«Mukhamedzhan Tynyshpayev ALT University» JSC

Department of Information and communication technologies

APPROVED
Chairman of the AC ALT University
_____ S. Amirgaliyeva

Decision of the Academic Council of ALT University
dated «30» 05 2024 (protocol No.9)

ADMISSION EXAM PROGRAM (INTERVIEW) FORAPPLYING TO POST-GRADUATE EDUCATION PROGRAMS

Educational program
7M06233- Radio engineering, electronics and telecommunications, profile direction

Almaty, 2024

Interview questions was discussed and received a positive decision at the meeting of the Department of «Information and communication technologies», Protocol No. 8 of April 18, 2024.

Head of the Department «ICT» _____ **D. Kassymova**

Interview questions was reviewed and recommended at the meeting of the Council of the Institute of «Automation and telecommunications», Protocol No. 5 of April 26, 2024.

Chairman of the CI «AT» _____ **A. Toigozhinova**

CONTENT

		page
1	The purpose of the entrance exam for a group of educational programs	4
2	Regulations for conducting an entrance exam (interview) for a master's program in a group of educational programs	4
3	Interview assessment criteria	4
4	Interview questions	5
5	Recommended reading	6
5.1	Main literature	6
5.2	Additional literature	6
	Annex 1	7

1. The purpose of the entrance exam for a group of educational programs

Admission of foreign citizens to study in to JSC «ALT University named after Mukhamedzhan Tynyshpayev» on paid basis is carried out based on the results of an interview conducted by the admissions committee During the calendar year.

Goals entrance exam (interview) for the Educational program 7M06233-Radio engineering, electronics and telecommunications, is the definition of theoretical and practical preparedness of an applicant for a master's degree, level of compliance with knowledge, skills and skills to the requirements of master's studies in the field of preparation.

2. Regulations for conducting an entrance exam (interview) for a master's program in a group of educational programs

The duration of the entrance exam (interview) is 30 minutes, during which the applicant is interviewed and answers questions from a commission approved by the President-Rector, consisting of 3 members.

At the applicant's choice, entrance The exam (interview) is taken in Kazakh, Russian or English.

Persons who did not appear at the entrance exam (interview) for a valid reason (illness or other circumstances, confirmed by documents), are allowed to participate on other days in accordance with the approved interview schedule.

The interview is conducted in person/remotely with the mandatory use of video communication. The video recording is stored in the archive for no more than three years.

During the interview process, to clarify the knowledge of the candidate/applicant, additional questions may be asked both on the content of the interview question and on any sections of the subject within the program.

The interview protocols are submitted to the executive secretary of the admissions committee immediately after the completion of the interview.

All controversial issues related to the interview are resolved in accordance with the established legislative procedure of the Republic of Kazakhstan.

3. Interview assessment criteria

The interview procedure is documented in a protocol of the established form, in the form according to Appendix No. in which are fixed questions to incoming and interview results.

Evaluation of candidates/applicants is carried out according to the system adopted by the University according to Table 1. Passing the point is the commission's decision on the sufficient level of candidates/applicants for further training master's degree Each interview decision is signed by the committee members.

Protocol interviews enrolled in the university is kept in their personal files.

Table 1 – Interview assessment criteria

Criteria	Descriptors	Level
Motivation	Argumentation of motives for doctoral studies in the chosen EP and admission to a specific university. Vision of prospects for professional and personal growth upon completion of training	sufficient/not sufficient
Research competence	Possession of the research skills and experience necessary for research activities in a specific subject area	sufficient/not sufficient
Creativity	Non-standard thinking, creative and alternative approaches to solving problems and situational tasks	sufficient/not sufficient
Communication skills	The ability to briefly, representatively, logically, and reasonably express one's point of view, make generalizations and conclusions. Language skills	sufficient/not sufficient
Commission decision		**sufficient/not sufficient**

4. Interview questions

1. The role of telecommunications in the information technology system. Define "information", "messages" and "signals".

2. What characterize the main parameters of the signals: duration, spectrum width and dynamic range? Give characteristics to speech (telephone), broadcast, television, telegraph, and data transmission signals.

3. Provide a schematic representation of the communication system. Explain the principle of operation.

4. Provide a schematic representation of a multichannel transmission system. Explain the principle of operation.

5. What kind of interference and distortion are there in the channels?

b. Describe the methods of encoding, decoding, modulation and demodulation of signals.

7. How is continuous
messages digitally encoded?

8. How can signals be described by vector representation?

9. What is the classification of messages, signals and interference

10. Specify the areas of application of S and cables in railway transport. (give an example)

11. Explain the VSP model and compare it with radio/wireless/ wired LAN

12. Stages of the manufacturing technology.

13. What is variance? Name the types of variance

14. What refers to the optical characteristics of an optical fiber?

15. What are the mechanical characteristics of optical fiber?

5. Recommended reading

5.1 Main literature

1. Fiber-optic communication paths. A study guide. Kuzembayeva N. S., Almaty, Kazak, 2018 -106 P.

2. Ways of communication. A study guide. Kusambayeva N. S.- Almaty: KazATK, 2020. - 144 p.-144 p.

3.Fiber optic distribution system. Textbook. G. Boyko, A. Kshalova, V. Eirikh; Recommended by the Ministry of Education and Science of the Republic of Kazakhstan to organizations of technical and vocational education. - 3 heads.full., edited.- Astana: Folio, 2016. - 144 P. - (vocational education).

4. Fiber-optic communication paths. Methodological manuals for the course work. Kusambayeva N. S., Almaty, Kazka, 2014 5. Optical communication cables. E.L. Portnov, M.: Hotline – Telecom, 2014.

5.2 Additional literature

1. Design, construction and operation of the fiber optic network. Textbook. V.I. Efanov. Tomsk State University of Control Systems and Radioelectronics. Tomsk, 2015

2. Optical communication cables and passive components of fiber-optic communication lines. E.L. Portnov. M.: Hotline – Telecom, 2018

3. Fiber-optic communication lines. R. Freeman, M.: Technosphere

4. Fiber-optic communication lines and telecommunication transmission systems in railway transport N.F. Semenyuta, P.M. Bui. Publisher and printing design Belarusian State University of Transport - Gomel 2017

5. Fiber-optic technology. Practical guide. V.N. Tsukanov, M.Ya. Yakovlev.- 3rd ed. - Moscow:Vologda: Infra-Engineering, 2018.- 304 p.