area.
4. Forest and peat fires, earthquakes, landslides, other geophysical and hydro meteorological phenomena with grave consequences that threaten populated areas.

**20.** Emergencies of natural character include dangerous geological, meteorological, hydrological, marine and freshwater phenomena, land degradation, natural fires, changed state of air pollution, infectious diseases of humans, domestic animals, mass destruction of crops by diseases or pests, changes in water resources and biosphere.

**21.** In Ukraine, there are about 500 emergencies of anthropogenic nature annually, during which about 400 people die and 500 people suffer from various injuries. Most of the emergencies are local. About 1% of them is at the national level, and 4 % of the total number of accidents are regional.

In order to protect people and territory from anthropogenic emergencies, to prevent and respond to them, the following activities must be implemented:

1. to create and maintain in operational readiness national and territorial surveillance systems.
2. to collect, process and transmit information regarding the state of environment, food products and water contamination with radioactive, chemical substances, microorganisms and other biological agents.
3. to ensure development of underground space in urban territories, taking into account the requirement to adapt and use some part of construction sites to save people in the case of anthropogenic emergencies.

4. to construct immersed structures that are separated from production facilities and adapted for protection.

5. to ensure mass construction, over the period of threat of emergencies, of the simplest facilities and shelters for protecting people.

**22.** The following natural emergencies are most often observed in Ukraine:

1. Dangerous geological phenomena: landslides, rockslides, subsidence of the earth's surface of different origin.

2. Dangerous meteorological phenomena: storms, hurricanes, heavy snow, hail, sleet.

3. Dangerous hydrological phenomena: floods (river basins), floods (Carpathians, Crimea), increase of groundwater levels, mud slides (in the mountains of Crimea and the Carpathians), ascents and falls of the Black and Azov seas.

4. Natural fires in forests and on peatlands.

5. Mass infections and diseases of humans, animals, and plants.

Knowing the origin of natural disasters, causes of their occurrence, it is possible to take preliminary measures and thus prevent some of them or significantly reduce their destructive influence, as well as plan appropriate activities during rescue operations.

**23.** Though emergencies of military nature are not considered in detail in a given manual, they generally include situations related to conducting military activities over a specified territory (which is absolutely relevant for Ukraine) or associated with activities that include weapons (both real and of digital character) for the purpose of physical destruction of infrastructure facilities and killing people.

**24.** Emergencies of social nature relate to unlawful actions of terrorist and anti-constitutional character, specifically, real or actual threat of a terrorist act (armed attack, seizure and detention of important objects, nuclear installations and materials, communication and telecommunications systems, attack or an attempt on a crew of an air or sea vehicle), theft (attempted abduction) or destruction of

ships, seizure, installation of explosive devices in public places, theft of weapons, detection of obsolete military ammunition.

Emergencies of social nature may occur in any city, town, district, region of Ukraine.

Unfortunately, terrorism has been spreading in the modern world. The scale of terrorism has at present reached such level that makes it a global problem, almost equal to nuclear threat and environmental hazards.

## **Conclusions**

The methodical indications are developed for the foreign students, whom learning subject «Civil Protection» in English.

Also, the methodical indications are aimed for more deep learning of the practice material with help of the self-control method.

The questions and answers, which driven in these methodical indications, are at the limits of the practice material only.

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