

**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.

*If choice c is selected set score to 1.*

**2.** What does EFIS mean ?

- (a) Enhanced Flight Information System
- (b) Electronic Flight Information System
- (c) Electronic Flight Instrument System

*If choice c is selected set score to 1.*

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

*If choice b is selected set score to 1.*

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

- (a) two
- o (b) one
- o (c) four

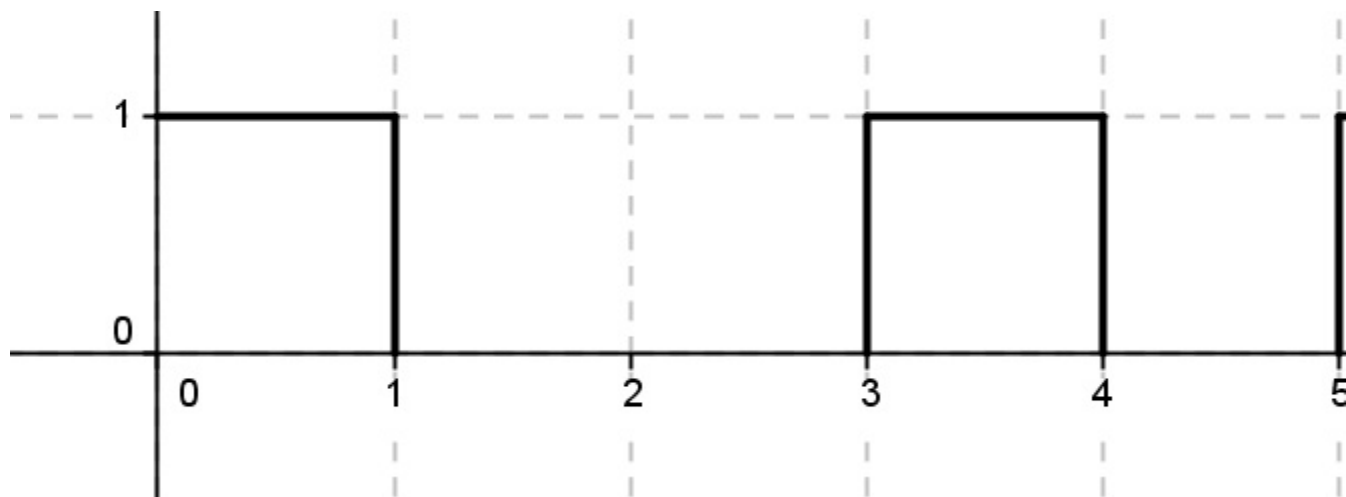
*If choice a is selected set score to 1.*

5. A computer message 3B4 is

- (a) hexadecimal
- o (b) octal
- o (c) binary

*If choice a is selected set score to 1.*

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



- o (a) A octal signal.
- (b) A binary signal.
- o (c) An analogue signal.

*If choice b is selected set score to 1.*

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

- o (a) analogue.
- o (b) logic.
- (c) digital.

*If choice c is selected set score to 1.*

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

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

*If choice b is selected set score to 1.*

**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.

*If choice c is selected set score to 1.*

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

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

*If choice c is selected set score to 1.*

**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.

*If choice c is selected set score to 1.*

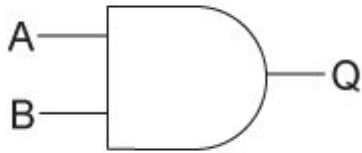
**12.** What is the function of a "broadcast" in an Ethernet LAN?

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.

*If choice c is selected set score to 1.*

13. What type of logic gate is shown here?



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

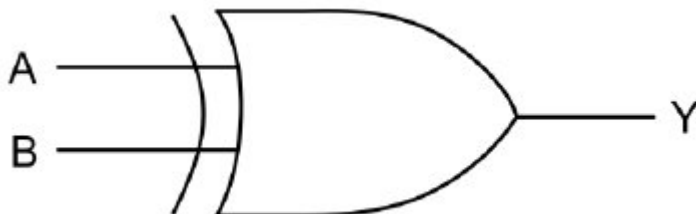
*If choice b is selected set score to 1.*

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

- (a)  $A \cdot B \cdot C$
- (b)  $A - B - C$
- (c)  $A + B + C$

*If choice a is selected set score to 1.*

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



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

- (a)

(b)

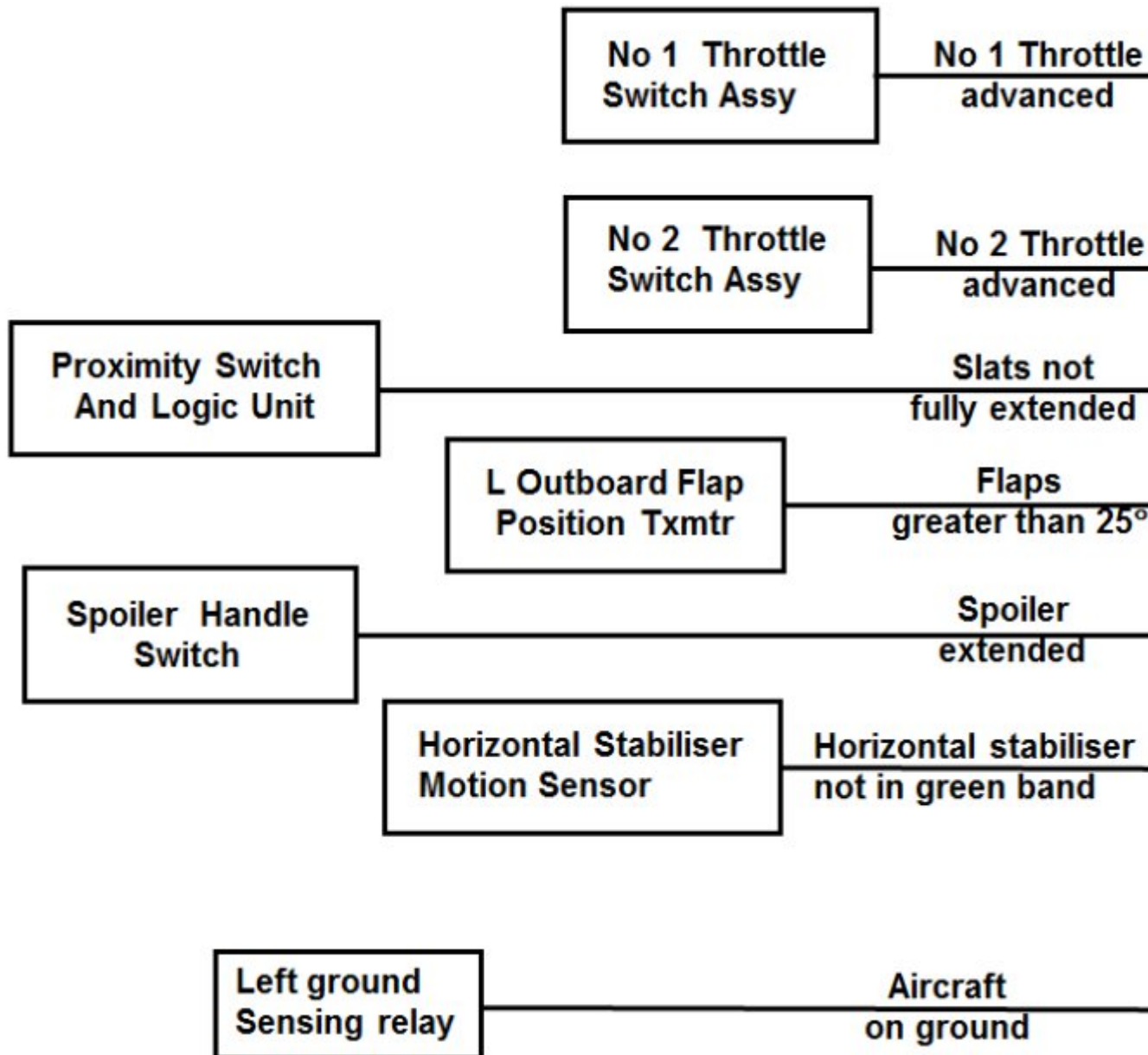
A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

(c)

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

*If choice a is selected set score to 1.*

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



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

*If choice b is selected set score to 1.*

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

- o (a) up and the outputs down.
- o (b) right and the outputs left

- (c) left and the outputs right.

*If choice c is selected set score to 1.*

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

- o (a) Control bus.
- (b) Address bus.
- o (c) Data bus.

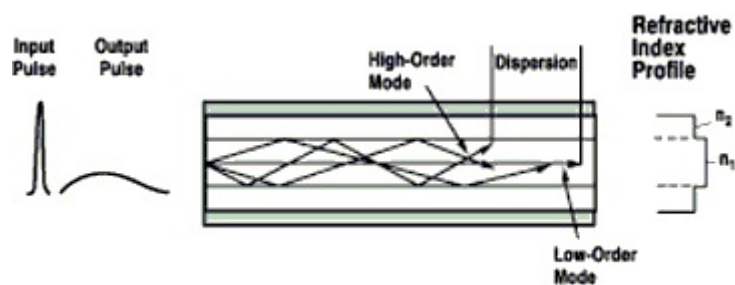
*If choice b is selected set score to 1.*

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

- o (a) EPROM
- (b) A magnetic tape.
- o (c) A hard disk.

*If choice b is selected set score to 1.*

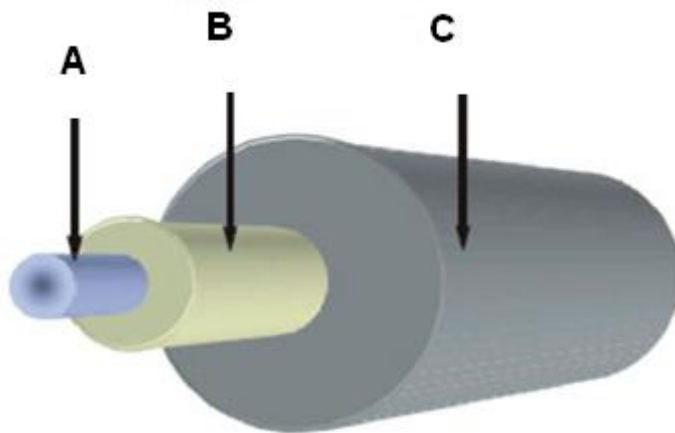
**20.** What type of fibre optic is shown here?



- o (a) Multi-Mode Grade Index.
- (b) Multi-Mode Step Index.
- o (c) Single-Mode Step Index.

*If choice b is selected set score to 1.*

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



- (a) Coating
- (b) Cladding
- (c) Core

*If choice b is selected set score to 1.*

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

*If choice c is selected set score to 1.*

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.

*If choice b is selected set score to 1.*

24. What type of display is shown here?



- (a) CRT Display
- (b) LED Display
- (c) LCD Display

*If choice c is selected set score to 1.*

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

- (a) Multiplexing.
- o (b) Demultiplexing.
- o (c) Connection striping.

*If choice a is selected set score to 1.*

**26.** How are ESD sensitive devices marked?

- o (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.
- o (c) By a yellow label with red text that warns to use precautions when handling.

*If choice b is selected set score to 1.*

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

- o (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.
- o (c) To use a special workbench with non-static covering.

*If choice b is selected set score to 1.*

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

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

*If choice a is selected set score to 1.*

**29.** What is a danger of ESD induced damage?

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

*If choice a is selected set score to 1.*

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

- o (a) A failure would cause a catastrophic aircraft failure.

- o (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.

*If choice c is selected set score to 1.*

**31.** What is a guidance for avionics software development and certification?

- o (a) The aircraft Minimum Equipment List (MEL)
- o (b) The Aircraft Maintenance Manual (AMM)
- (c) Document DO-178/ED-121

*If choice c is selected set score to 1.*

**32.** May the User Modifiable Software (UMS) be modified by the aircraft operator?

- o (a) Yes, only with review by the Civil Aviation Authority (CAA).
- (b) Yes, without review by the Civil Aviation Authority (CAA).
- o (c) Never during the flight.

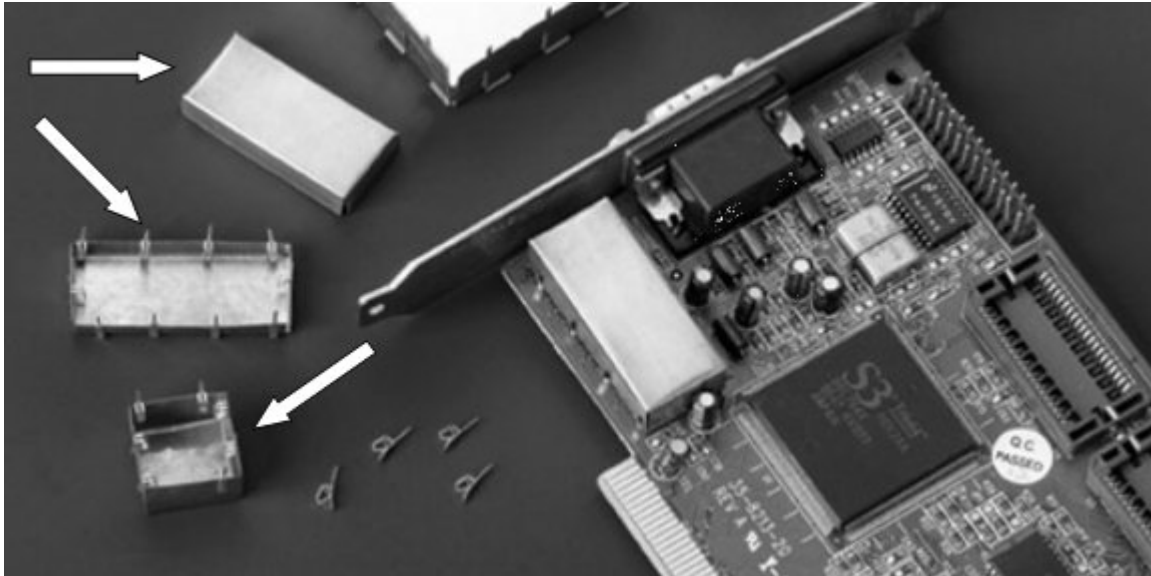
*If choice b is selected set score to 1.*

**33.** What type of EMC can interfere with an unbalanced circuit?

- (a) Both inductive and capacitive pickup.
- o (b) Only capacitive pickup.
- o (c) Only inductive pickup

*If choice a is selected set score to 1.*

34. Looking at this picture, how are the copper boxes named?



- (a) Shielding
- o (b) EMD boxes
- o (c) Bonding cages

*If choice a is selected set score to 1.*

35. How is the static charge caused by lightning fed through the aircraft?

- (a) By using bonding strips to conduct the high currents, preventing serious damage.
- o (b) By the use of static dischargers on preferred exit points, like the wingtips.
- o (c) By use of special surge protection devices, that short-circuit the generated current.

*If choice a is selected set score to 1.*

36. In which direction is ACARS information transmitted?

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

*If choice b is selected set score to 1.*

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....

- o (a) inform the pilot to take action to correct the deviation.

- (b) take action and send a steering command to the autopilot.
- o (c) take action and correct the aircraft heading by steering the aircraft.

*If choice b is selected set score to 1.*

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

The transponder sends also....

- (a) altitude information.
- o (b) airspeed information.
- o (c) vertical speed information.

*If choice a is selected set score to 1.*

**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)
- o (b) using lighter materials for avionics.
- o (c) using less aircraft systems.

*If choice a is selected set score to 1.*

**40.** What is a BITE ?

- o (a) 8 Bits
- (b) Build In Test Equipment
- o (c) Boeing Interface Test Equipment

*If choice b is selected set score to 1.*

***If assessment score is 75% to 100% Pass  
If assessment score is 0% to 74% Fail***