

Question block created by wizard.

This exam contains 40 questions

- 1.** Which instruments form the "Basic T" ?
 - a. Altimeter, Vertical Speed Indicator, Directional Gyro, Airspeed Indicator.
 - b. Altimeter, Turn Coordinator, Artificial Horizon, Vertical Speed Indicator.
 - c. Altimeter, Airspeed Indicator, Directional Gyro, Artificial Horizon.

- 2.** What does EFIS mean ?
 - a. Enhanced Flight Information System
 - b. Electronic Flight Information System
 - c. Electronic Flight Instrument System

3. What instrument is shown in this PFD?



- a. This is an Electronic Horizontal Situation Indicator (EHSI)
- b. This is an Electronic Attitude Direction Indicator (EADI)
- c. This is an altimeter

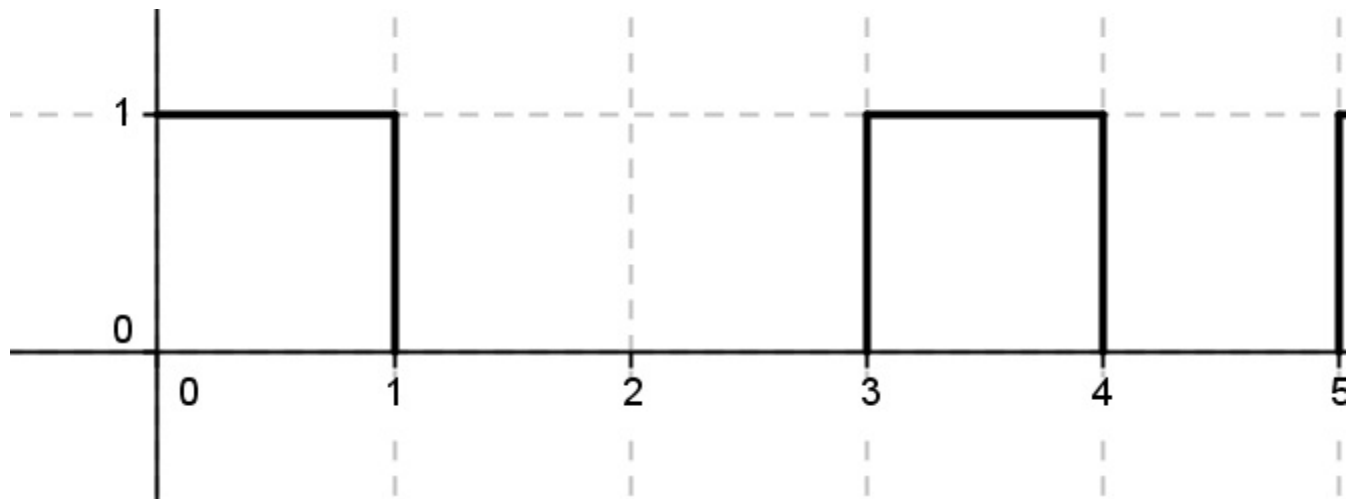
4. The base or radix of the binary number system is...

- a. two
- b. one
- c. four

5. A computer message 3B4 is

- a. hexadecimal
- b. octal
- c. binary

6. What type is the hooked signal in this picture?



- a. A octal signal.
- b. A binary signal.
- c. An analogue signal.

7. If a data message is made up of 1 and 0 it is

- a. analogue.
- b. logic.
- c. digital.

8. How many bits does the SSM (Sign & Status Matrix) contain in an ARINC429 word?

- a. 8 bits.
- b. 2 bits.
- c. 4 bits.

9. What is a parity check?

- a. Sending an additional bit in a data-word transmission for synchronisation checking.
- b. Sending an additional bit in a data-word transmission for bit filling checking .
- c. Sending an additional bit in a data-word transmission for error checking.

10. What kind of communication is being used by ARINC429?

- a. Duplex.
- b. Half duplex.
- c. Simplex.

11. What is a "frame" in an Ethernet based network?

This is the basic building block of the....

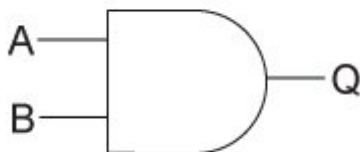
- a. ethernet devices such as computers.
- b. central Ethernet computer in a LAN.
- c. messages being relayed over the Ethernet.

12. What is the function of a "broadcast" in an Ethernet LAN?

This is a message intended for....

- a. a group of nodes in the network.
- b. only one node in the network.
- c. all nodes in the network.

13. What type of logic gate is shown here?

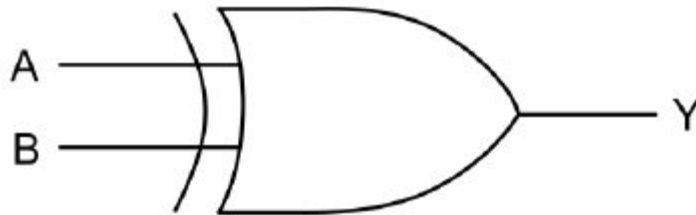


- a. EXNOR gate.
- b. AND gate.
- c. OR gate.

14. What is the Boolean expression for an "and gate"?

- a. $A \cdot B \cdot C$
- b. $A - B - C$
- c. $A + B + C$

15. Which truth table belongs to the schematic shown here?



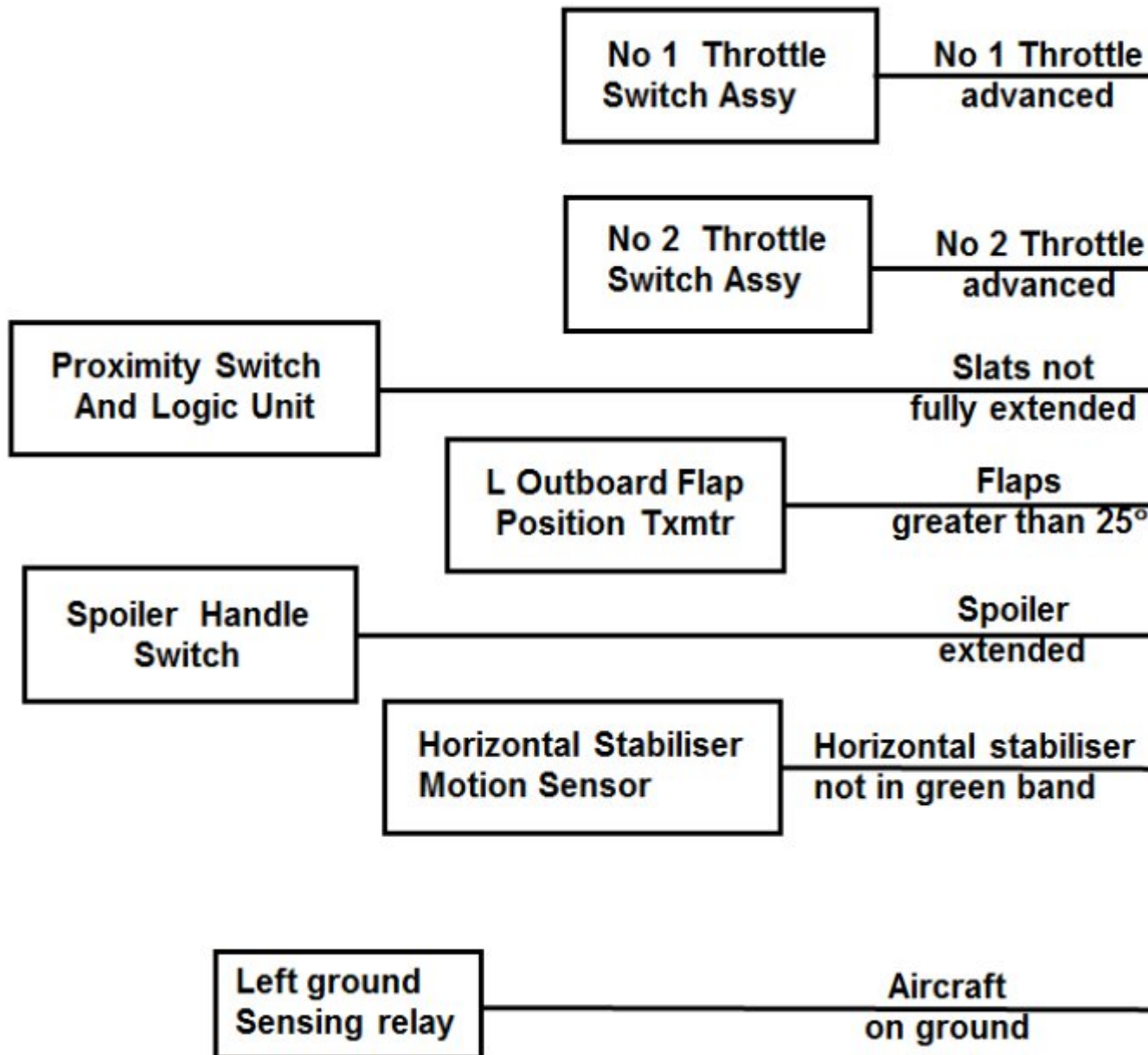
- a.

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	0
- b.

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1
- c.

A	B	Output
0	0	0
0	1	1
1	0	0
1	1	0

16. In which situation is it possible to generate a take-off warning?



- a. If the flap position is greater than 25° in flight.
- b. Only on the ground.
- c. The spoilers are extended in flight.

17. A schematic or functional diagram is usually drawn with the inputs.....

- a. up and the outputs down.
- b. right and the outputs left
- c. left and the outputs right.

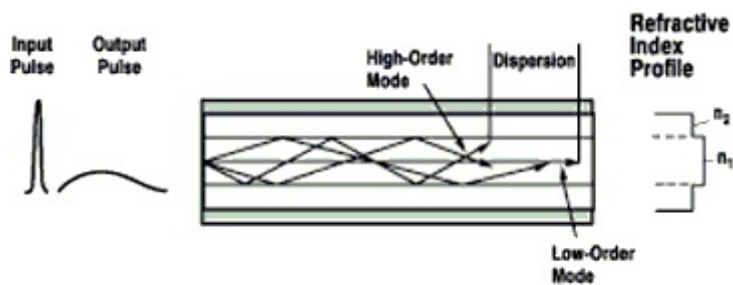
18. Which of the following buses in a computer is only uni-directional?

- a. Control bus.
- b. Address bus.
- c. Data bus.

19. What type of memory is used in Flight Data Recorders?

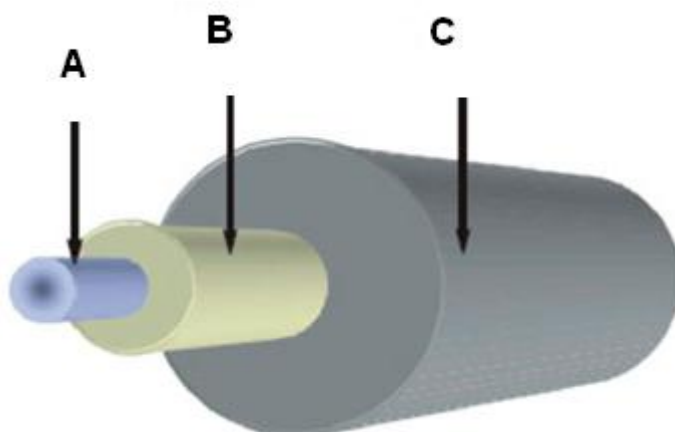
- a. EPROM
- b. A magnetic tape.
- c. A hard disk.

20. What type of fibre optic is shown here?



- a. Multi-Mode Grade Index.
- b. Multi-Mode Step Index.
- c. Single-Mode Step Index.

21. What is name of the part (indicated with arrow B) as shown in the picture?



- a. Coating
- b. Cladding
- c. Core

22. Why are standard copper twisted-pair cables used for ARINC-429 signals replaced by Fibre Optics in modern aircraft?
- a. Cheaper to manufacture
 - b. Fibre optics is standardized in the aviation industry.
 - c. Less weight

23. What type of display is shown here?



- a. This is a 12-segment display.
- b. This is a starburst display.
- c. This is a matrix display.

24. What type of display is shown here?



- a. CRT Display

- b. LED Display
- c. LCD Display

25. What driving method prevents a lot of connections when using many equipment?

- a. Multiplexing.
- b. Demultiplexing.
- c. Connection striping.

26. How are ESD sensitive devices marked?

- a. By a black label with yellow text that warns to use precautions when handling.
- b. By a yellow label with black text that warns to use precautions when handling.
- c. By a yellow label with red text that warns to use precautions when handling.

27. What is the best precaution to prevent Electro Static Damage?

- a. To un-charge yourself by touching a metal part of the casing you are working on.
- b. To use a grounded wrist-wrap protection.
- c. To use a special workbench with non-static covering.

28. How is the edge connector of an electronic PCB protected for ESD?

- a. A specially formed strip called a shunt is used.
- b. A plastic bag that exactly fits the board is used.
- c. A special connector with short-circuited leads is used.

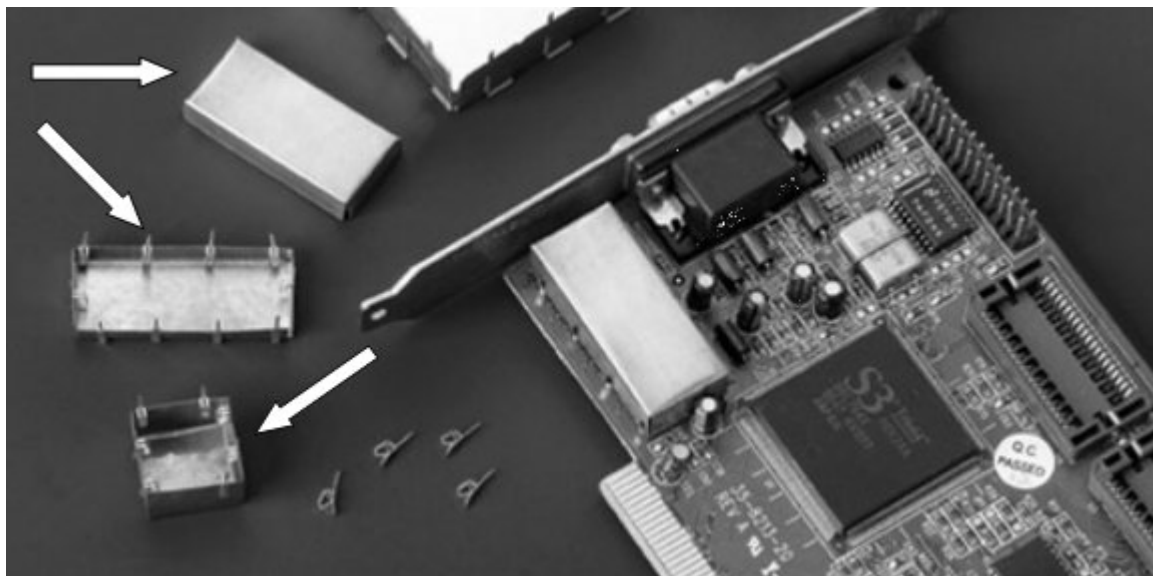
29. What is a danger of ESD induced damage?

- a. This can degrade a unit or device, which can eventually fail.
- b. This can cause electrical injuries to crew and passengers.
- c. This may cause physical problems for the maintenance engineer.

30. Avionics software is in accordance to flight safety classified into 5 levels (A till E). What is the meaning of level "C"?

- a. A failure would cause a catastrophic aircraft failure.
- b. A failure would not have an effect on the aircraft or the pilot work load.
- c. A failure would cause a major failure condition.

- 31.** What is a guidance for avionics software development and certification?
- The aircraft Minimum Equipment List (MEL)
 - The Aircraft Maintenance Manual (AMM)
 - Document DO-178/ED-121
- 32.** May the User Modifiable Software (UMS) be modified by the aircraft operator?
- Yes, only with review by the Civil Aviation Authority (CAA).
 - Yes, without review by the Civil Aviation Authority (CAA).
 - Never during the flight.
- 33.** What type of EMC can interfere with an unbalanced circuit?
- Both inductive and capacitive pickup.
 - Only capacitive pickup.
 - Only inductive pickup
- 34.** Looking at this picture, how are the copper boxes named?



- Shielding
 - EMD boxes
 - Bonding cages
- 35.** How is the static charge caused by lightning fed through the aircraft?
- By using bonding strips to conduct the high currents, preventing serious damage.
 - By the use of static dischargers on preferred exit points, like the wingtips.

- c. By use of special surge protection devices, that short-circuit the generated current.

36. In which direction is ACARS information transmitted?

- a. From air to ground only, because it transmits aircraft data.
- b. Both directions are used, because it is a communication system..
- c. From ground to air only, because it is an information service.

37. If the auto-pilot is on, what is the action of an FMS when the actual course deviates from the programmed course?

It will immediately....

- a. inform the pilot to take action to correct the deviation.
- b. take action and send a steering command to the autopilot.
- c. take action and correct the aircraft heading by steering the aircraft.

38. What does mode-C mean on a transponder?

The transponder sends also....

- a. altitude information.
- b. airspeed information.
- c. vertical speed information.

39. One of the benefits of Integrated Modular Avionics (IMA) is lower weight. This is accomplished by.....

- a. using less Line Replaceable Units (LRU's)
- b. using lighter materials for avionics.
- c. using less aircraft systems.

40. What is a BITE ?

- a. 8 Bits
- b. Build In Test Equipment
- c. Boeing Interface Test Equipment