«Mechanics and Machines»
Test 2

Task 1

1. You are a cleaning robot developer. You know proposed characteristics of robot inertia, and you should choose the motors for it. Robot kinematics is 2 wheel robot, with 2 supports.

   Explain your steps for choosing the motor.

Task 2

1. What the difference between rolling friction and sliding friction?

Task 3

1. What types of synthesis do we have? What the main difference between them?
2. Propose the problem of structural synthesis and the steps what should you do for solving it?
3. What the difference between function generation and trajectory generation synthesis problems?

Task 4

1. Bearings. Types. Prof and cons. How to mount and dismount them. The idea besides locating and floating bearings.
2. Screw types. Type of drills. Type of holes. How to distinguish them on a blueprints?

Task 5

1. What types of permanent connections do you know (at least 4)? Examples. Benefits and withdraws
2. What types of detachable connections do you know (at least 4)? Examples. Benefits and withdraws

Task 6

1. Types of manufacturing. At least 1 example for each type. Prof and cons.