**The preparation 2 for the short tests about Mechanics A, B and C**

**1. Use the words from the box in the right position in the sentences:**

| | | | | |
|---|---|---|---|---|
| **geometry** | **properties** | **acceleration** | **motion** | **analysis** |

Statics is the branch of mechanics that is concerned with the _____of loads (force and torque, or "moment") acting on physical systems that do not experience an _____, but rather, are in static equilibrium with their environment.

Kinematics is a subfield of physics, developed in classical mechanics, that describes the _____ of points, bodies (objects), and systems of bodies (groups of objects) without considering the forces that cause them to move. Kinematics, as a field of study, is often referred to as the "_____ of motion" and is occasionally seen as a branch of mathematics.

In classical mechanics, analytical dynamics, or more briefly dynamics, is concerned with the relationship between motion of bodies and its causes, namely the forces acting on the bodies and the _____ of the bodies, particularly mass and moment of inertia.

**2. Write the right word in an empty space in the sentence:**

1. _____ is a subfield of physics that describes the motion of points, objects, and groups of objects without considering the forces that cause them to move.

2. _____ is the branch of mechanics that is concerned with the analysis of loads (force and torque, or "moment") acting on physical systems that are in static equilibrium with their environment.

3. _____ is concerned with the relationship between motion of bodies and its causes.

**3. Write:**

Fluid dynamics is divided into:

1. _____

2. _____
3. _____
4. _____

**4. Match the word with its definition:**

| | |
|---|---|
| 1. | rigid body dynamics |
| 2. | fluid dynamics |
| 3. | hydraulics |
| 4. | hydrostatics |
| 5. | compressible flow |

| | |
|---|---|
| A | is the branch of fluid mechanics that studies "fluids at rest and the pressure in a fluid or exerted by a fluid on an immersed body". |
| B | studies the movement of systems of interconnected bodies under the action of external forces. |
| C | is a subdiscipline of fluid mechanics that describes the flow of fluids—liquids and gases. |
| D | is the branch of fluid mechanics that deals with flows having significant changes in fluid density. |
| E | is a technology and applied science using engineering, chemistry, and other sciences involving the mechanical properties and use of liquids. |

Answers:

| | |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |