

TECHNOLOGY BOWL PRELIMINARY ROUND TEST



Directions: Follow the event coordinator's instructions for completing the preliminary round test and mark your answer sheet carefully. One (1) hour time limit.

1. What is the basic term for a machine that performs computations based on instructions?
 - A. Slider
 - B. Hardware
 - C. Projector
 - D. Computer
2. There are 6 main components that make up a computer's hardware. Which of the following is not one of them?
 - A. The Central Processing Unit
 - B. Main Memory
 - C. Thumb drive
 - D. Input/Output Devices
3. A type of instruction that produce several lines of machine language code is a:
 - A. Assemble
 - B. Address
 - C. Mnemonic
 - D. Macro
4. The main function of the CPU is to perform arithmetic and logical operations on data taken from _____.
 - A. permanent memory
 - B. control unit
 - C. main memory
 - D. CPU
5. Which language is directly understood by the computer without translation program?
 - A. Machine language
 - B. High level language
 - C. BASIC language
 - D. Assembly language
6. What environmental factors effects alertness?
 - A. Air quality and smell
 - B. Temperature
 - C. Lighting
 - D. All of the above
7. What is a potential output (based of the human processing system) if you are driving and see a red light?
 - A. Your foot hits the break. (Central processes)
 - B. Your foot hits the break. (Motor processes)
 - C. Your eyes see the red light. (Sensory processes)
 - D. Your eyes see the red light. (Central processes)
8. Which statement best defines a product design specification (PDS)?
 - A. A description of a design problem.
 - B. The generation of ideas.
 - C. A target market for the design.
 - D. The precise limits of all performance requirements.
9. Detailed orthographic drawings are best used to show ...
 - A. Early stages of a product development.
 - B. 3-D views of a finished product.
 - C. The dimensions of a finished product for manufacturing.
 - D. How mechanical components fit together to make a product.
10. A solution is made by dissolving some salt in a beaker of water. The salt is referred to as the?
 - A. solute
 - B. filtrate
 - C. solution
 - D. solvent
11. In the process known as osmosis, _____ moves through a semi-permeable membrane into an area of lower _____ concentration.
 - A. water, water
 - B. solute, solute
 - C. water, solute
 - D. solute, water

12. The pH range over which an indicator color change occurs is referred to as its:
- titration range
 - titration constant
 - transition interval
 - None of the above
13. Which of the following metals is least reactive toward atmospheric oxygen?
- Lead
 - Copper
 - Iron
 - Aluminum
14. Electric vehicles and hybrid vehicles have components in common. Which of the following is not a common component?
- Battery
 - ECU
 - Generator
 - Internal Combustion Engine
15. An Electric Vehicle only needs one of the following maintenance jobs done. Which is it?
- Brake pad inspections
 - Belt replacement
 - New spark plugs
 - Oil change
16. What happens when interspecific competition between two species is high?
- The two species are likely to be able to coexist.
 - The two species are unlikely to be able to coexist.
 - One of the species will become extinct.
 - None of these are correct.
17. Which of the following processes occurs without oxygen?
- Anaerobic respiration
 - Alcohol fermentation
 - Lactic acid fermentation
 - All answers are correct.
18. Which of the following statements best describes a live vaccine?
- Is made using live, infectious viruses
 - Is made by killing or inactivating the pathogen
 - Is incorporated into the genomes of the body's cells
 - Uses recombinant DNA technology
19. What is the name of the type of protein that plays an important role in many chemical reactions in the human body?
- Nucleic acid
 - Enzyme
 - Amino acid
 - None of these is correct
20. Which property of water allows it to move upward from the roots of a tree to its leaves?
- High specific heat
 - High heat of vaporization
 - Cohesion
 - Solvent of life
21. What determines the function of a protein?
- The number of peptide bonds
 - The types of side chains
 - The tissue that produces the protein
 - The protein's specific structure
22. White blood cells engulf invading bacterium in a process called:
- Phagocytosis
 - Pinocytosis
 - Receptor-mediated endocytosis
 - Exocytosis
23. Which of the following environmental issues has the most impact on the distribution of local and global ecosystems over time?
- Global warming
 - Biodiversity
 - Acid Rain
 - Habitat fragmentation

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24. If you were late to biology class, and the instructor was discussing hyphae, chitin and mycelium, what could you assume was the topic for the day's discussion?
- A. Protists
 - B. Prokaryotic cells
 - C. Fungi
 - D. Insects
25. Slang someone may use that not everyone would understand is known as?
- A. Perception
 - B. Poor grammar
 - C. Colloquialism
 - D. Street talk
26. Pronouncing words clearly and correctly so that each sound can be heard is known as what?
- A. Talking loudly
 - B. Verbal communication
 - C. Speaking
 - D. Enunciation
27. The method used to communicate a message (text, talking, writing, etc.) is known as what?
- A. Colloquialism
 - B. Communication
 - C. Correspondence
 - D. Channel
28. Economics is the study of what?
- A. production technology
 - B. consumption decisions
 - C. how society decides what, how, and for whom to produce
 - D. the best way to run society
29. On a graph, a positive linear relationship ...
- A. moves down to the right
 - B. moves up to the left
 - C. moves up to the right
 - D. moves down to the left
30. When we know the quantity of a product that buyers wish to purchase at each possible price, we know?
- A. demand
 - B. supply
 - C. excess demand
 - D. excess supply
31. A demand curve can shift because of changing:
- A. incomes
 - B. prices of related goods
 - C. tastes
 - D. all of the above
32. Which of the following correctly defines the phenomenon in which a three dimensional image is formed through penetration of two light beams from a laser?
- A. 3-D photography
 - B. X-ray photography
 - C. Holography
 - D. Cinematography
33. Which of the following waves is used in SONAR?
- A. Audible sound wave
 - B. Radio wave
 - C. Infrasonic wave
 - D. Ultrasonic wave
34. The cooling system of a motor car works on the principle of ...
- A. Convection
 - B. Conduction
 - C. Radiation
 - D. Gravitation
35. In an electric circuit, a fuse is used to ...
- A. Maintain the flow of current
 - B. Indicate the flow of current
 - C. Break the circuit when excessive current flows
 - D. Store the current

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36. Which of the following has the greatest gravity power that does not allow anything to escape?
- A. Supernova
 - B. Black hole
 - C. Pulsar
 - D. Super rotating satellite
37. Which of the following is used to measure inner and outer dimensions of a body?
- A. Calipers
 - B. Barograph
 - C. Bolometer
 - D. Anemometer
38. Which of the following is not a primary color?
- A. Blue
 - B. Green
 - C. Red
 - D. Violet
39. Graph of a linear polynomial is a?
- A. straight line
 - B. circle
 - C. parabola
 - D. hyperbola
40. The ordered pair (3,0) is found:
- A. on the y-axis
 - B. in the first quadrant
 - C. in the four quadrant
 - D. on the x-axis
41. What is a set of points that divides an interval into subintervals?
- A. abstract
 - B. slope
 - C. partition
 - D. range
42. What is the two-word official name of the feature in the Zoom app in which smaller groups of people meet separately from a main meeting?
- A. Side Rooms
 - B. Breakout Rooms
 - C. Sub Rooms
 - D. Bridge Rooms
43. What commonplace medical device is a plunger attached to the inside of a cylindrical tube, allowing for even intake and discharge of fluids?
- A. Syringe
 - B. O-Rings
 - C. Needle
 - D. Guage
44. Usually including an adjustable cuff and a rubber tube, the device called a sphygmomanometer takes what important measurement?
- A. air pressure
 - B. heart pressure
 - C. blood pressure
 - D. fluid pressure
45. OS computer abbreviation usually means?
- A. Order of Significance
 - B. Open Software
 - C. Operating System
 - D. Optical Sensor
46. Blue is what number on the resistor color code?
- A. 1
 - B. 2
 - C. 4
 - D. 6
47. Computers calculate numbers in what mode?
- A. Decimal
 - B. Octal
 - C. Binary
 - D. None of the above

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48. Which device can be used to store a charge?
- A. Transistor
 - B. Diode
 - C. Capacitor
 - D. Resistor
49. A computer virus that actively attacks an anti-virus program or programs in an effort to prevent detection is ...
- A. Worm
 - B. Retrovirus
 - C. Trojan
 - D. Ghost virus
50. The position of a planet when it is nearest to the Sun is called?
- A. Apogee
 - B. Aphelion
 - C. Perigee
 - D. Perihelion