

Entrance tests

The test papers for the entrance exam contains 3 questions. Each question from one section.

1. SECTION: RESEARCH AND METHODOLOGY OF STANDARDISATION (Question 1 of the examination paper)

- Basic concepts and definitions of standardisation. Principles and tasks of standardisation. The role of standardisation in performance management.
- Methodological basis of standardisation. Standardization objects and regulatory documents on standardisation.
- Requirements for the content of the underlying general technical product and service standards.
- International standardisation. The structure and working principle of ISO, IEC, GAT.
- Regularities in the formation of measurements, measurement errors. Keeping the metrological support.
- The state system for ensuring the uniformity of measurements.

2. SECTION: BASICS OF THE PRODUCT AND SERVICE MANAGEMENT QUALITY (Question 2 of the examination paper)

- Basic concepts, modern concepts and definitions in the field of quality management. Demand. Products. Value in use. A consumer and his/her need. The competitiveness of products and services. Quality management. Quality control. Quality assurance. Quality improvement.
- The factors and means of effective quality management. Product quality indicators and their classification. Methods for assessing the quality level.
- The technical and economic indicators of product quality. Indicators of the environmental protection of energy and material intensity.
- Quality measurement. Qualimetric models. Methods for measuring quality indicators, both instrumental and expert.
- Quality measurement. Methods for measuring quality indicators, the combinatorial method.
- The evaluation scales of names, order, intervals and relationships. Expert methods of quality assessment.
- Promotion of product and service quality at the product life cycle stages. The main factors affecting the quality of products and services. Quality control.
- Quality control arrangements. The types of quality control used to identify defects in the manufacturing process.
- The system approach in quality management.
- The characteristics of quality management methods in accordance with the international ISO 9000 standards. International product quality standardisation organisations.
- The scope and structure of ISO 9000.
- Principles of the quality system (ISO 9004).
- Contents of GOST R ISO 19011-2012 Guidelines for the Audit of Management Systems (ISO 19011: 2011).
- The role of marketing in the development of product and service quality requirements.
- The organisational structure of the quality system. Responsibilities and authorities in the quality system. Resources and staff. The role of top leaders. The role of the human factor in the quality system.
- The quality system documentation. The quality policies. The quality guidelines, quality programme, working procedures and procedure documentation.
- The internal audit (first-party audit) of the quality system. Analysis and evaluation of the quality system by management. The economic evaluation of the quality system.
- Two models for calculating the cost of quality assurance. The economic efficiency of quality systems.
- Process approach to managing an entity. Content and objectives of the process approach. Business processes of an entity.

- Process approach to managing an entity. Identification, determination and classification of processes. Process network management. The relationship between quality management and business process reengineering.
- Registration of quality data. The use of modern information technologies in quality systems. Quality management systems with the information series, their configuration and operation.
- Methods and means of providing information protection in computer systems. The main methods of violation of information confidentiality, integrity and accessibility.
- Quality management tools and methods. The statistical methods in quality management. The sources of statistical information, processing of statistical observations; Absolute and relative values, average values, series of dynamics, product quality statistics. The theory of samples and selective control and the statistical regulation of production.
- Use of quality 'tools' seven typical methods of Ishikawa and five new tools.
- The method for analysing failures and the extent to which they affect quality characteristics (FMEA analysis), the quality function development method (QFD analysis).
- P-D-C-A cycle. The concepts of continuous improvement and breakthrough improvement.
- The classification of quality-related costs. The cost planning principles. Evaluation, accounting and analysis of the cost of quality. Methods for calculating the cost of quality, i.e. costing, determining costs due to a low level of quality.
- Analysis and calculation of the cost of quality. Two models for calculating the costs associated with quality assurance.
- Total Quality Management (TQM). The universal quality concept throughout the company. The universal quality management, its criteria and philosophy of continuous quality improvement.

3. SECTION: BASIS OF CERTIFICATION (Question 3 of the examination paper):

- Basic concepts and definitions. The goals and principles of certification.
- The certification system and its members.
- The GOST R certification system, the principles of construction and structure.
- Certification systems for homogeneous products.
- Mandatory and voluntary certification.
- The product safety and environmental performance characteristics. The choice of a certification scheme.
- The organisation and conduct of work on the certification of quality systems. Basic stages and procedures. The characteristics of verification and evaluation objects for the certification of quality systems.
- The organisation of the certification process at an enterprise.
- The register of certified quality systems. The regulatory framework of the Register.
- Conditions for the issuance and cancellation of a certificate for a quality system. Qualification criteria for expert auditors. Basic requirements to the body in charge of the certification of quality systems, products and industries.
- The main provisions of the Russian Accreditation System (ROSA) for certification bodies in the GOST R certification system.
- The international certification and accreditation practices. The integration of certification activities.
- The service certification and its features. Tangible and intangible services. The certification of the service delivery process.
- The certification of the service quality system.
- The certification of a service enterprise.
- Operations for the certification of tangible and intangible services.
- The content of regulatory documents used for mandatory certification.