

**JSC « ALT Mukhametzhah Tynyshbayev University »
Department of " Motor vehicles and life safety "**

**Questions for foreign citizens entering
the Master's program in groups of educational programs
"7M07147 / 7M07148 - Cars and road machinery"**

APPROVE
Chairman of the ALT University AC
S. Amirgaliyeva
Decision of the Academic Council of
ALT University
« 30 » 05 2024 year (protocol No 9)



Interview questions

1. Purpose and general design of the internal combustion engine.
2. Classification of automobile engines.
3. What mechanisms and systems does a piston engine consist of?
4. Estimated parameters of an internal combustion engine.
5. Characteristics of the external speed of the internal combustion engine.
6. Determine the working volume of the cylinder and the engine, the total volume of the cylinder, the compression ratio.
7. Describe the operating cycle of the clock engine.
8. Indicator diagram of the clock engine.
9. Purpose, general structure and principle of operation of the KSM.
10. Particle compounds, classification
11. Couplings, classification
12. Classification of machine parts
13. Cylindrical gears, classification and calculations
14. Screw gears, classification and calculations
15. Friction gears, classification and calculations
16. General characteristics and grouping of gears
17. Gear settings
18. Belt drives, classification and calculations
19. Fundamentals of machine assembly and design
20. Shafts and axles, classification

Acting Head of the Department

« Motor vehicles and life safety »

G.T. Naimanova

Interview questions was reviewed and recommended at the meeting of the Council of the Institute of «Transport Engineering», Protocol No. 5a of May 27, 2024.

Chairman of the CI «Transport Engineering»

Sh.A. Abdreshov

JSC « ALT Mukhametzhan Tynyshbayev University »
Department of "Rolling stock"

Interview questions for foreign citizens entering
the Master's program in the educational program
"7M07145 / 7M07146 - Rolling stock of railways"



Interview questions

1. Operation of transport equipment using alternative fuels.
2. The device of the freight car. Purpose of the main structural elements. The main technical characteristics.
3. The device of the passenger car. Purpose of the main structural elements. The main technical characteristics.
4. The device of the locomotive. Purpose of the main structural elements. The main technical characteristics.
5. The device of an electric locomotive. Purpose of the main structural elements. The main technical characteristics.
6. Classification of locomotives and wagons by purpose, types of traction and technical characteristics.
7. Technical requirements for the chassis of locomotives and wagons.
8. Purpose and arrangement of electrical equipment of locomotives and wagons.
9. Organization of maintenance and repair of locomotives and wagons.
10. Fitting the rolling stock into the track in curved sections of the track.
11. Braking equipment of railway rolling stock. Basic requirements.
12. Organization of maintenance of transport equipment abroad. Advanced foreign experience in the service of transport equipment.
13. The influence of various factors on the fuel efficiency and electric energy of the locomotive.
14. Describe the types of failures of transport equipment on a specific example (diesel locomotive, electric locomotive, wagon).
15. Reliability of rolling stock en route.

Interview questions was discussed and received a positive decision at the meeting of the Department of «Rolling stock», Protocol No. 9 of May 13, 2024.

Head of the Department
«Rolling stock» _____

G.K. Ashirbayev

Interview questions was reviewed and recommended at the meeting of the Council of the Institute of «Transport Engineering», Protocol No. 4a of May 27, 2024.

Chairman of the CI «Transport Engineering» _____

Sh.A. Abdreshov