TED Unit 3 Pre-Test

1. **Technology involves the use of processes to develop _____ that solve problems and extend human capabilities.**
    - **A. Keys**
    - **B. Ideas**
    - **C. Theories**
    - **D. Systems**
2. **When an operator notices that a CNC machine is making rough cuts, the most likely cause is that the cutter:**
    - **A. needs to be returned to the supplier**
    - **B. is broken**
    - **C. is spinning too fast**
    - **D. needs to be sharpened**
3. **Which is NOT a part of the preparation to begin the process of producing a consumer product?**
    - **A. Engineering design**
    - **B. Raising capital**
    - **C. Stock materials**
    - **D. Packaging materials**
4. **Within the system of an automobile engine the fuel, spark plugs, and the pistons are all examples of:**
    - **A. Subsystems**
    - **B. Outputs**
    - **C. Feedback**
    - **D. Impacts**
5. **The ratio of the output force (load) produced by a working force applied to the effort**
    - **A. Efficiency**
    - **B. Work**
    - **C. Power**
    - **D. Mechanical Advantage**
6. **If a lever has the mechanical advantage of 5, how much force is needed to move an object that weighs 100 lbs?**
    - **A. 5 lbs F**
    - **B. 10 lbs F**
    - **C. 25 lbs F**
    - **D. 20 lbs F**
7. **Fundamental change in the technological world of the 21st century will most likely be accomplished using:**
    - **A. the scientific method**
    - **B. the money of well-informed individuals**
    - **C. government studies and reports**
    - **D. systems thinking**

8. As new technologies are developed:
    A. processes are replicated
    B. processes are bypassed
    C. new processes are ignored
    D. new processes are created
9. In order for an engineer to assess if a designed system is operating correctly:
    A. information is necessary.
    B. thinking is necessary.
    C. communication is necessary.
    D. feedback is necessary.
10. The process of planning, organizing, and controlling work is known as:
    A. Design
    B. Analysis
    C. Measurement
    D. Management
11. Input Force x Input Distance = Output Force x Output Distance may be used to check for the proper design of a mechanical system. What type of model is this?
    A. Working model
    B. Statistical model
    C. Visualization model
    D. Mathematical model
12. A light in the refrigerator no longer turns on when someone opens the door. What is the most likely reason for the failure?
    A. Operator error
    B. Poorly designed circuit
    C. Faulty door hinge
    D. Improper use of the refrigerator
13. Troubleshooting diagrams are used to:
    A. Inform the user on how to use and maintain a system/product
    B. Inform the user on where to repair the product
    C. List the size and tolerances of the parts
    D. List the product parts
14. Which of the following components of the systems model provides information for the system to adjust its function according to the provided information?
    A. Input
    B. Feedback
    C. Output
    D. Process
15. Which of the following components of the systems model includes resources such as energy, capital, people, materials, tools and machines, time, and information?
    A. Input
    B. Feedback
    C. Output

D. Process

16. Which of the following is an output of an email communication system?
    A. The computer used by the person sending the email
    B. The modem used for Internet connection
    C. The person sending the email
    D. The sent email
17. Which of the following is an example of a closed system?
    A. A clothes dryer
    B. A microwave
    C. A coffeepot
    D. A motion-detecting exterior light
18. Which is not an example of Electrical Technology?
    A. Power to a Washing Machine
    B. Circuit Board
    C. Power Transformer
    D. Generator
19. Optical Technology is Technology producing _____.
    A. Light
    B. Glasses
    C. Illusion
    D. Pattern
20. Define a system by identifying its _____, their relationship to other systems, and the intended input and output of the system.
    A. Problems
    B. Solutions
    C. Criteria
    D. Subsystems
21. _____ is the process of taking something (a device, an electrical component, a software program, etc.) apart and analyzing its workings in detail.
    A. Mechanical Engineering
    B. Chemical Engineering
    C. Structural Engineering
    D. Reverse Engineering