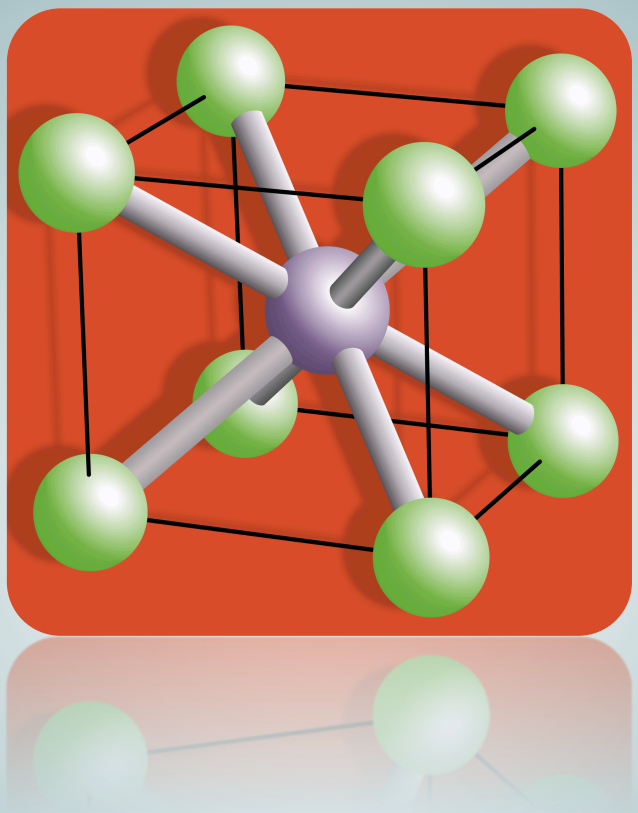
Materials

Test 01. Topic 1 - Topic 3



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1st Test MATERIALS. L1-L3		Nº	Mark
ACADEMIC YEAR:	Date:		
Surname:	Name:		

Shade the correct box considering that, at least, one of them is valid. **(10 minutes)**

1.- The elastic strain obtained on applying a stress to a material
- ☐ has dimensions of length
- ☐ is non-permanent once the stress has ceased
- ☐ is inversely proportional to the stress
- ☐ is dimensionless

2.- Poisson's ratio
- ☐ is usually expressed as a percentage
- ☐ is the ratio of transverse strain to tensile strain
- ☐ can be negative
- ☐ can only be used during elastic deformation

3.- The elastic modulus or Young's modulus is
- ☐ represented with the letter E
- ☐ high in flexible materials
- ☐ measured in units of stress
- ☐ dimensionless

4.-Steel is more resistant than aluminium because the first one:
- ☐ has higher elastic modulus
- ☐ shows lower yield strength
- ☐ is less deformable
- ☐ has higher yield strength

5.-A glass is
- ☐ partially crystalline
- ☐ amorphous
- ☐ monocrystalline
- ☐ crystalline and, therefore, transparent

6.-The number of atoms per unit cell in the FCC structure
- ☐ are 2 atoms
- ☐ are 74%
- ☐ is determined based on the volume of the atoms
- ☐ none of the previous ones

7.-Silica, SiO_2,
- ☐ displays allotropic forms at different temperatures
- ☐ amorphous is quartz
- ☐ crystalline is transparent
- ☐ none of the previous ones

8.-In a crystal structure, we denote by
- ☐ {u v w} the lattice directions
- ☐ (h, k, l) the lattice planes
- ☐ [u v w] the families of directions
- ☐ {h k l} the families of planes

9.-The [110] direction in a BCC unit cell:
- ☐ is perpendicular to the [001] direction
- ☐ crosses the centre of 3 atoms
- ☐ is perpendicular to one of the edges of the cube
- ☐ none of the previous ones

10.-Polymers always present
- ☐ random arrangement of molecular chains
- ☐ covalent bonds between carbon atoms
- ☐ long chain structure
- ☐ low Young's modulus.