

Machine parts and mechanisms

Test for Lectures 1-4

1. Describe the function of joints in mechanical engineering

A: Machine parts (components) whose main function is always to "couple" parts of a technical product in combination with another mobility function:

2. Characterize screw and threaded connections.

A: See presentation chapter 2.1.1

3. Characterize the connection with a pin

A: Easily removable joints by means of a cylindrical pin, which is fitted with a snug fit in the openings in the coupled portions, so that the coupled portions TS are rotatably movable about the pin axis.

4. Characterize the joints with pins

A: Fixed (ie immovable) releasable connections by (cylindrical or conical) pins which are firmly inserted in (transverse) holes in the connecting parts or in (longitudinal) holes between the connecting parts.

Test for Lectures 5-8

1. Characterize the joints with tongues and wedges

A: Easily detachable connections with pins or wedge-shaped wedges (for beveled wedges on one of the surfaces) which are inserted in longitudinal recesses or (exceptionally) transverse bores of corresponding shape in the parts to be joined.

2. Basic distribution of the pins

A: - fixed

- exchangeable and free

- segmented (woodruff)

- other forms - according to the relevant ČSN

3. Characterize the seams

A: Easily disassembled joints by interlocking straight grooves (teeth, tongues) formed on the parts to be joined.

4. Characterize the pressed joints

A: Hard (ie immovably connected during operation) joints to be dismantled according to the principle of permanently elastic pre-stressing of the parts to be joined by overlapping in their contact surface (arbitrary shape).

5. Characterize the elastic joints

A: Machine parts (organs) whose main function is to absorb, store and recharge mechanical energy according to the principle of elastic deformation of the material.

Test for Lectures 9-12

1. Describe the function of the shafts

A: The shaft is a machine part with a cylindrical shape, with which rotary movements and mechanical work are implemented. The shaft may be equipped with gears, sprockets, pulleys, pulleys, impellers, clutches, brake holders and other rotating and non-rotating parts such as cams. Shafts can be divided into two groups depending on function and load - bearing shafts and moving shafts.

2. Name the types of drive shafts

A: Depending on the method of use and shape, we divide the drive shafts into:

- Normal
- Hollow out
- grooved
- Crank
- Flexible

3. Characterize plain bearings

O: slide bearings in which a lubricant layer (the so-called hydrodynamic wedge) is formed by the relative movement of the sliding surfaces (formation of a wedge gap). During acceleration and deceleration, therefore, so-called boundary friction occurs with the onset of the event. End of movement with dry friction.

4. Characteristic and structural characteristics of bearings in rolling bearings

A: Rolling bearings with a rolling friction principle, which normally use a separately manufactured rolling bearing component

