

***** EXAMINATION *****

INTRODUCTION TO INDUSTRIAL NETWORKING

1. **The most common implementation of a control system is:**
 - a) a single controller attached to input and output devices
 - b) a single controller attached to input devices
 - c) a single controller attached to output devices
 - d) multiple controllers with multiple input and output devices

2. **A common method of connecting fields devices to a central**
 - a) controller is through an IP
 - b) controller is through a TCP
 - c) controller is a 4-20 mA current loop
 - d) Any of the above

3. **Field devices are powered from a:**
 - a) 12 volt single loop power supply
 - b) 24 volt single loop power supply
 - c) 12 volt parallel power supply
 - d) 24 volt parallel power supply

4. **The disadvantage of the central controller with input and output**
 - a) devices is expensive workstation cost
 - b) devices is excessive field wiring
 - c) devices is complicated protocols
 - d) All of the above

5. **Fieldbus means:**
 - a) the attachment of field devices over one bus connection
 - b) the attachment of field devices in a parallel loop
 - c) the attachment of field devices using a serial bus
 - d) None of the above

6. **A fieldbus would allow:**
 - a) a single device to be attached over one wire
 - b) a single device to be attached over one or more wires
 - c) multiple devices to be attached over one wire
 - d) multiple devices to be attached over one or more wires

7. **Since all devices are on a single connection,**
 - a) one device can have access to the bus at any one time
 - b) two devices can have access to the bus at any one time
 - c) multiple devices can have access to the bus at any one time
 - d) None of the above

8. **An addressed device on a fieldbus could send information about:**
 - a) its instrument tag number
 - b) its model number
 - c) its calibration data
 - d) All of the above

9. **Topology refers to:**
 - a) the electronic addresses of devices connected to one another
 - b) the physical arrangement of devices connected to one another
 - c) the order of accessing devices that are connected to one another
 - d) None of the above

10. **A centralized controller connected to transmitters and actuators is:**
 - a) loop topology
 - b) parallel topology
 - c) star topology
 - d) central topology

11. **Talking on a telephone is:**
 - a) a simplex transmission
 - b) a half-duplex operation
 - c) a full-duplex operation
 - d) None of the above

12. **A directed transmission between two parties is known as a:**
 - a) unicast transmission
 - b) broadcast transmission
 - c) spread spectrum transmission
 - d) Any of the above

13. **The Open Systems Interconnect Reference Model was published by:**
 - a) IEEE
 - b) NSEE
 - c) the International Organization of Standards
 - d) the Open Systems Operative

14. **The physical layer:**
 - a) defines signal levels
 - b) defines symbol representation
 - c) defines connector pin-outs
 - d) All of the above

15. **Information sent over the data link are called:**
- a) blocks
 - b) analog signals
 - c) frames
 - d) None of the above
16. **Data sent over the network layer are called:**
- a) blocks
 - b) packets
 - c) frames
 - d) wedges
17. **The presentation layer:**
- a) formats the devices
 - b) represents the user application
 - c) addresses missing fragments issues
 - d) translates the format of data between sender and receiver
18. **The OSI model that has been reduced to three layers includes:**
- a) physical, data link, and application layers
 - b) physical, session, and application layers
 - c) physical, network, and data link layers
 - d) network, session, and application layers
19. **The most popular method of gaining access to the network is:**
- a) Profibus
 - b) ARCNET
 - c) the carrier sense, multiple access method
 - d) the token network
20. **Passing the token along participants in the network in a circular**
- a) fashion is a token ring
 - b) fashion is a logical ring
 - c) fashion is a circular ring
 - d) fashion is a CSMA ring

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