



MINISTRY OF EDUCATION AND  
SCIENCE OF THE REPUBLIC OF KAZAKHSTAN

B.A. Urmashev

# Information- communication TECHNOLOGY

Almaty, 2016

UDC 004.4  
LBC 32.973.202я73  
U 60

*Approved by the Ministry of Education and Science, Republican scientific and practical center "Textbook"*

**Reviewers:**

**Amirgaliyev Y.N.**, Doctor of Technical Sciences, Professor, Head of the Department of Computer Engineering at the University named after Suleyman Demirel;

**Mansurova M.E.**, Candidate of Physical and Mathematical Sciences, Associate Professor, Department of Computer Science of KazNU named after Al-Farabi;

**Makashev Y.P.**, Candidate of Physical and Mathematical Sciences, Associate Professor, Department of Computer Science of KazNU named after Al-Farabi.

**Urmashev B.A.**

**U 60 Information-communication technology:** Textbook / B.A. Urmashev. – Almaty, 2016.

**ISBN 978-601-7940-02-7**

This book outlines the materials to obtain fundamental knowledge and concepts of the basics of modern directions of information and communication technologies. The main objectives of the book are the formation of concepts of computer science as a fundamental science and a universal language of the natural-scientific, general technical and professional disciplines, as well as the acquisition of abilities and skills of application of means and methods of Informatics and Information Technology for applied professional tasks with personal computers, local area and global computer networks. The offered textbook is an inestimable teacher assistant in planning and conducting studies on themes and the perfect guide for classroom and extracurricular work of students.

The manual is drawn up in accordance with the model program of discipline and intended for students of all specialties.

UDC 004.4  
LBC 32.973.202я73

**ISBN 978-601-7940-02-7**

© B.A. Urmashev, 2016  
© Association of higher educational institutions of Kazakhstan, 2016

**B.A. Urmashev**

**Information-communication technology**

*Textbook*

Order №68

Format 60×90<sup>1/16</sup>. Offset paper. Font type “Times New Roman”.  
Volume 25.5 p.p. Edition 1700 pcs.

The printing house “Bookprint” LLP

Tel.: 386-58-80  
sd.bookprint@mail.ru