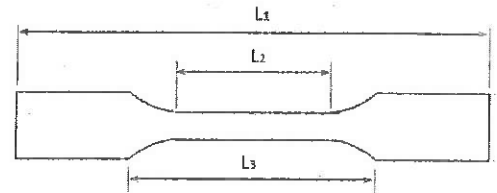


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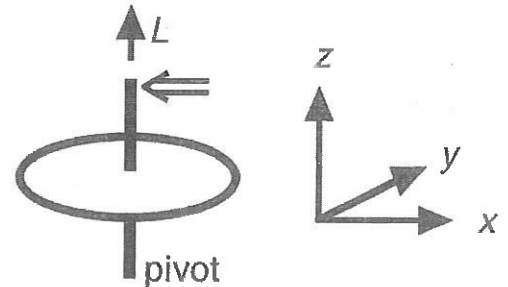
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1. The shape of the indenter used in Brinell hardness test is
 - a. Conical
 - b. Spherical
 - c. Diamond
 - d. Pyramid
2. Type of notch used in izod test is
 - a. V notch
 - b. U notch
 - c. Any of the above
 - d. Not required
3. To determine the tensile strength of specimen, length of specimen under consideration is
 - a. L_1
 - b. L_2
 - c. L_3
 - d. L_1 and L_3



4. A spinning bike wheel has its angular momentum vector pointing in the $+z$ direction. If you press gently on the axle in the $-x$ direction, as shown in the diagram, in what direction does the axle move?
 - a. $+x$
 - b. $-x$
 - c. $+y$
 - d. $-y$
 - e. none of the above



5. Which of the following devices controls the speed of an engine by regulating the amount of fuel admitted, so as to maintain a near-constant speed, irrespective of the load or fuel-supply conditions.
 - a. Governor
 - b. Gyroscope
 - c. Cam
 - d. Gears
6. Natural frequency is the frequency at which a system tends to oscillate in
 - a. the absence of any damping force.
 - b. the absence of any driving force
 - c. the absence of any spring force.
 - d. the absence of any external or damping force
7. Which out of the following devices is commonly used to achieve a period of stationary motion of the output link with continuous motion of the input link?
 - a. Governor
 - b. Gyroscope
 - c. Cam and follower
 - d. Gears
8. Which out of the following gears is used to transmit power at 90° and where high speed reductions are required?
 - a. Spur gear
 - b. Helical Gear
 - c. Bevel gear
 - d. Worm and Worm wheel

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9. While sawing sight of eye should be-----
 - a. On right side of the saw.
 - b. On Left side of the saw.
 - c. Directly above the saw.
 - d. On right side of the saw.
10. The purpose of seasoning is not to reduce?
 - a. Hardness.
 - b. Shrinkage.
 - c. Weight.
 - d. War page.
11. _____ is a process of selectively attacking a material by a polishing it with a chemical reagent to help reveal its micro-structural detail when viewed under a microscopic device.
 - a. Amalgamation
 - b. Deformation
 - c. Etching
 - d. d. Saponification
12. Which of the 4 options below defines ultimate stress
 - a. Ultimate load/final area
 - b. Yield Load/initial area
 - c. Ultimate load/initial area
 - d. Yield load/time
13. Which is a material property?
 - a. Initial length
 - b. Internal diameter
 - c. Fracture Toughness
 - d. Applied load
14. Some of the ordinate, abscissa pairs are given below. Which are the ordinate and abscissa of cooling curves?
 - a. Time, Temperature
 - b. Temperature, Composition
 - c. Composition, Time
 - d. Temperature, Time
15. A Simo chart is a
 - a. Left Hand - Right Hand Chart
 - b. Flow process Chart
 - c. Man Machine Chart
 - d. Chrono Cycle Graph
16. Stefan -Boltzmann law says that energy radiated by a blackbody per unit area per unit time is proportional to _____ power of temperature:
 - a. Fifth
 - b. Fourth
 - c. Third
 - d. Second
17. Specific heat at constant volume is almost same as specific heat at constant pressure for
 - a. Oxygen
 - b. Hydrogen
 - c. Nitrogen
 - d. Water

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18. It is impossible to transfer heat in a cyclic process from low temperature to high temperature without work from an external source. This statement is referred to as _____ of thermodynamics.
- First law
 - Second law
 - Third law
 - Fourth law
19. Units of thermal conductivity are:
- W/m-K
 - W/m
 - W/kg-K
 - W/N
20. Logarithmic mean temperature difference is term used in the context of
- Heat exchangers
 - Turbines
 - Compressors
 - pumps
21. Sensible heat storage of a medium depends on
- Temperature difference
 - Latent heat
 - Pressure difference
 - None of the above
22. The instrument used to measure Global Horizontal Irradiance is
- Pyrheliometer
 - Pyranometer
 - PV cell
 - thermocouple
23. Throttling process involves
- Irreversible expansion
 - Reversible expansion
 - Irreversible compression
 - None of the above
24. Coefficient of performance is the ratio of refrigeration effect to
- Isothermal work
 - Adiabatic heat input
 - None of the above
 - Isentropic work
25. For high speed compressors the stroke to bore ratio (L/D) is
- Less than 0.5
 - Greater than 1.0
 - Greater than 2.0
 - None of the above