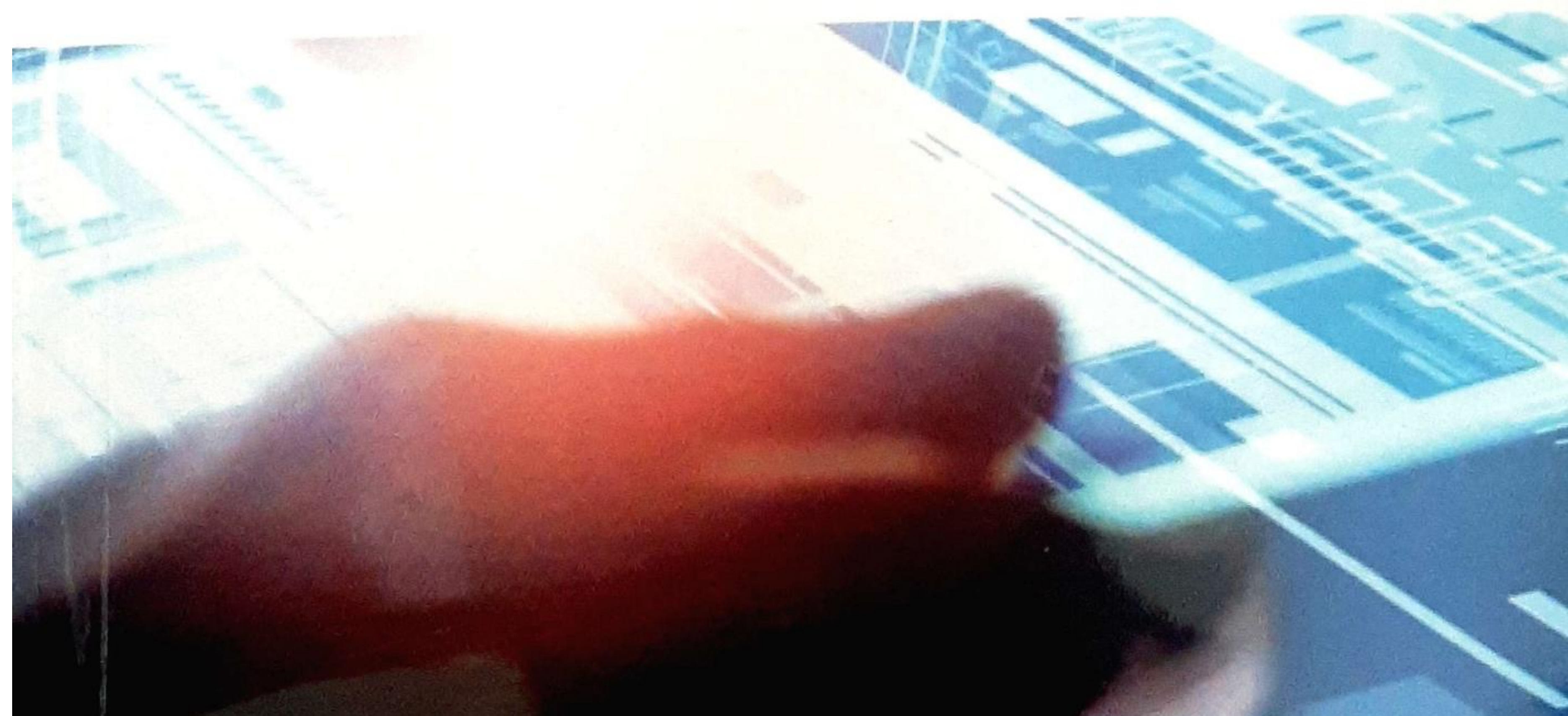


ISSABAYEVA S. N., TYULEPBERDINOVA G.A.

INFORMATION AND COMMUNICATION TECHNOLOGIES



**EGYPTIAN UNIVERSITY OF ISLAMIC CULTURE
NUR-MUBARAK**

ISSABAYEVA S. N., TYULEPBERDINOVA G.A.

**INFORMATION AND COMMUNICATION
TECHNOLOGIES**

Almaty
2020
Nur-Mubarak University

UDC 004.(075.8)
LBC 32.973Я 73
I 10

*Recommended for publication by the decision
of Egyptian University of Islamic Culture Nur-Mubarak
Protocol №6 dated 10.02.2020.*

Reviewers:

Kabdrakhova Symbat - Senior Lecturer Department of "Computer Science", Al-Farabi Kazakh National University, candidate of physical and mathematical sciences;

Baimuldina Nazira - Associate Professor Department of "Information Systems", Al-Farabi Kazakh National University, candidate of pedagogical sciences

Issabayeva S.N., Tyulepberdinova G.A.

I 10 Information and communication technologies: Education manual/
Issabayeva S.N., Tyulepberdinova G.A.- Almaty: Egyptian University of Islamic Culture Nur-Mubarak, 2020. – p. 282.

ISBN 978-601-7071-91-2

The education manual examines the theoretical materials for the course of information and communication technology according to the standard program in the classes in this discipline, and acquire skills and competencies that will allow the use of modern information and communication technologies in various fields of professional activity. The course consists of 15 theoretical materials and 15 laboratory works; The topics of these works cover all sections of this discipline. designed for students, teachers and high school students.

UDC 004.(075.8)
LBC 32.973Я 73

*Education manual was proposed to be published by the
Educational and Methodological Association of the
Egyptian University of Islamic Culture Nur-Mubarak.*

ISBN 978-601-7071-91-2

© Issabayeva S.N., Tyulepberdinova G.A., 2020

TABLE OF CONTENTS

INTRODUCTION.....	3
AN ICT ROLE IN KEY SECTORS OF DEVELOPMENT OF SOCIETY. STANDARDS IN THE FIELD OF ICT.....	6
INTRODUCTION TO COMPUTER SYSTEMS.	
ARCHITECTURE OF COMPUTER SYSTEMS.....	15
OPERATING SYSTEM AND SOFTWARE.....	33
HUMAN-COMPUTER INTERACTION	43
DATABASE SYSTEMS	54
ANALYSIS AND DATA MANAGEMENT	59
NETWORKS AND TELECOMMUNICATIONS	67
CYBERSECURITY	85
INTERNET TECHNOLOGIES	98
CLOUD AND MOBILE TECHNOLOGIES	112
MULTIMEDIA TECHNOLOGIES	124
SMART TECHNOLOGY	133
E-TECHNOLOGIES. ELECTRONIC BUSINESS.	
ELECTRONIC TRAINING. ELECTRONIC GOVERNMENT.....	141
INFORMATION TECHNOLOGIES IN THE PROFESSIONAL SPHERE. INDUSTRIAL ICT.....	155
PROSPECTS OF DEVELOPMENT OF ICT	163
LABORATORY WORKS.....	171
BIBLIOGRAPHY.....	180

Issabayeva Sulu Nagashibaevna
Tyulepberdinova Gulnur Alpyskyzy

**.INFORMATION COMMUNICATION
TECHNOLOGIES**

For print:23.01.2020.
Shape: 64x84 1/16. Offset paper.
Conventional printed sheet 17,6.
Circulation: 100 copies.
Order number: 12.
Typography «OHOH».