ANNOTATIONS OF THE ARTICLES

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DEPRECIATION POLICY AS AN INCENTIVE FACTOR OF FIXED CAPITAL REPRODUCTION

Low investment activity in agriculture in recent years contributed to the high physical and moral depreciation of fixed assets. With the decline in public funding opportunities and the limit of credit availability, the own sources of economic entities and their influence on the investment activity in the long term remain a priority. In this context, the aim of the research is the development of measures aimed at the effective implementation of depreciation policy in agriculture for the guaranteed reproduction of fixed assets.

The implementation of the tasks is achieved through: abstract-logical method – in setting goals and objectives of the study; methods of analysis and synthesis – in the analysis of depreciation policy in Russia and other countries; inductive and deductive methods – the development of the formation mechanism of amortization savings in agricultural organizations. The results of the study are in the justification of scientific and methodological positions, demonstrating the need to stimulate the renewal of fixed assets through the construction of the adequate formation mechanism and the use of its own sources of reproduction.

Keywords: *agricultural organizations, fixed assets, depreciation, amortization policy, investment.*

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MATHEMATICS AND STATISTICAL MODELING OF CREDIT RATING OF AGRICULTURAL ORGANIZATIONS IN THE REGION

The article sets the goal to develop technique of rapid assessment of creditworthiness of agricultural organizations in the region based on the use of complex methods of financial analysis and multidimensional statistical analysis: principal component analysis, cluster analysis, discriminant analysis, correlation and regression analysis. The development and testing of technique was performed on the basis of the accounting data of the agricultural organizations of the Republic of Buryatia, specializing in beef cattle breeding for 2015. The proposed technique can serve as an analytical tool to the executive authorities to support strategic and program documents of development of agrarian and industrial complex in the region as regards the investment opportunities evaluation of existing agricultural organizations. Also, the practical implementation of the technique allows to reveal organizations with deteriorating financial condition, in a due time to give them the state support, to take measures for their financial improvement.

Keywords: *agricultural organizations, creditworthiness, financial stability, multidimensional statistical methods, rapid assessment of the financial condition.*

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CLUSTERING OF REGIONS: EXPERIENCE OF THE SMOLENSK REGION

The aim of the article is to study the experience of regions clustering on the example of the Smolensk region. Today regional clusters as a form of the territorial organization of economy play a key role in creating favorable conditions for business, promote activities of accounting entities, allowing adapting to the changing environmental conditions, and increase the efficiency and competitiveness of the region. Nowadays the Russian regions accumulated sufficient experience in forming territorial clusters.

Relevance of the research is confirmed by the need of cluster approach within the social and economic development

strategy of a number of the Russian Federation subjects where many projects of territorial clusters development are implemented in an initiative way. In the Russian Federation the favorable climate for different clusters creating is gradually formed. The concept «cluster» is used in business structures, national and regional economic systems.

This fact is confirmed by the Smolensk region where transport and logistic, composite and agro-industrial clusters are successfully created and function.

Keywords: *clustering of regions, composite cluster, transport and logistic cluster, agro-industrial cluster.*

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THE CHOICE OF PROMOTION TOOLS IN THE PROCESS OF THE ADVERTISING CAMPAIGN ORGANIZATION IN THE INTERNET

The relevance of the research problem due to the fact that currently the Internet performs not only communicative and entertaining functions, but acquiring the contours of the global electronic market, it becomes a united multifunctional business platform, which requires a special approach to the organization of advertising campaigns for products and services promotion. The goal of the article lies in the formation of the choice mechanism of the effective promotional tools in the process of organizing an advertising campaign in the network space. Based on experience synthesis of online advertising campaigns organization the authors described the placement of advertising at various communication platforms in the Internet. In this article for the first time the complex characteristic and variants of placing of advertising appeals in different areas of online advertising (display,

contextual, targeted advertising, advertising in social networks, on the pages of bloggers, e-mail-newsletter) were given. The article can be useful in the practice of Internet marketers and for the further research and development of methodology of the Russian enterprises products promotion on the Internet.

Keywords: *internet advertising, advertising campaign, contextual advertising, social networks.*

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THE DEVELOPMENT OF REGIONAL AGRARIAN AND INDUSTRIAL COMPLEX IN THE CONDITIONS OF COMPETITIVENESS

The aim of the article consists in the regularities assessment of development of regional agrarian and industrial complex in the conditions of competitiveness.

Object of research is the agrarian market of the Smolensk region.

Tabular, graphical and coefficient methods were used in the research. Using the system approach, and also considering the multi-level nature of influence of competitiveness assessment on regional social and economic processes, the competitiveness analysis technique of regional agrarian and industrial complex was developed.

Nowadays there is a situation when the competitiveness of agrarian and industrial complex at the regional level is the main point of agrarian sector upgrading, which, in turn, is characterized by amounts, nature and level of using of various resources, first of all, natural and labor, and also the infrastructure and capital.

This article can be useful to the regional executive bodies when forming the strategy of labor market complex development in the field of compliance of the offer of labor power to its demand.

Keywords: *competitiveness, agrarian and industrial complex, agrarian sector, modernization, agro-industrial business enterprises, region.*

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TRENDS OF DEVELOPMENT OF AGRICULTURAL MECHANICAL ENGINEERING IN RUSSIA

The aim of the article is to identify tendencies and prospects of agricultural machinery production in Russia. The object of research is the domestic market of the agrarian equipment. The tabular and comparison methods were used during the work on the article.

The market relations negatively affected the development of agricultural mechanical engineering in Russia. However, the taken measures of the state support of mechanical engineering promote its recovery from the crisis. With transition to the market relations the domestic indicators of the agrarian equipment production were catastrophically lowered. During this period different factors influenced the production of mechanical engineering entities: at the beginning of reforms – the production collapse because of destruction of economic relations, then the influence of the economic crises. Throughout all considered period – inflation, fall of solvent demand, increase in prices for accessories and fuel and so forth, lack of the sufficient volume of investment, the competition of foreign companies.

At the same time only having the developed mechanical engineering, the stabilization of the economic situation in Russia and sustained economic growth are possible. The necessity of studying of mechanical engineering development problems predetermined the relevance of the chosen subject.

Keywords: *industry, engineering, agriculture, government support.*

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THE BIOLOGICAL BACKGROUND OF MILITARISTIC TEHDEHCIES IN THE MODERN SOCIETY

The article provides the analysis of the biological, in other words, the instinctive foundations of the militant human behavior. The author shows that the various theories explaining the tendency of people to resolve conflicts by force are not complete without taking into account the data of modern biology. The findings of biologists testify about the aggressive nature of man, and many facts of the contemporary history confirm the ability of the latter to kill his own kind, acting in a planned and especially cynical manner. In its turn, the aggressiveness and militancy lead states to the excessive militarization which lays down a heavy financial burden on the citizens. In the end, it is impossible to responsibly claim that the main cause of war is only the social disorder and economic claims of certain groups or countries. Apparently the biological predisposition of people to the war has serious reasons. Therefore it is necessary to continue further research on the intersection of the Humanities and Natural Sciences.

Keywords: *military conflicts, ethology, sociobiology, biologization, militarism.*

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THE INFLUENCE OF SIMPLE TECHNICAL OBJECTS AND COMPLEX INFORMATION SYSTEMS ON THE HUMAN DIMENSION

In the work the urgent changing tendencies of ideas about the human dimension under the impact of the techno-social systems are regarded. The world becomes more complicated. The modern society is transformed under the influence of technically difficult things and the epistemic objects, changing our ideas about the materiality and promoting the virtualization of the culture. The computer significantly changes our ideas about the concept «machine» and it is quite possible to consider it as a symbol of the changed human dimension. The Present offers to describe the person and society by analogy with such difficult information object as the Internet. The dimension of the modern person and logician of his being are more and more determined by the information systems and products which they generate. The modern person turns from the subject influencing the social reality into the object which undergoes the contradictions generated by its new dimension.

Keywords: *information, dimension, complexity, equipment, person.*

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GENERAL NOTION OF THE WISDOM AS A METHODOLOGICAL BASE FOR UNDERSTANDING THE ESSENCE OF RUSSIAN IDEA AND THE PROCESS OF THE GLOBALIZATION

The article presents the research about the importance of the general notion of the wisdom for understanding the Russian idea and finding out the globalization fundamentals. Using the analysis, synthesis and comparison methods, the author studies the ideas of A.I. Podbereskin, V.N. Sagatovsky and A.V. Gulyga about the essence of the Russian idea. He comes to the conclusion that it is based on the notions reflecting the supreme values: eternity, beauty, kindness, truth, happiness and freedom. According to the author these notions, expressing the specifics of the general knowledge of the wisdom, may be opposed to the vague comprehension of both the Russian idea and the chaotic process of globalization. The author proves that the general notion of the wisdom may become a methodological base for the new world order foundation and it can open the right way, leading the consolidation of its reliability and justice.

Keywords: *general notion of wisdom, Russian idea, collegiality, unity, process of the globalization, reliability.*

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METHOD OF ASSESSMENT AND SELECTION OF TRAFFIC ORGANIZATION OPTION WHEN HOLDING LARGE-SCALE MASS ACTIONS

The article is devoted to the issues of traffic management during large-scale mass events. Particular attention is paid to the separation of traffic in accordance with the differentiation of the requirements for the transport service level of different categories of the movement participants. On the basis of the analysis of the dynamic models of movement, as well as the nature of the impact of the background flow and route vehicles on the large-scale events transport, we studied the characteristics of traffic flow, and defined criteria for assessing the effectiveness of the traffic organization. For the comparative analysis of the four options of the traffic organization we used simulation method (using Aimsun software system), with the further construction of regression mathematical model of the objective function parameter - the speed of transportation, depending on the load factor of the movement of the background flow, duration of a cycle and the relation of duration of the allowing signal to duration of all cycle of traffic light regulation.

Keywords: *traffic organization, large-scale mass events, load factor of the movement, speed of transportation.*

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DETERMINING THE NEED FOR PAINT AND VARNISH MATERIALS ON A PASSENGER TRANSPORT ENTERPRISE

Object: acquisition costs of paint and varnish materials (VM) for passenger transport companies can be attributed to the main, so you need to pay special attention to the consumption of these materials.

Goal: determining the need for paint and varnish materials, taking into account the influence of many factors such as the age structure of the Park, traffic accidents, and operating conditions, especially in the winter period and storage conditions of the rolling stock

Methodology: applied forecasting method for the calculation of the practical consumption of paint and varnish materials based on the theoretical consumption of materials, taking into account each significant factor (cause) irreversible losses of materials and number of layers applied to a particular item.

Results: the actual cost of paint and varnish materials (VM) for the passenger transport enterprise in rolling stock over 200 units, most of which (83%) this buses the GROOVE comprise 63,4 thousand rubles per year for the entire fleet of buses (averaged values of flow rate at colouring one bus the GROOVE (≈8÷10 kg). Lacquer is consumed in the same volumes as the paint.

Conclusions: correctly a definite need for paint and varnish materials (projected practical air flow) allows you to plan ahead for the costs of their acquisition. Also, the use of properly sized spray gun reduces the amount of sprayed paint.

Keywords: *coating materials, consumption, rolling stock, demand, factor, costs.*

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STUDY OF THE REGULARITIES OF PASSENGERS TRANSPORTATION BY PASSENGER TAXI

The article describes the results of the research of passengers transportation regularities by passenger taxi on the example of Orenburg city, taking into account the population and density of the route street road network in the residential districts of the city. The article confirms the earlier set thesis about the role of passengers transportations by passenger taxi, consisting in ensuring the unsatisfied with route transportations demand for transport mobility of the population. The aim of the study is to increase the quality of the passengers transportation via passenger taxi, to develop a mathematical model, which determine the number of taxi orders at the territory of the municipality, taking into account the population and density of the route street road network, and also the outcome of the experiment. The results of the article can be used in predicting the demand for passengers transportation by passenger taxi at the territory of the municipality.

Keywords: *number of taxi orders, population, density of the route street road network.*

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ASSOCIATIVE DRAWINGS CREATION TECHNOLOGY ON ENGINEERING GRAPHICS BASED ON THE THREE-DIMENSIONAL MODELING

The article describes the design and creation technology of a set of graphic tasks «The assembly drawing. Details», including assembly drawings, specifications to them, working drawings of parts included in the assembly, for practical exercises in engineering graphics for students of technical training programs by means of computer graphics on the basis of three-dimensional modeling in the KOMPAS-3D system.

The use during the learning process the educational and methodical editions, developed by the authors, containing a set of 2D models of assemblies (assembly drawings) and 2D models of details (working drawings), associated with their three-dimensional models in the system KOMPAS-3D on the basis of three-dimensional modeling, for practical trainings and laboratory works on the discipline «Engineering and computer graphics», which is taught to students of technical training programs; and the inclusion the disciplines of graphic cycle into the structure of educational and methodical complexes contribute to the formation of professional competences of students, development of their engineering thinking, allow to optimize the educational process on graphic disciplines.

The described technology of associative drawings creation can be used at the development and introduction of the didactic materials into the educational process and for the training of specialists, bachelors, undergraduates, postgraduates, and students of faculties of retraining and professional development.

Keywords: *engineering graphics, computer graphics, assembly drawing, details, model.*

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DEVELOPMENT OF TECHNIQUE FOR REDUCING THE TIME OF MACHINES FULL-SCALE THERMAL TESTINGS

The high cost of modern CNC machines and work time actualizes techniques reducing their testing duration. The article is aimed at developing techniques of machines thermal testing for constructing an automatic measurement system operating in real time mode. The main methods of the study were the approximation of the experimental thermal characteristics in time by polynomial models and mathematical analysis of their derivatives up to the third order. As a result of the research the criterion was formulated that precisely identifies the time of the thermal test termination; the improved methodology reducing the time of the thermal tests was proposed; the version, rational parameters and the complexity of the mathematical model for the methodology implementation were defined. The article may be useful in the thermal processes studying, building their models, the development of automatic measurement systems, as well as used in the production.

Keywords: *thermal tests, measurements, machines, approximation of experimental data, numerical differentiation.*

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ANALYSIS OF CAUSES OF PIPELINES FAILURES, TRANSPORTING HYDROGEN SULFIDE-CONTAINING OIL AND GAS MATERIALS

Analysis of characteristic failures of pipelines, transporting hydrogen sulfide-containing oil and gas materials, allows experts to make more educated and informed decisions in the design and operation of the equipment.

In this regard, it is possible to formulate the purpose of this article; it is to increase the safety of oil and gas equipment contacting with hydrogen sulfide-containing materials.

For failure analysis the methods of visual inspection, metallography, fractography, spectroscopy, and hardness measurement were used.

Through defect in a welded joint of drainage pipeline DN 300 at processing line has arisen from hydrogen sulfide assisted stress cracking (SC) from unacceptable defects in the welded connection after 14 years of operation.

The destruction of the standpipe of pressure tap-off DN 50 at the start-up camera of cleaning and diagnosis was caused by the hydrogen sulfide assisted stress cracking (SSC), arisen from influence of hydrogen sulfide-containing materials and the joint action of external variable loads with working pressure having defects in the welded connection just in 1 year.

Identified through local damages of the base metal of drainage pipelines Ø 108, Ø 114 and Ø 159 arose as a result of bio-corrosion, associated with the exposure to metal of sulfate–reducing bacteria (SRB). The life of the drainage pipelines before damage ranged from 2 to 6 years.

The analysis of characteristic failures of pipelines transporting hydrogen sulfide-containing oil and gas materials, allows us to draw the following conclusions. The failures of pipelines in welded joints occur mainly as a result of SC, due to significant content of hydrogen sulfide in process media. Violation of technology of welding and installation works (WIW) leads to the formation of defects in welding joints and increased hardness value of the metal, which significantly increases the risk of hydrogen-sulfide cracking. The presence in the produced water of sulfate-reducing bacteria and high content of hydrogen sulfide in the absence of effective inhibition and antibacterial treatment leads to the through pipeline damage.

Keywords: *pipelines, hydrogen sulfide-containing material, failure, corrosion, hydrogen sulfide stress cracking, sulfate-reducing bacteria, and hardness.*

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