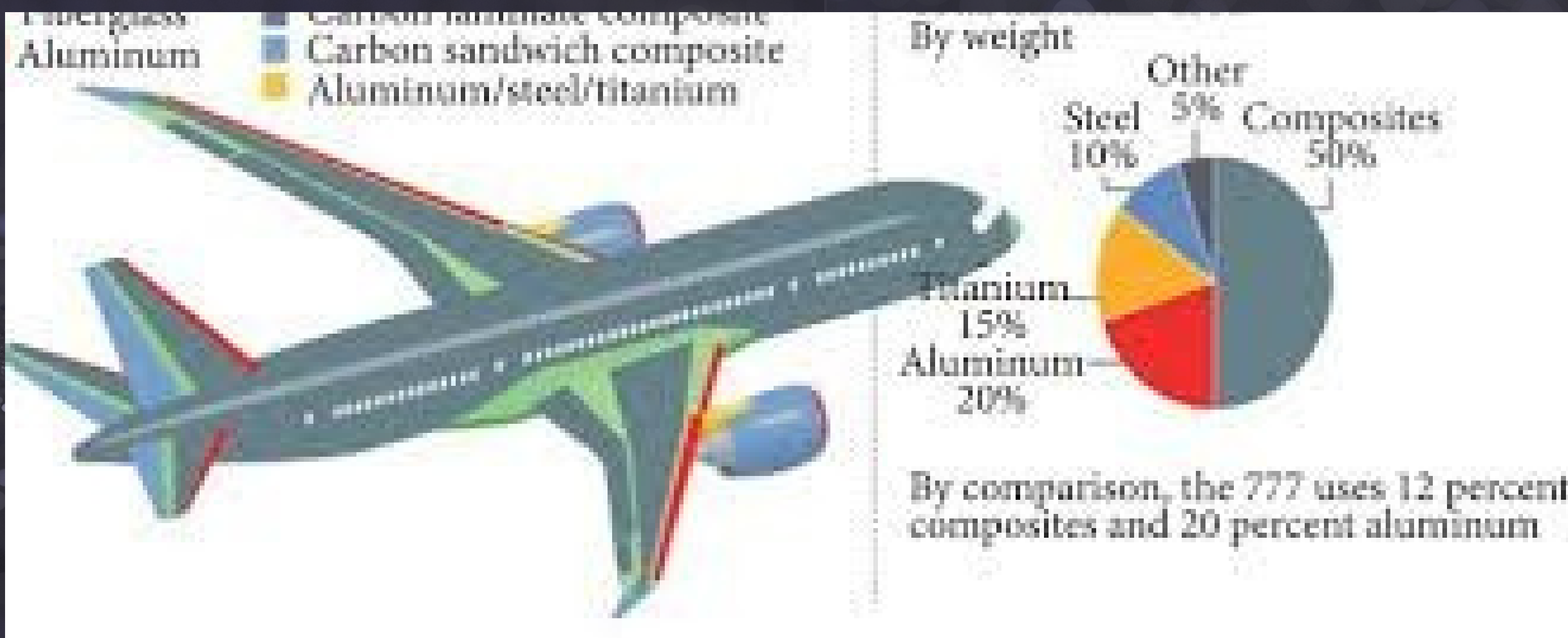
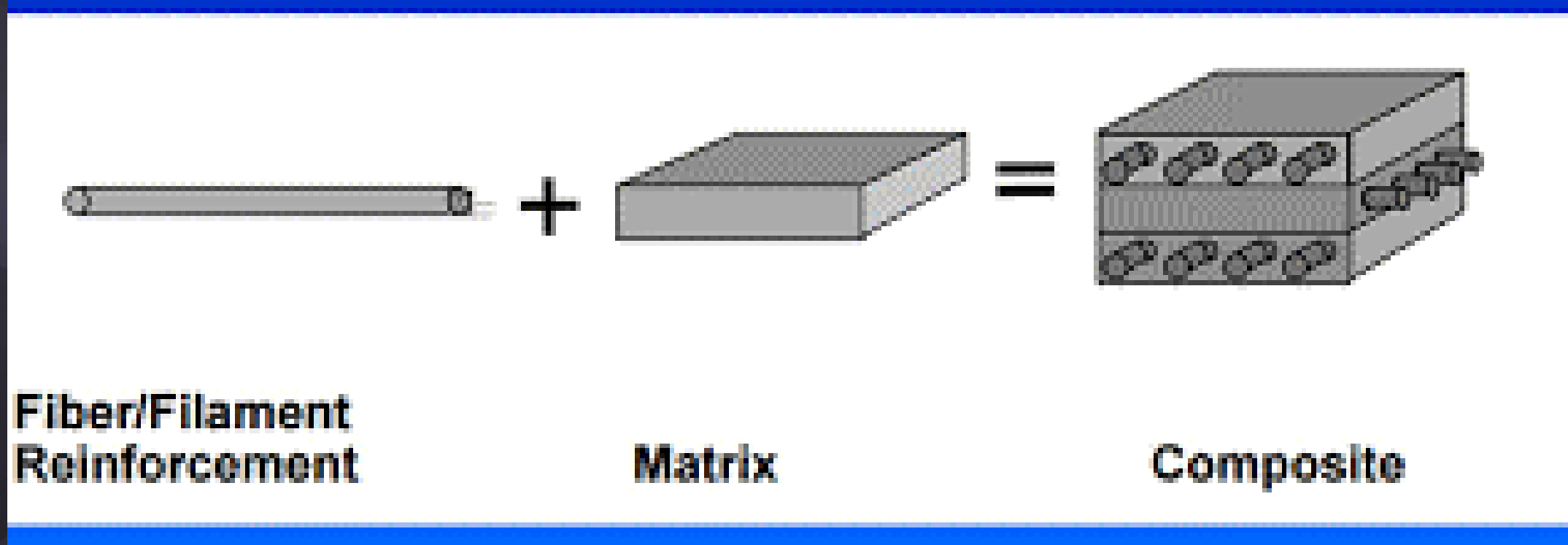


COMPOSITE

A composite is a material consisting of two (or more) different materials bonded together, one forming a 'matrix' in which are embedded fibers or particles that increase the strength and stiffness of the matrix material.

Composition of Composites



Nonmetallic Materials

Nonmetallic materials (polymers and composites) same as metals have their advantages and limitations; corrosion resistance and light weight are the most attractive properties, whereas their limited mechanical properties, temperature rating and chemical resistance remain a distracting feature in limiting their wider use and acceptability.

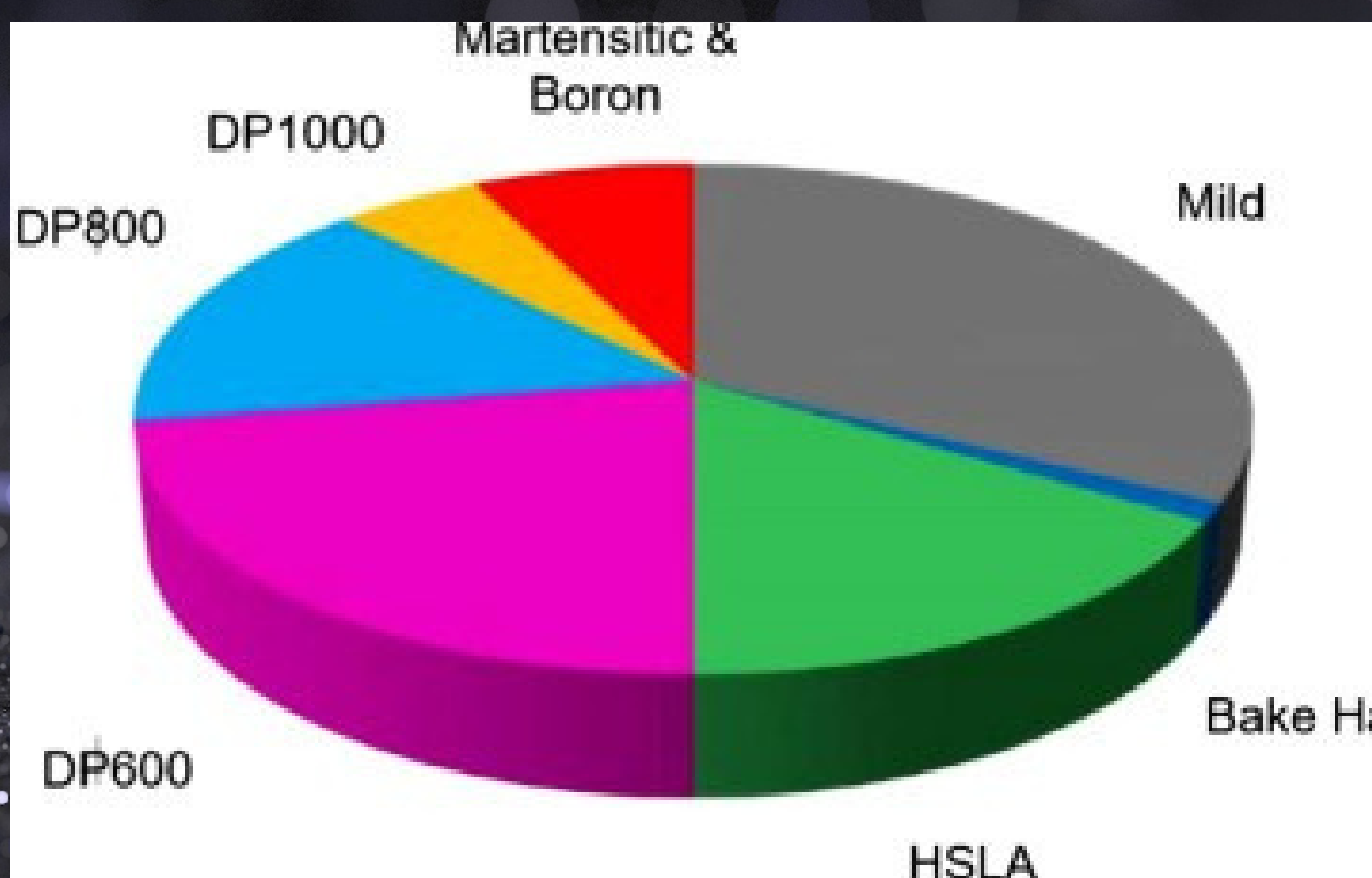
CIE Marks: 40
SEE Marks: 60
Credits: 03
Eligibility: CSE, ISE, Civil & EC

CAREERS

- Aerospace**
- Armed Forces and Defence**
- Automotive**
- Manufacturing**
- Nuclear Industry**
- Oil and Gas**
- Pharmaceuticals**
- Telecommunications**

Applications of Bio-Ceramics

Many of the applications are in assistive repair, so there are certain characteristics that bio-ceramic materials need to exhibit for them to be used in clinical applications. The most important is biocompatibility, so that they can help to prevent the body's natural defence system from breaking them down and they are not toxic to the cellular environment when they are used.



Shape-Memory Alloy

A shape-memory alloy is an alloy that can be deformed when cold but returns to its pre-deformed (remembered) shape when heated. It may also be called memory metal, memory alloy, smart metal, smart alloy, or muscle wire.

The Phase Transformation Process for SMAs

