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| Resultado de imagen para listal talca | **Bearings (Mechanical use)** | |
| Name |  | |
| Grade: Tercero y Cuarto Medios 2020 | | Date Abril 2020 |
| Total score | | Student’s score |
| Objective: Comprender informacion utilizando conocimiento previo del ingles en texto simple y claro con una postura personal y critica. | | |
| Teacher . Miss Patricia Jara Céspedes | | |

**Bearings** are machine elements that allow components to move with respect to each other. Bearings are used to support large skyscrapers to allow them to move during earthquakes, and bearings enable the finest of watches to tick away happily. Without bearings, everything would grind to a halt, including people, whose joints are comprised of sliding contact bearings!

There are two types of bearings, contact and noncontact. Contact-type bearings have mechanical contact between elements, and they include sliding, rolling, and flexural bearings. Mechanical contact means that stiffness normal to the direction of motion can be very high, but wear or fatigue can limit their life.

Non-contact bearings include externally pressurized and hydrodynamic fluid-film (liquid, air, mixed phase) and magnetic bearings. The lack of mechanical contact means that static friction can be eliminated, although viscous drag occurs when fluids are present; however, life can be virtually infinite if the external power units required to operate them do not fail.

Each type of bearing has its own niche application area, and thus design engineers must be familiar with different types of bearings, and their applications and limitations.

**I- Which suggested answers are correct (there may be more than one, or none)?**

1. Preload is the process by which a bearing is first loaded to seat it, and then unloaded before it is put into operation: **True False**

2. Preload is typically obtained by applying a portion of its maximum load when it is installed using a mechanism that will maintain the preload over the life of the bearing:

**True False**

3. Preload is often obtained by forcing one set of bearings against another: **True False**

4. Preload can be maintained more constant, even when temperature changes, by using a soft spring to load one set of bearings against another: **True False**

5. In general, bearings must always be preloaded by some means if they are to achieve best performance: **True False**

6. Bearings preloaded by a soft spring have low stiffness in the direction of the spring: **True False**

7. Simple models of stiffness and friction torque can help a designer make an intelligent decision as to what type of bearing to use: **True False**

8. Sliding contact bearings should always be designed with clearance to prevent them from binding**: True False**

9. Sliding contact bearings should be used whenever possible for linear or rotary motion to reduce costs: **True False**

10. Sliding contact bearings often provide for adequate load capacity and motion accuracy, so one should not always assume ball bearings are best: **True False**

11. Sliding contact bearings can be preloaded if the preload means spring constant is significantly lower than the primary load support path**: True False**

12. Jewel bearings are used primarily in watches and jewelry and rarely seen in machines or instruments: **True False**