**1 RECOMMENDATIONS FOR WRITING ESSAYS**

**Writing an abstract**is a scientific study of students on one of the topics chosen independently or proposed to him by the head according to the profile of the specialty or according to the discipline program.

The abstract is a generalization of the results of independent study and research of the actual problem.

##### The abstract should have:

- target orientation;

- a clear structure;

- the logical sequence of presentation of the material;

- depth of research and completeness of coverage of issues;

- convincing argumentation;

- brevity and accuracy of wording;

- specificity of the presentation of the results of the work;

- evidence of conclusions and validity of recommendations;

- compliance with the requirements for its design.

**2 Content and structure of work**

The abstract should include the following structural elements:

- title page;

- content;

- introduction;

- the main part;

- conclusion (conclusions);

- list of sources used.

The abstract should be at least 15, no more than 20 printed pages.

The word "Introduction", "Contents", "List of sources used" are written as a heading at the top of the page, in the middle of the line with a capital letter.

The introduction is the first section of the abstract and should contain a justification of relevance and scientific novelty and practical significance, an assessment of the current state of the scientific problem being solved.

#### 3 Rules for registration of work

The abstract should be printed on one side of a sheet of white paper of A4 format at one interval. The font is regular, size 14. The text should be printed, observing the following margins: right - 10 mm , top - 20 mm , left - 30 mm , bottom - 25 mm .

The indent within the text should be the same and equal to five characters. The pages of the work are numbered in Arabic numerals, observing the continuous numbering throughout the text of the work. The page number is put in the center of the bottom of the sheet without a dot.

The topic selection is carried out by student number in the group list, which is located on the main page of the distance learning portal in the section Student - Student Lists

### Sample title page abstract

### Ministry of Education and Science of the Republic of Kazakhstan

### Kostanay Regional University named after A. Baitursynov

Department of Biology and Ecology

**abstract**

### on the topic: “ Environmental factors and their classification ”

Discipline  Physiology of plants' stability to unfavourable environment

Specialty 6В05101 - Biology

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### Completed:  Sarsenbayev C . .A.

### 1st year student

Checked:  Saken A.K.

 teacher

Kostanay , 2020

### Sample design work content

### Content

Introduction ……………………………………………........…………………… .3

1 Concept, elements of the environment …….…………………..........………… 5

    1.1 The concept of ……………………………………….....…….…………... 5

    1.2 Elements of the environment ........................................................................ 8

2 The main part ……………………………………………………..…………… 11

    2.1 Environmental factors and their classification ………………..........…… 11

2.1.1 Abiotic Factors ……………………………………………….…………11

       2.1.2 Bi otic factors ……………………………………………….…………13              2.1.3 Anthropogenic factors ……………………………………………14

    2.2 the results of the study and their discussion ........................... ....................15

3 Constructive part (comparative analysis ) ......................................................... 17

Conclusion ……………………………………………………………………….18

List of sources used ...............................................................................................20

**The topic of the abstract is selected according to the student number in the group list, which is located on the main page of the distance learning portal in the section Student - Student Lists**

**Subjects of abstracts :**

1. Adaptation is a hereditarily fixed constitutive trait.
2. Mechanisms of plant resistance to the action of some of the most common stresses of an abiotic nature.
3. Physiological mechanisms of the phenomenon of stress-periodism.
4. Cold resistance of plants. Winter hardiness.
5. The reasons for the death of plants from frost.
6. Hardening of plants. Hardening phases.
7. Application of phytohormones in crop production practice.
8. Synthetic inhibitors of growth – retardants.
9. Physiological basis of irrigation.
10. Physiological features of salt-tolerant plants.
11. Protection of plants from pathogens and phytophages.
12. Early diagnosis of plant resistance to wetting.
13. General concepts of reactive oxygen species.
14. Adaptations of plants to the lack of oxygen in the soil.
15. Signal role of ROS.
16. The goal, objectives, methods of plants' stability
17. Environmental problems
18. The Basics of plants' stability Levels of organization of living systems
19. The organism and the conditions of its habitat
20. The specific peculiarities of the action of the anthropogenic factor
21. Biosphere and its stability
22. Current environmental problems of sustainable development of the Republic of Kazakhstan

**List of recommended literature**

**Basic:**

1. Handbook of Plant and Crop Stress by Mohammad Pessarakli-2011. – 1188 p.

2. Plant physiology and biochemistry growth and development. 2018 – 83 p.

3. Stefan Hohmann. Plant Responses to Abiotic Stress. With 31 Figures, 1 in Color; and 5 Tables. – 2014.

4. Introduction to Plant Physiology, 4th Edition William G. Hopkins and Norman P. A. Huner The University of Western Ontario

5. Plant Stress Tolerance Methods and Protocols by Melvin J. Oliver, John C. Cushman, Karen L. Koster (auth.), Ramanjulu Sunkar. 2010

6. Maria Duca. Plant Physiology. 2015 - 321 p.

**Additional:**

7. Tim Laman & Michael Melford. The National Geographic Guide to Landscape and Wildlife Photography. 2016 – 256 p.

8. Hopkins, Ralph Lee. Nature Photography: Documenting the Wild World. New York: Lark Books, 2010

9. Практикум по физиологии растений. М.: Академия, 2004.-140 с.

10. Султангазина Е.Ж. Физиология растений УМК. 050607- Биология, 2008.-68 с. Электронный ресурс.

11. Biology of Plants (Plant Physiology). The training manual is intended for students of agricultural, biological, and technical specialties. - Kostanay, 2017. - 99 P-

12. Биология растений (физиология растений). Учебное пособие. - Костанай, 2017. - 107 с.

13. Султангазина Е.Ж., Абилева Е.А. Физиология устойчивости растений к неблагоприятным условиям среды. Электронное учебное пособие. Костанай: КГУ им. А. Байтурсынова, 2016.