

MEDICAL UNIVERSITY OF KARAGANDA

**PROGRAM OF ENTRANCE EXAMINATION
SPECIALTIES 6D110400 - PHARMACY**

KARAGANDA 2019

The program of entrance examinations for doctoral studies in the specialty 6D110400 - “Pharmacy” is compiled on the basis of a typical professional training program in the specialty “Pharmacy.

The developer of the entrance exam program - Department of Pharmaceutical Disciplines and Chemistry

1. The purpose of the entrance exam is to identify the degree of preparedness of entering the PhD - doctoral studies for the development of the educational program for the preparation of doctoral students in the specialty "Pharmacy" in accordance with the requirements of the state educational standard.

2. Tasks:

The entrance examination program includes the fundamental topics of the disciplines of biostatistics, management and marketing in pharmacy and solves the following tasks:

1. Assessment of the degree of theoretical development of the educational professional program

2. Assessment of the degree of theoretical development of related disciplines of the educational professional program

3. The content of the program of the entrance exam for the educational program "Doctoral" in the specialty "Pharmacy"

The entrance examination program includes questions of the main sections of the disciplines of biostatistics, management and marketing in pharmacy.

The content of the discipline "Biostatistics"

Introduction to biostatistics. Basic concepts of probability theory. Estimation of aggregate parameters. Fundamentals of testing statistical hypotheses. The study of the relationship between qualitative and quantitative characteristics. Basics of analysis of variance. Parametric and non-parametric criteria. The method of standardization, its meaning and application. Correlation analysis. Graphic images in a statistical study. The use of computer technology in the processing of statistical material. The use of measurement scales in biomedical experiment. Aggregated estimates. Comprehensive assessment. Analysis of the use of statistical methods in articles and dissertation research. The method of standardization, its meaning and application. Public health statistics. Health system statistics. Biomedical research statistics.

The content of the discipline "Management and marketing in pharmacy"

Introduction to pharmaceutical management. Management Theory. Control systems. Basics of state regulation in the field of pharmacy. Organizational models. Strategic management in pharmacy. Management as a management tool for a pharmacy organization. The head and the pharmacy organization. Management styles. Methods and models of decision making in pharmacy. Personnel management, personnel management. Quality management of pharmaceutical activities. Decision making process. Basics of office work in a pharmaceutical organization. Pharmaceutical marketing. Marketing management process. Forecasting the need for drugs. Pharmaceutical organization trade policy. Information support of pharmaceutical activities.

Approximate list of questions for the entrance exam for the doctoral program of the specialty “Pharmacy”

Discipline "Biostatistics"

1. Basic concepts and definitions of biostatistics
2. Analysis of biomedical data based on their graphical representation
3. Numerical characteristics of a random variable
4. Testing the hypothesis about the normal distribution of random magnitudes
5. Student's t-test for biomedical data analysis.
6. Evaluation of relative values in biostatistics
7. Confidence interval
8. The confidence interval of the general average
9. Confidence interval for the difference of the general average of two independent groups
10. Confidence interval for the difference of general averages of two dependent groups
11. Confidence interval of relative indicators
12. Nonparametric criteria for testing statistical hypotheses
13. Analysis of qualitative features. Contingency Tables
14. Correlation analysis
15. Linear regression
16. Dispersion analysis. Univariate Dispersive Method analysis
17. Method of standardized indicators
18. Survival analysis method

Discipline "Management and Marketing in Pharmacy"

1. Management: definition, description, concepts and terms “management”, “management”, “effective management”, “businessman”, “manager”, “entrepreneur”, “organization”.
2. Management systems, types of management schools. Organizational models. Strategic management in pharmacy. Management methods in pharmaceutical management.
3. Management decision concept. Management styles, characteristic. Modeling decision-making stages. Decision making methods, characterization
4. Personnel management - functions. Human Resource Management - Principles and Directions
5. Organization - concept, signs. Laws and principles of organization. Management as a management tool for a pharmacy organization.
6. Features and properties of the pharmaceutical organization. Organizational and legal forms of pharmacy organizations. The head and the pharmacy organization.

7. The labor collective of the pharmaceutical organization, the concept. Stages of formation of labor collectives, their characteristics. Structural division of labor in pharmaceutical organizations.
8. Marketing: definition, basic elements, principles, functions of marketing. The value of marketing for the subjects of the market. Characteristics of the concepts of "need", "demand", "consumption".
9. Value, essence, objects, directions and methods of marketing research. Market segmentation: the nature, value, purpose and objectives.
10. Features of planning in the marketing system. The process and stages of the organization of marketing services
11. Product promotion: the essence, the policy goals and objectives. Product Promotion Management. Advertising: the essence, value and types.
13. The concept of socio-ethical marketing in the field of pharmacy.
14. Features of pharmaceutical marketing Characteristics of the modern organizational structure of the marketing service of a pharmaceutical company.
15. The process of creating brands of drugs. Stages of creating brands of drugs. Brand strategy in the pharmaceutical organization.
16. Product life cycle: the essence of the life cycle concept, the life cycle phase, their characteristics, criteria for conducting marketing research.
17. Basic principles for determining the study of the demand for drugs. Demand generation system.
18. Factors that form the need for medicines, and their classification.

LITERATURE:

Recommended literature on the subject "Biostatistics"

1. Koichubekov B.K., Sorokina M.A., Bukeeva A.S., Takuadina A.I. BIOSTATISTICS in examples and tasks: Teaching method. allowance / - Almaty Evero LLP, 2012. - 80 pp .:
2. Petri, Aviva. Visual statistics in medicine: Textbook / A. Petri, K. Sabin; Per. from English .- M .: GEOTAR-MED, 2009, -144s.: Il.
3. Vukolov E.A. Fundamentals of statistical analysis: A practical work on statistical methods and operations research using the Statistica and EXCEL packages. - M .: FORUM: INFRA-M, 2004.-464s
4. Application of methods of statistical analysis for the study of public health and health care: Textbook. manual / Ed. V.Z. Kucherenko. - 2nd ed., Stereotype. - Moscow: GEOTAR-Media, 2005.-193 p.
5. Zhizhin K.S. Medical statistics: Proc. pos. - Rostov n / a: Phoenix, 2007.-151c.
6. Glanz Stanton. Biomedical statistics: Per.s English - M .: Praktika, 1999.-459c.
7. Sergienko V.I., Bondareva I.B. Mathematical statistics in clinical studies. - M .: GEOTAR-MED, 2001.-256 p.
8. Yunkerov V.I., Grigoriev S.G. Mathematical-statistical processing of medical research data. - SPb: Military Medical Academy, 2002. - 266 p. - 80

Recommended literature on the subject "Management and marketing in pharmacy"

1. Management and Economics of Pharmacy / Edited by VL Bagirova, M. : Medicine, Series: Educational literature for students of pharmaceutical universities and faculties. - 2004
2. Management and economics of pharmacy. Textbook. Under. ed. V.L. Bagirova - M. : Medicine. 2007
3. Management and health economics: studies. manual / Ed. A.I. Vyalkova / Vyalkov A.I., Kucherenko V.Z., Raizberg B.A. et al. - 3rd ed., ext. - M.: GEOTAR-Media, 2009. - 664 p.
4. Lozovaya GF, Lopatin P.V., Glembotskaya G.T. Management of the pharmaceutical organization: a training manual. - M. MCFER, 2000. - 192 p.
5. Bagirov V.L. Management and Economics of Pharmacy. - Moscow: Medicine, 2004.- P.490-614.
6. Loskutova E.E. Management and Economics of Pharmacy. Organization and management. - Moscow: ACADEMIA, 2003.
7. Mnushko Z.N., Pestun I.V. Theory and practice of marketing research in pharmacy. - X. : Publishing house NUPh, 2008. - 308c.
8. Mnushko Z.N., Dikhtyareva N.M. Management and marketing in pharmacy. - Kharkov: ed. NFIU "Golden Pages". - Part 2. - 2008.
9. Meskon M., Albert M., Hedouri F. Fundamentals of management. - Moscow: Business, 2001