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**MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN  
FEDERATION**

**Federal State Autonomous Educational Institution of Higher Education**

**"Moscow Polytechnic University"**

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" 15 " *февраль* 2024

**WORKING PROGRAM OF THE DISCIPLINE**

**"Organization and Conduct of Research in Management"**

Field of study

**38.03.02 Management**

Educational program (profile)

**"Business Process Management"**

Qualification (degree)

**Bachelor**

Form of study

**Part-time**

Moscow 2024

**Developer(s):**

Art. Lecturer at the Department of Management



/I.S. Koshel/

**Agreed:**

Head of the Department of Management,  
Ph.D., Associate Professor



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## 1. Goals, objectives and planned learning outcomes in the discipline

The main goals of mastering the discipline “Organization and conduct of research in management” should include the formation of students’ theoretical knowledge in the field of the current state and implementation of scientific research; formation in students of an understanding of the directions of development of scientific research in the field of their educational program orientation.

The main objectives of mastering the discipline “Organization and conduct of research in management” include:

- familiarizing students with the specifics of scientific research, methods of performing research work,
- preparation of research reports,
- planning and conducting economic experiments,
- performing approximation of experimental data and analysis of the results obtained.

Training in the discipline “Organization and conduct of research in management” is aimed at developing the following competencies in students:

| Code and name of competencies                                                                                                                                            | Indicators of Competency Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PK-6.</b> Able to formulate possible solutions based on target indicators developed for them, as well as carry out analysis, justification and selection of solutions | <p>IPK-6.1. Knows visual modeling languages; systems theory; subject area and specifics of the organization’s activities to the extent sufficient to solve business analysis problems; theory of interpersonal and group communication in business interaction; conflict theory; methods of collecting, analyzing, systematizing, storing and maintaining business analysis information up to date; information technologies (software) used in the organization, to the extent necessary for business analysis purposes.</p> <p>IPK-6.2. Able to identify, register, analyze and classify risks and develop a set of measures to minimize them; formalize the results of business analysis in accordance with the selected approaches; identify connections and dependencies between elements of business analysis information; apply information technology to the extent necessary for business analysis purposes; analyze internal (external) factors and conditions affecting the organization’s activities; analyze the requirements of stakeholders in terms of quality criteria determined by the selected approaches; evaluate the effectiveness of the solution in terms of selected criteria; evaluate the business opportunity to implement the solution in terms of selected target indicators; model the scope and boundaries of work; plan, organize and conduct meetings and discussions with stakeholders; use effective communication techniques.</p> <p>IPK-6.3. Possesses the skills of identifying, collecting and analyzing business analysis information to formulate possible solutions; descriptions of possible solutions; analysis of decisions from the point of view of achieving target indicators of decisions; assessing the resources needed to implement solutions; assessing the effectiveness of each solution option as a ratio between the expected level of resource use and expected value; choosing a solution for implementation as part of a group of experts.</p> |

## 2. Place of discipline in the structure of the educational program

The discipline belongs to the mandatory part of block B1 “Disciplines (modules)”.

The discipline “Organization and conduct of research in management” is interconnected logically, substantively and methodologically with the following disciplines and practices of the EP:

- Project activities
- Fundamentals of Management
- Process management
- Law basics

### 3. Structure and content of the discipline

The total labor intensity of the discipline is 4 credit units (144 hours).

#### 3.1 Types of educational work and labor intensity

(according to forms of study)

##### 3.1.1. Part-time and part-time education

| No.      | Type of educational work     | Quantity hours | Semesters |  |
|----------|------------------------------|----------------|-----------|--|
|          |                              |                | 6         |  |
| <b>1</b> | <b>Auditory lessons</b>      | <b>36</b>      | 36        |  |
|          | Including:                   |                |           |  |
| 1.1      | Lectures                     | 18             | 18        |  |
| 1.2      | Seminars/practical sessions  | 18             | 18        |  |
| <b>2</b> | <b>Independent work</b>      | <b>108</b>     | 108       |  |
| <b>3</b> | <b>Interim certification</b> |                |           |  |
|          | Test/differential test/exam  | <b>Test</b>    | Test      |  |
|          | <b>Total</b>                 | <b>144</b>     | 144       |  |

#### 3.2 Thematic plan for studying the discipline

(according to forms of study)

##### 3.2.1. Part-time and part-time education

| No. p/p | Sections/topics disciplines                                          | Labor intensity, hour |                |                             |                      |                    |                  |
|---------|----------------------------------------------------------------------|-----------------------|----------------|-----------------------------|----------------------|--------------------|------------------|
|         |                                                                      | Total                 | Classroom work |                             |                      |                    | Independent work |
|         |                                                                      |                       | Lectures       | Seminars/practical sessions | Laboratory exercises | Practical training |                  |
| 1.1     | Topic 1. Fundamentals of research into control systems in management |                       | 2              | 2                           |                      |                    | 12               |
| 1.2     | Topic 2. Main characteristics of management research                 |                       | 2              | 2                           |                      |                    | 12               |
| 1.3     | Topic 3. Research methodology in management                          |                       | 2              | 2                           |                      |                    | 12               |
| 1.4     | Topic 4. Approaches to research in management                        |                       | 2              | 2                           |                      |                    | 12               |
| 1.5     | Topic 5. Organization of the study                                   |                       | 2              | 2                           |                      |                    | 12               |
| 1.6     | Topic 6. Information support for research in management.             |                       | 2              | 2                           |                      |                    | 12               |
| 1.7     | Topic 7. Types of research                                           |                       | 2              | 2                           |                      |                    | 12               |

|              |                                                                            |  |           |           |  |  |            |
|--------------|----------------------------------------------------------------------------|--|-----------|-----------|--|--|------------|
| 1.8          | Topic 8. Testing as a research method                                      |  | 2         | 2         |  |  | 12         |
| 1.9          | Topic 9. Scientific and practical significance of control systems research |  | 2         | 2         |  |  | 12         |
| <b>Total</b> |                                                                            |  | <b>18</b> | <b>18</b> |  |  | <b>108</b> |

### 3.3 Contents of the discipline

#### **Topic 1. Fundamentals of research into control systems in management**

Control system and its characteristics. External environment of the control system. Internal environment of the control system. Systematic approach to the study of control systems. Principles of a systems approach in the study of control systems.

#### **Topic 2. Main characteristics of management research**

Control systems research: basic concepts. Classification of control systems research. Features of system analysis. System analysis methods: SWOT analysis method.

#### **Topic 3. Research methodology in management**

General provisions for using methodology in research. Modeling as a research method. Scientific methodology. Research method.

#### **Topic 4. Approaches to research in management**

Dialectical, systemic and integrated approaches. Integral, process and situational approaches. Marketing, innovation, regulatory and behavioral approaches.

#### **Topic 5. Organization of the study**

Basic principles of the research planning process. Organization of the study. Hypothesis and requirements for the research hypothesis. Classification of studies according to the criterion of period of work.

#### **Topic 6. Information support for research in management.**

Information and requirements for information used for CS research. The value of information for the study of control systems. Information repository. Statistical packages in scientific research.

#### **Topic 7. Types of research**

General characteristics of the expert assessment method and the brainstorming method. Method of expert assessments. Syntectics as a method for studying control systems. Observation as a method for studying control systems. Monitoring as a method of researching a management system.

#### **Topic 8. Testing as a research method**

Testing as a research method. Types of testing. Experimental method. Method of collecting information. Survey as a private research method and source of information

#### **Topic 9. Scientific and practical significance of systems researchmanagement**

Monitoring control system problems. Solving control problems. Analysis of the results of research into control systems. Defining and evaluating management system research.

### 3.4 Topics of seminars/practical and laboratory classes

#### 3.4.1. Seminars/practical sessions

|                                                                      |                   |
|----------------------------------------------------------------------|-------------------|
| Topic 1. Fundamentals of research into control systems in management | Seminar session 1 |
| Topic 2. Main characteristics of management research                 | Seminar session 2 |
| Topic 3. Research methodology in management                          | Seminar session 3 |
| Topic 4. Approaches to research in management                        | Seminar session 4 |
| Topic 5. Organization of the study                                   | Seminar session 5 |
| Topic 6. Information support for research in management.             | Seminar session 6 |
| Topic 7. Types of research                                           | Seminar session 7 |

|                                                                            |                   |
|----------------------------------------------------------------------------|-------------------|
| Topic 8. Testing as a research method                                      | Seminar session 8 |
| Topic 9. Scientific and practical significance of control systems research | Seminar session 9 |

## **4. Educational, methodological and information support**

### **4.1 Main literature**

1. Gorelov, N. A. Methodology of scientific research: textbook and workshop for universities / N. A. Gorelov, D. V. Kruglov, O. N. Korableva. — 2nd ed., revised. and additional - Moscow: Yurayt Publishing House, 2022. - 365 p. - (Higher education). — ISBN 978-5-534-03635-0. — Text: electronic // Educational platform Urayt [website]. — URL:<https://urait.ru/bcode/489442>

2. Roy, O. M. Methodology of scientific research in economics and management: textbook for universities / O. M. Roy. — 2nd ed., revised. and additional - Moscow: Yurayt Publishing House, 2022. - 209 p. - (Higher education). — ISBN 978-5-534-14167-2. — Text: electronic // Educational platform Urayt [website]. — URL:<https://urait.ru/bcode/492536>

### **4.2 Additional literature**

3. Korotkov, E. M. Research of systems management: textbook and workshop for universities / E. M. Korotkov. — 3rd ed., revised. and additional - Moscow: Yurayt Publishing House, 2022. - 226 p. - (Higher education). — ISBN 978-5-9916-7647-2. — Text: electronic // Educational platform Urayt [website]. — URL:<https://urait.ru/bcode/489085>

4. Kupriyanov, Yu. V. Models and methods for diagnosing the state of business systems: textbook for universities / Yu. V. Kupriyanov, E. A. Kutlunin. — 2nd ed., rev. and additional - Moscow: Yurayt Publishing House, 2022. - 128 p. - (Higher education). — ISBN 978-5-534-08500-6. — Text: electronic // Educational platform Urayt [website]. — URL:<https://urait.ru/bcode/493733>

### **4.3 Electronic educational resources**

1. An electronic educational resource on the discipline is under development.

## **5. Logistics support**

Auditorium for lectures and seminars of the general fund. Study tables with benches, a blackboard, a portable multimedia complex (projector, projection screen, laptop). Teacher's workplace: table, chair.

## **6. Guidelines**

### **6.1 Methodological recommendations for teachers on organizing training**

A presentation (from the English word - presentation) is a set of color pictures-slides on a specific topic, which is stored in a special format file with the PP extension. The term “presentation” (sometimes called “slide film”) is associated primarily with the information and advertising functions of pictures, which are designed for a certain category of viewers (users).

In order for the presentation to be well received by the audience and not cause negative emotions (subconscious or fully conscious), it is necessary to follow the rules of its design.

A presentation involves a combination of information of various types: text, graphics, music and sound effects, animation and video clips. Therefore, it is necessary to take into account the specifics of combining pieces of information of different types. In addition, the design and display of

each of the listed types of information is also subject to certain rules. So, for example, the choice of font is important for textual information, brightness and color saturation are important for graphic information, and optimal relative position on the slide is necessary for the best possible perception of them together.

In addition to the correct arrangement of text blocks, we must not forget about their content - the text. Under no circumstances should it contain spelling errors. You should also take into account the general rules of text formatting.

After creating a presentation and its design, you need to rehearse its presentation and your speech, check how the presentation as a whole will look (on a computer screen or projection screen), how quickly and adequately it is perceived from different places in the audience, under different lighting, noise, in an environment as close as possible to real performance conditions.

## **6.2 Guidelines for students on mastering the discipline**

A lecture is a systematic, consistent, monologue presentation by a teacher of educational material, usually of a theoretical nature. When preparing a lecture, the teacher is guided by the work program of the discipline. During lectures, it is recommended to take notes, which will allow you to subsequently recall the studied educational material, supplement the content when working independently with literature, and prepare for the exam.

You should also pay attention to categories, formulations that reveal the content of certain phenomena and processes, scientific conclusions and practical recommendations, positive experience in oratory. It is advisable to leave margins in your working notes in which to make notes from the recommended literature, supplementing the material of the lecture you listened to, as well as emphasizing the special importance of certain theoretical positions.

Conclusions from the lecture summarize the teacher's thoughts on educational issues. The teacher provides a list of used and recommended sources for studying a specific topic. At the end of the lecture, students have the opportunity to ask questions to the teacher about the topic of the lecture. When delivering lectures on the discipline, electronic multimedia presentations can be used.

Guidelines for students when working at the seminar

Seminars are implemented in accordance with the working curriculum with sequential study of the topics of the discipline. In preparation for the seminars, the student is recommended to study the basic literature, familiarize himself with additional literature, new publications in periodicals: magazines, newspapers, etc. In this case, you should take into account the recommendations of the teacher and the requirements of the curriculum. It is also recommended to finalize your lecture notes by making appropriate notes from the literature recommended by the teacher and provided for by the curriculum. Abstracts should be prepared for presentations on all educational issues brought up for the seminar.

Since the student's activity in seminar classes is the subject of monitoring his progress in mastering the course, preparation for seminar classes requires a responsible attitude. During interactive classes, students must be active.

Guidelines for students on organizing independent work

Independent work of students is aimed at independent study of a separate topic of the academic discipline. Independent work is mandatory for each student, its volume is determined by the curriculum. When working independently, the student interacts with the recommended materials with the participation of the teacher in the form of consultations. To perform independent work, methodological support is provided. The electronic library system (electronic library) of the university provides the possibility of individual access for each student from any point where there is access to the Internet.

## **7. Appraisal Fund**

## 7.1 Methods for monitoring and assessing learning outcomes

### Indicator of the level of competence development

| Organization and conduct of research in management                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                             |                           |                                                                                                                                                                                                                                                                                                                                                           |  |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Federal State Educational Standard of Higher Education 38.03.02 "MANAGEMENT"                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                             |                           |                                                                                                                                                                                                                                                                                                                                                           |  |
| In the process of mastering this discipline, the student forms and demonstrates the following competencies: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                             |                           |                                                                                                                                                                                                                                                                                                                                                           |  |
| COMPETENCIES                                                                                                | List of components                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Technology for developing competencies      | Form of assessment tool** | Degrees of levels of mastering competencies                                                                                                                                                                                                                                                                                                               |  |
| INDEX FORMULATION                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                             |                           |                                                                                                                                                                                                                                                                                                                                                           |  |
| PK-6                                                                                                        | <p><b>PC-6.</b> Able to formulate possible solutions based on target indicators developed for them, as well as carry out analysis, justification and selection of solutions</p> <p>IPK-6.1. Knows visual modeling languages; systems theory; subject area and specifics of the organization's activities to the extent sufficient to solve business analysis problems; theory of interpersonal and group communication in business interaction; conflict theory; methods of collecting, analyzing, systematizing, storing and maintaining business analysis information up to date; information technologies (software) used in the organization, to the extent necessary for business analysis purposes.</p> <p>IPK-6.2. Able to identify, register, analyze and classify risks and develop a set of measures to minimize them; formalize the results of business analysis in accordance with the selected approaches; identify connections and dependencies between elements of business analysis information; apply information technology to the extent necessary for business analysis purposes; analyze internal (external) factors and conditions affecting the organization's activities; analyze the requirements of stakeholders in terms of quality criteria determined by the selected approaches; evaluate the effectiveness of the solution in terms of selected criteria; evaluate the business opportunity to implement the solution in terms of selected target indicators; model the scope and boundaries of work; plan, organize and conduct meetings and discussions with stakeholders; use effective communication techniques.</p> <p>IPK-6.3. Possesses the skills of identifying, collecting and analyzing business analysis information to formulate possible solutions; descriptions of possible solutions; analysis of decisions from the point of view of achieving target indicators of decisions; assessing the resources needed to implement solutions; assessing the effectiveness of each</p> | lecture, independent work, seminar, classes | DS, T, Z                  | <p><b>A basic level of:</b></p> <ul style="list-style-type: none"> <li>- knows the features of using time management technologies in personal and corporate activities</li> </ul> <p><b>Increased level:</b></p> <ul style="list-style-type: none"> <li>- able to formulate goals and plan actions to achieve them using time management tools</li> </ul> |  |

|  |  |                                                                                                                                                                 |  |  |  |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  |  | solution option as a ratio between the expected level of resource use and expected value; choosing a solution for implementation as part of a group of experts. |  |  |  |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

## 7.2 Scale and criteria for assessing learning outcomes

Scales for assessing the results of intermediate certification and their description:

### ***Interim certification form: test.***

Interim certification of students in the form of a test is carried out based on the results of completing all types of academic work provided for by the curriculum for a given discipline (module), while taking into account the results of ongoing monitoring of progress during the semester. Assessment of the degree to which students have achieved the planned learning outcomes in the discipline (module) is carried out by the teacher leading classes in the discipline (module) using the method of expert assessment. Based on the results of the interim assessment, the student is given a “pass” or “fail” rating.

*Only students who have completed all types of academic work provided for by the work program in the discipline “Organization and Conduct of Research in Management” are allowed to take the intermediate certification (passed the intermediate control)*

| Grading scale | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Passed        | All types of educational work provided for by the curriculum have been completed. The student demonstrates compliance with the knowledge, skills and abilities given in the tables of indicators, operates with acquired knowledge, skills and abilities, and applies them in situations of increased complexity. In this case, minor errors, inaccuracies, and difficulties during analytical operations and the transfer of knowledge and skills to new, non-standard situations may be made. |
| Not accepted  | One or more types of educational work provided for by the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, abilities, and skills with those given in the tables of indicators; significant mistakes are made; a lack of knowledge, abilities, and skills is evident in a number of indicators; the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations.                     |

## 7.3 Evaluation tools

### **List of assessment tools for the discipline**

#### **"Organization and conduct of research in management"**

| OS No. | Name of the assessment tool | Brief description of the evaluation tool                                                                                                                                                    | Submission of the assessment tool to the Federal Fund |
|--------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 1      | Report, message (DS)        | A product of a student's independent work, which is a public speech presenting the results obtained in solving a specific educational, practical, educational, research or scientific topic | Topics of reports, messages                           |
| 2      | Test (T)                    | A system of standardized tasks that allows you to automate the procedure for measuring the level of knowledge and skills of a student.                                                      | Test task fund                                        |

|   |          |                                                                                                                 |                       |
|---|----------|-----------------------------------------------------------------------------------------------------------------|-----------------------|
| 3 | Test (G) | Final form of knowledge assessment. In higher education institutions they are held during examination sessions. | Questions for testing |
|---|----------|-----------------------------------------------------------------------------------------------------------------|-----------------------|

### 7.3.1. Current control

#### **Topics of reports on the discipline**

#### **"Organization and conduct of research in management" (formation of competence PK-6)**

1. What are the goals and objectives of science?
2. Give a classification of sciences.
3. Give the concept of fundamental, applied and exploratory research.
4. Reveal the content of the problem, hypothesis and theory as structural components of theoretical knowledge.
5. Reveal the content of the concept, category, law, concept, axiom, principles as structural components of the theory of knowledge.
6. List the stages of research work and give a general description of each of them.
7. What is the methodology of scientific research?
8. List the general scientific methods of scientific research and give a general description of each of them.
9. Name special methods of scientific research, determine their significance and necessity.
10. What is a statistical summary? Formulate its tasks.
11. Name the types of groups depending on their goals.
12. Define the term "correlation".
13. What correlations are there in social production and what role do they play in studying the relationship between economic phenomena and processes?

#### **Report evaluation criteria**

| N o. | Criterion               | Grade                                                                                             |                                                                                                                   |                                                                                                                 |                                                                                                          |
|------|-------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|      |                         | ex.                                                                                               | chorus                                                                                                            | satisfaction                                                                                                    | unsatisfactory                                                                                           |
| 1    | Structure of the report | The report contains semantic parts balanced in volume                                             | The report contains three semantic parts, unbalanced in volume                                                    | One of the semantic parts is missing from the report                                                            | The report does not show the presence of semantic parts                                                  |
| 2    | Contents of the report  | The content reflects the essence of the problem under consideration and the main results obtained | The content does not fully reflect the essence of the problem under consideration or the main results obtained    | The content does not fully reflect the essence of the problem under consideration and the main results obtained | The content does not reflect the essence of the problem under consideration or the main results obtained |
| 3    | Mastery of the material | The student has complete command of the material presented, is problem oriented, and              | The student knows the material presented, is oriented in the problem, finds it difficult to answer some questions | The student is not fluent enough in the material being presented and is poorly oriented in the problem          | The student does not know the material being presented and has poor understanding of the problem         |

|   |                |                                                              |                                                                             |                                                                                               |                                                          |
|---|----------------|--------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|
|   |                | answers questions freely                                     |                                                                             |                                                                                               |                                                          |
| 4 | Matching theme | The presented material fully corresponds to the stated topic | The presented material contains elements that are not relevant to the topic | The material presented contains a large number of elements that are not related to the topic. | The material presented is slightly relevant to the topic |

### Tests by discipline

#### "Organization and conduct of research in management" (formation of competence PK-6)

In the study of control systems, control is considered from two main positions; among the answer options, mark both:

- A) as a subject of research
- B) as the purpose of the study
- C) as a research stage
- D) as a research tool

ANSWER: C

Which approach to the study of control systems is based on the use of general laws of development of the surrounding world (nature, society, man), as well as taking into account the universal connections of events and phenomena?

- A) dialectical approach
- B) systems approach
- C) hardware approach
- D) integrated approach

ANSWER: A

Which approach to the study of management systems is based on compliance with certain norms, rules, laws that regulate the activities of an organization at the level of industry, region, national economy, socio-economic institutions, and legislative bodies?

- A) marketing approach
- B) innovative approach
- C) normative approach
- D) behavioral approach

ANSWER: C

Which approach to control system research is based on the task of studying the functional connections of information support for both the entire control system and its individual elements?

- A) process approach
- B) situational approach
- C) hardware approach
- D) integral approach

ANSWER: D

A hypothesis, which is an assumption about the subject of research, as well as its properties in order to study the structure of the object, the features of its functioning, is:

- A) descriptive hypothesis
- B) explanatory hypothesis
- C) general hypothesis
- D) private hypothesis

ANSWER: A

Research, the results of which are of global or interdisciplinary significance and are reflected in changes in the scientific understanding of the universe and the basic laws of its existence, are called:

- A) basic research

- B) applied research
- C) tactical research
- D) strategic research

ANSWER: A

Which group of management systems research methods include methods such as focus group, in-depth and expert interviews?

- A) observation methods
- B) monitoring methods
- C) mathematical methods
- D) scoring methods

ANSWER: A

Which group of factors influencing the management system include government authorities, suppliers, competitors, consumers, trade unions?

- A) direct environmental factors
- B) environmental factors of indirect influence
- C) internal environmental factors
- D) confounding factors

ANSWER: A

What type of typical structural pathology of management systems refers to the situation when in an organization (management system) a circle of people arises who use the organization's resources for their own selfish purposes, which causes harm and damage to the organization's activities?

- A) uncontrollability
- B) duplication of organizational order
- C) clique
- D) pendulum solutions

ANSWER: C

What type of typical structural pathology of control systems includes the inability to deviate from accepted standards and patterns, even if they are not effective in a particular situation?

- A) dominance of structure over function
- B) bureaucracy
- C) lack of subjectivity
- D) stagnation

ANSWER: B

Which research methodology is based on the recognition of the divine principle in all phenomena of the surrounding reality (world)?

- A) materialistic
- B) theological
- C) agnosticism
- D) dualism

ANSWER: B

Which research methodology is based on the fact that the basis of all phenomena of the surrounding reality is a materialistic worldview?

- A) materialistic
- B) theological
- C) agnosticism
- D) dualism

ANSWER: A

What elements of the organization as a management system are considered its most important resource, on which the possibility of functioning and long-term survival depends?

- A) goals and objectives of the organization
- B) organizational structure
- C) personnel and employees of the organization

D) scope of control

ANSWER: C

Which of the main properties of the model indicates that the model is a simplified version of the original?

A) limb

B) simplicity

C) adequacy

D) dynamism

ANSWER: B

Which of the main properties of the model indicates that the model corresponds to the original only according to specified criteria?

A) limb

B) simplicity

C) adequacy

D) dynamism

ANSWER: A

Which of the basic requirements for management information states that information should not contain contradictions and uncertainty within itself?

A) relevance and timeliness

B) clarity and precision

C) sufficiency

D) logic

ANSWER: D

Which of the properties of the system determines the ability of the system to adapt to changes in the internal and external environment?

A) efficiency

B) emergence

C) hierarchy

D) flexibility

ANSWER: D

Which of the properties of the system determines the ability of the system to acquire properties that its individual elements do not have?

A) efficiency

B) emergence

C) hierarchy

D) flexibility

ANSWER: B

Which method of researching control systems makes it possible, in a fairly short period of time, to find a certain number of options for solving a problem or task proposed by the participants in this method?

A) brainstorming method

B) goal tree construction method

C) expert assessment method

D) synectics method

ANSWER: A

Which of the main approaches to research is based on the study of cause-and-effect relationships that the object of study contains (exists)?

A) mechanistic

B) metaphysical

C) biological

D) dialectical

ANSWER: A

Which of the main approaches to research is based on the study of movement, during the implementation of which there is a transformation of one type of movement into another. However, the basic condition for using this approach is that the movement must return to the original?

- A) mechanistic
- B) metaphysical
- C) biological
- D) dialectical

ANSWER: B

Which approach to management systems research represents the study of the functioning of the management system and the entire organization as a set of continuous interconnected business processes of management and operation?

- A) process approach
- B) situational approach
- C) hardware approach
- D) integral approach

ANSWER: A

Which of the principles of analysis and synthesis of complex systems consists in dividing the system into subsystems?

- A) the principle of systems decomposition
- B) principle of diversity of models
- C) principle of level coordination
- D) principle of sufficiency

ANSWER: A

What principle of the systems approach in the study of control systems is to consider the object of study as a single whole, as an independent system, taking into account delimitation from the environment and other processes and phenomena?

- A) principle of integrity
- B) the principle of compatibility of elements of the whole
- C) principle of labilization of functions
- D) development principle

ANSWER: A

What principle of the systems approach to the study of management systems includes the provision that each study has a structure that represents a logical sequence of operations or the use of methods?

- A) principle of semi-functionality
- B) principle of variability
- C) the principle of iteration
- D) the principle of probability of estimates

ANSWER: C

The technique, the essence of which is to study the control system under certain operating conditions (at the same time, the operating conditions can be both real and artificially created), is:

- A) experimental method
- B) method of collecting information
- C) method of constructing a goal tree
- D) Delphi method

ANSWER: A

Testing techniques that help measure and diagnose the characteristics and properties of human interpersonal interaction, especially in small social groups, are:

- A) standardized tests
- B) intelligence tests
- C) projective tests
- D) sociometric tests

ANSWER: D

Testing methods aimed at studying psychological personality characteristics, as well as the influence of these characteristics on social behavior and social interpersonal interaction, which cause a negative assessment both in society and among the subjects themselves, are:

- A) standardized tests
- B) intelligence tests
- C) projective tests
- D) sociometric tests

ANSWER: C

Observation, which can be carried out indirectly, through analysis and study of the results of behavior, is called:

- A) direct observation
- B) indirect observation
- C) open observation
- D) covert surveillance

ANSWER: B

Observation, which is direct observation of something or someone, is called:

- A) direct observation
- B) indirect observation
- C) open observation
- D) covert surveillance

ANSWER: A

Observation, which is carried out according to a pre-developed detailed plan, which defines the object of study, the location of the observation, and the time that can be spent on observation, is called:

- A) structured observation
- B) unstructured observation
- C) field observation
- D) laboratory observation

ANSWER: A

A certain set of techniques used in this study (at this stage of the study), allowing to achieve the goals of the study in general or the goals of a separate stage of the study in particular, is called:

- A) research methodology
- B) research tools
- C) research concept
- D) research procedure

ANSWER: A

The ratio of the indicators of the result of solving a control system problem to the costs of all resources for its implementation is:

- A) research effectiveness
- B) effectiveness of management decisions
- C) cost-effectiveness of the study
- D) economic effect

ANSWER: B

The ratio of economic indicators obtained during the study of management systems to the costs of conducting these studies is:

- A) research effectiveness
- B) effectiveness of management decisions
- C) cost-effectiveness of the study
- D) economic effect

ANSWER: C

The process of dividing a whole into its component parts, which in the case of studying a complex system is a necessary condition for studying, is called:

- A) aggregation
- B) decomposition
- C) multifunctionality
- D) number of elements

ANSWER: B

The management system of an organization in system analysis is considered as:

- A) control system
- B) control object
- C) subject of management
- D) organizational and production system

ANSWER: C

Compliance with clear and precise rules for the sequence of research procedures that guarantee the achievement of reliable results that do not require additional research to confirm their plausibility and reliability implies:

- A) research project scenario
- B) research algorithm
- C) study reception
- D) research procedure

ANSWER: B

The set of information about processes occurring both within the organization (internal information) and about processes in the external environment and methods of interaction of the organization with them (external information) is:

- A) validity of the control system study
- B) management activities
- C) management information
- D) information array

ANSWER: C

The management structure (at the macro level: organization, industry, national economy; at the micro level: division, department, workshop, work group, etc.), as well as the external and internal environment, the management structure is:

- A) object of study
- B) subject of research
- C) elements of the study
- D) research concept

ANSWER: A

The economic, social and environmental effects obtained as a result of the study of management systems are of this nature:

- A) real character
- B) potential character
- C) scientific and technical nature
- D) political character

ANSWER: A

Experiments that are carried out under real operating conditions of the research object are called:

- A) laboratory experiments
- B) field experiments
- C) quantitative experiments
- D) modal experiments

ANSWER: B

Experiments that are carried out in specially created artificial conditions, which make it possible to exclude the impact of unfavorable negative facts on the course of the experiment and its results, are called:

- A) laboratory experiments
- B) field experiments
- C) quantitative experiments
- D) modal experiments

ANSWER: A

Experiments that are carried out on a special model of the object under study are called:

- A) laboratory experiments
- B) field experiments
- C) quantitative experiments
- D) modal experiments

ANSWER: D

Experiments that are carried out with the aim of identifying new properties of the object under study or finding (discovering) new phenomena that are currently unknown to science are called:

- A) research experiments
- B) confirmatory experiments
- C) disproving experiments
- D) crucial experiments

ANSWER: A

Experiments aimed at confirming one theoretical assumption and refuting another theoretical assumption are called:

- A) research experiments
- B) confirmatory experiments
- C) disproving experiments
- D) crucial experiments

ANSWER: D

#### 7.3.2. Interim certification

#### **Questions for testing in the discipline**

#### **"Organization and conduct of research in management" (formation of competence PK-6)**

1. State policy regarding scientific research. Priority directions for the development of fundamental research.
2. Engineering creativity, its features.
3. Methods for solving technical problems. Trial and error method.
4. General information about scientific research. Characteristic features of modern science.
5. General information about scientific research. Goals and methods of scientific research.
6. Overcoming inertia of thinking. Brainstorm. Stages and rules of brainstorming.
7. Overcoming inertia of thinking. Method of morphological analysis.
8. General information about scientific research. Systematic approach to the development of science.
9. Choosing a research topic. Stages of choosing a topic.
10. Sequence of research work using the example of applied research.
11. Theoretical and experimental studies. Types of experimental studies.
12. Structural elements of a research report.
13. Accumulation of scientific information.

14. Feasibility study for carrying out research work. Economic effect.
15. Information and patent search. UDC structure.
16. Stages of experimental research, experimental plan-program. Graphic representation of the experiment results.
17. Selection of methods for processing and analyzing experimental data.
18. Approximation of experimental data.
19. Analysis of the experimental results.
20. Registration of research results.
21. Rules for presenting materials of scientific articles and reports. Citation rules.