|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. When a CNC lathe is equipped with an automatic tool changer it is called a \_\_\_\_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | turning center | b.  | modal center |
|   | c.  | servo motor | d.  | machining center |

|  |  |
| --- | --- |
| *ANSWER:* | a |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. CNC mills with an ATC are called \_\_\_\_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | traverse mills | b.  | machining centers |
|   | c.  | turning centers | d.  | positioning mills |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. The CNC program is created and stored in the \_\_\_\_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | rectangular coordinate system | b.  | modal control unit |
|   | c.  | machine control unit | d.  | origin control system |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| 4. A(n) \_\_\_\_\_\_\_\_ assembly device consists of a screw and nut assembly with steel balls in place of threads.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | block nut | b.  | linear guide |
|   | c.  | encoder | d.  | ball screw |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5. Most modern CNC machines employ a high-tech modernized version of ways called \_\_\_\_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | linear guides | b.  | linear interpolation |
|   | c.  | modal interpolation | d.  | origin guides |

|  |  |
| --- | --- |
| *ANSWER:* | a |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. A(n) \_\_\_\_\_\_\_\_ motor is a hybrid electric motor with half motor/half position sensor.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | modal | b.  | servo |
|   | c.  | block | d.  | encoder |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. A(n) \_\_\_\_\_\_\_\_ works by recording the amount of rotation a motor makes (in degrees).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | guide | b.  | code |
|   | c.  | encoder | d.  | leader |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. CNC programming does not use north, south, east, or west to identify distance and direction, but instead a similar system called the \_\_\_\_\_\_\_\_ system.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | absolute positioning | b.  | polar coordinate |
|   | c.  | Cartesian coordinate | d.  | incremental positioning |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9. The place a traveler begins from is called the point of \_\_\_\_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | foundation | b.  | origin |
|   | c.  | cause | d.  | source |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10. The X- and Y-axes of the Cartesian coordinate system divides the system into four separate regions called \_\_\_\_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | dimensions | b.  | modals |
|   | c.  | quadrants | d.  | planes |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| 11. \_\_\_\_\_\_\_\_ coordinates require that positions be identified by defining both an angle and a distance (like a vector in mathematics).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | Absolute | b.  | Incremental |
|   | c.  | Linear | d.  | Polar |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. When using \_\_\_\_\_\_\_\_ positioning, the coordinates of all positions will be referenced from the beginning.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | absolute | b.  | polar |
|   | c.  | incremental | d.  | conversational |

|  |  |
| --- | --- |
| *ANSWER:* | a |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. The \_\_\_\_\_\_\_\_ positioning system specifies a distance from the current position to the next position instead of a location related to the origin.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | rectangular | b.  | incremental |
|   | c.  | circular | d.  | absolute |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14. Programming code that the machine can understand is called \_\_\_\_\_\_\_\_ address.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | word | b.  | modal |
|   | c.  | encoded | d.  | traverse |

|  |  |
| --- | --- |
| *ANSWER:* | a |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. \_\_\_\_-codes prepare a machine to engage in a particular mode for machining.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | P | b.  | C |
|   | c.  | G | d.  | M |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. \_\_\_\_\_\_\_\_ traverse is designated by the code G0.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | Circular | b.  | Linear |
|   | c.  | Modal | d.  | Rapid |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17. Linear interpolation moves the cutting tool in a(n) \_\_\_\_\_\_\_\_ line path between two points.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | curved | b.  | angled |
|   | c.  | arced | d.  | straight |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18. \_\_\_\_\_\_\_\_ interpolation motion causes the cutter’s path to travel in an arc.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | Circular | b.  | Linear |
|   | c.  | Rapid | d.  | Modal |

|  |  |
| --- | --- |
| *ANSWER:* | a |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19. \_\_\_\_-codes are used to turn on and off miscellaneous (auxiliary) functions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | G | b.  | M |
|   | c.  | F | d.  | A |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20. \_\_\_\_\_\_\_\_ programming was developed to simplify the machine programming process.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | Modal | b.  | Address |
|   | c.  | Conversational | d.  | Safe-start |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21. At the very end of each block is a semicolon (;) character called a(n) \_\_\_\_\_\_\_\_ character.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | miscellaneous function | b.  | end of block |
|   | c.  | end of origin | d.  | preparatory command |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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