Quizlet NAME _____

20 Multiple choice questions

A+
100%

1. stress is directly proportional to strain within a material's proportional limit
   a. composites
   b. hydraulics
   c. asbestos
   d. **CORRECT:** Hooke's law

2. hydrated magnesium silicate; the most common type is fibrous chrysolite (white asbestos); asbestos fibres are variable in length and may be straight or curled
   a. **CORRECT:** asbestos
   b. amphorous
   c. austenite
   d. cast iron

3. the relative ease with which a material may be cast
   a. austenite
   b. **CORRECT:** castability
   c. cast iron
   d. ductility

4. a face-centred cubic phase in the iron-carbon phase diagram designated as gamma phase, austenite consists of non-magnetic solid solution of carbon in iron
   a. ductility
   b. composites
   c. **CORRECT:** austenite
   d. asbestos

5. the portion of the stress-strain relationship within which a material when loaded and then unloaded will return to its original un-deformed shape; this also equates to the end of the straight line portion of the stress-strain curve
   a. castability
   b. cast iron
   c. ductility
   d. **CORRECT:** elastic limit

6. a multi-phase material containing phases composed of compounds of metals and non-metals, ceramics are typically hard and good insulators
   a. corrosion
   b. hydraulics
   c. energy
   d. **CORRECT:** ceramic

7. materials characterised by certain areas of short-range order; a long-range order does not exist in amphorous substances
   a. asbestos
   b. **CORRECT:** amphorous
   c. composites
   d. anisotropy

8. early version of brake involving an external contracting band wrapped around a hub
   a. cast iron
   b. anisotropy
   c. **CORRECT:** band brake
   d. austenite

9. multi-phase materials formed from a combination of materials which differ in composition or form; remaining bonded together these individual components of composites combine to improve upon the original properties of the component materials
   a. **CORRECT:** composites
   b. austenite
   c. corrosion
   d. compression

10. applying pressure to an object to reduce its size or make smaller, a pushing or squeezing force
    a. composites
    b. corrosion
    c. friction
    d. **CORRECT:** compression

11. engineering property that refers to having a different value when measured in different directions
    a. friction
    b. energy
    c. **CORRECT:** anisotropy
    d. amphorous

12. calculated using the ratio of the applied load (L) to the undeformed (original) cross-sectional area (A)
    a. **CORRECT:** engineering stress
    b. energy
    c. anisotropy
    d. asbestos

13. an alloy of iron and carbon in which the carbon is in exess of the amount that can be retained in solid solution in austenite at the eutetuc temperature; carbon is usually present in the range of approximately 2% to 4.5%
    a. **CORRECT:** cast iron
    b. asbestos
    c. castability
    d. corrosion

14. the branch of science that deals with the study and use of liquids, as related to the mechanical aspects of physics; it studies the flow of fluids for which there is virtually no density change
    a. **CORRECT:** hydraulics
    b. ductility
    c. ceramic
    d. corrosion

15. a granular, free-flowing polymerised resin derived from cashew nut shell liquid (CNSL); the m,ain component in processed CNSL is cardanol; cardanol is a naturally occurring material, hydrophobic in nature, and remains flexible and liquid at very low temperatures
    a. corrosion
    b. elastic limit
    c. **CORRECT:** friction dust
    d. friction

16. a force generated between surfaces opposite to the direction of motion
    a. corrosion
    b. cast iron
    c. **CORRECT:** friction
    d. friction dust

17. a ratio of the forces between two surfaces in contact
    a. **CORRECT:** coefficient of friction
    b. compression
    c. friction
    d. friction dust

18. the ability to do work and is measured in joules (J)
    a. **CORRECT:** energy
    b. anisotropy
    c. ceramic
    d. asbestos

19. a chemical reation that results in the conversion of emtallic materials into oxides, salts or other compounds; metals undergoing corrosion lose their strength, ductility and other important mechanical properties
    a. **CORRECT:** corrosion
    b. friction
    c. compression
    d. composites

20. the ease with which a material deforms plastically while undergoing tensile forces such as drawing
    a. **CORRECT:** ductility
    b. austenite
    c. friction
    d. castability