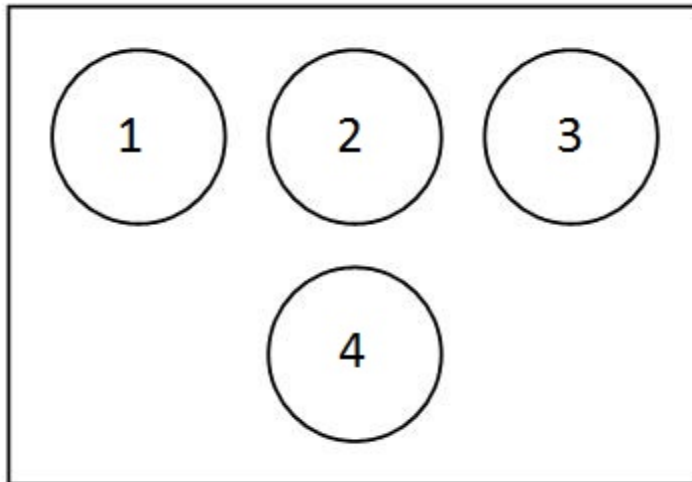


Question block created by wizard.

This exam contains 40 questions

- 1.** When looking at the basic T in the figure, what instrument is located at position indicated with number 2?



- (a) The artificial horizon.
- o (b) The airspeed indicator.
- o (c) The altitude indicator.

If choice a is selected set score to 1.

- 2.** What is the name of the system used in collision avoidance?

- o (a) RAS.
- o (b) ACARS.
- (c) ACAS/TCAS.

If choice c is selected set score to 1.

- 3.** A blue annunciation means....

- (a) An indication for temporary normal system action.
- o (b) A partial system malfunction caution.
- o (c) An auto pilot mode annunciation.

If choice a is selected set score to 1.

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

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

If choice b is selected set score to 1.

5. What is the value of $224_{(8)}$ in the hexadecimal system?

- (a) 94
- (b) 4A
- (c) 98

If choice a is selected set score to 1.

6. What type of converter is the fastest for analogue to digital conversion?

- (a) Charge Balancing ADC
- (b) Integration ADC
- (c) Flash ADC

If choice c is selected set score to 1.

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

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

If choice b is selected set score to 1.

8. The ARINC 429 data-bus uses a....

- (a) 8 bit label and 24 bit of data word.
- (b) 8 bit label and 16 bit of data word.
- (c) 8 bit label and 8 bit of data word.

If choice a is selected set score to 1.

9. An ARINC 629 data bus stub cable is the connection between...

- (a) different bus couplers.

- (b) bus coupler and terminal resistor.
- (c) bus coupler and connected line replaceable unit.

If choice c is selected set score to 1.

10. Where is the ARINC429 high speed transmission rate used for?

- (a) Cabin interphone system only.
- (b) Flight critical systems.
- (c) Flight non-critical systems.

If choice b is selected set score to 1.

11. The carrier-sense multiple access with collision detection (CSMA/CD) system in the ethernet protocol is used to prevent....

- (a) signal weakening over a long distance.
- (b) for interference from adjacent devices.
- (c) the access of multiple devices to the ethernet at the same time.

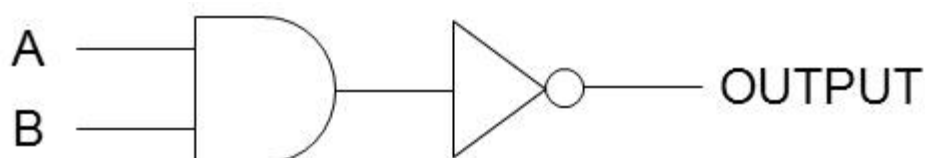
If choice c is selected set score to 1.

12. Where are the repeaters in an ethernet medium used to?

- (a) To increase the network diameter.
- (b) To transmit a broadcast address.
- (c) To construct a destination address.

If choice a is selected set score to 1.

13. What is the function of this logic circuit?



- (a) Nor
- (b) Nand
- (c) And

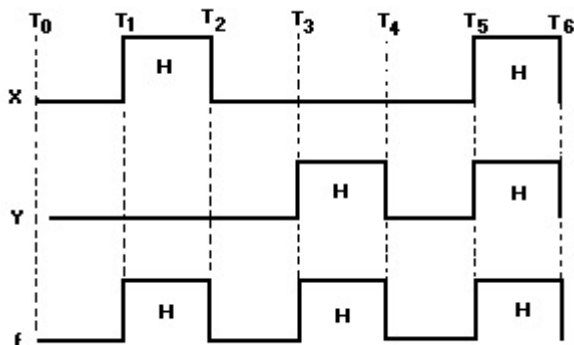
If choice b is selected set score to 1.

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

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

If choice b is selected set score to 1.

15. What gate is represented by the time-diagram shown here?



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

If choice c is selected set score to 1.

16. In which way are schematic or functional diagrams usually drawn?

- (a) From right to left.
- (b) From left to right.
- (c) From up to down.

If choice b is selected set score to 1.

17. What is a tristate device?

This is....

- (a) a device that has the following three states: ON, OFF and UNKNOWN.
- (b) a logic device that has the logic levels "0" and "1", and a level called Hi-Z
- (c) a logic device that has three different voltage values on its output.

If choice b is selected set score to 1.

18. What is the purpose of the demultiplexer?

- (a) To amplify an input and sending it to one output.
- (b) To take one input and sending it to one of many outputs.
- (c) To take many inputs and sending it to one output.

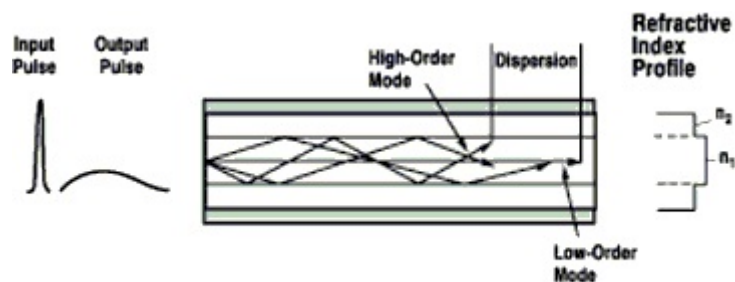
If choice b is selected set score to 1.

19. How do we erase the data content of an Eprom?

- (a) With a burst of ultra-violet light.
- (b) By removing the power.
- (c) By exposing it to an electrical charge.

If choice a is selected set score to 1.

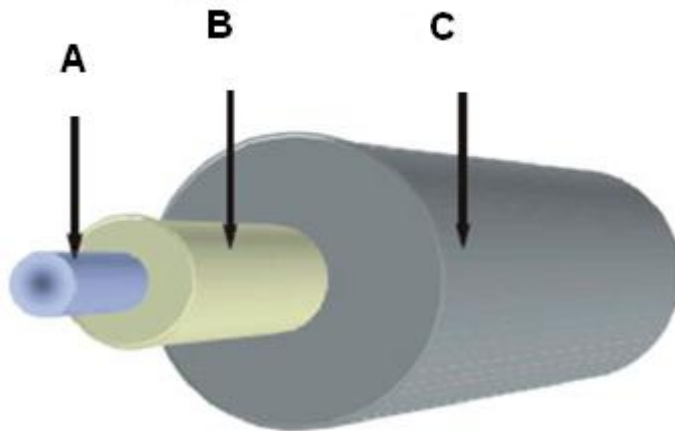
20. What type of fibre optic is shown here?



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

If choice a is selected set score to 1.

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



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

If choice a is selected set score to 1.

22. What is the biggest advantage to use fibre optics for angular rate sensing (gyroscopes)?

- o (a) There are low losses for high frequency signals.
- o (b) You can transmit over long distances.
- (c) They are not affected by magnetic fields.

If choice c is selected set score to 1.

23. What type of display is a 7-segment LCD display?

- o (a) An active display, generating its own light source.
- o (b) A passive display, generating its own light source.
- (c) A passive display, using reflected light.

If choice c is selected set score to 1.

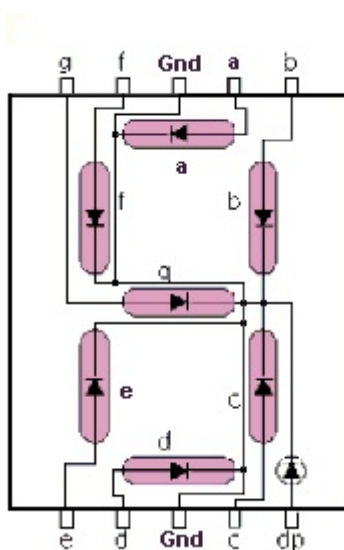
24. What type of display is shown here?



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

If choice c is selected set score to 1.

25. What is the connection method called of the display shown here?



- (a) Common Anode.
- (b) Common Cathode.
- (c) Multiplexed.

If choice b is selected set score to 1.

26. At which circumstance is it necessary to wear a wrist strap?

- (a) Only when the power source is switched on.
- (b) When changing an electrically sensitive computer mounted in a metal cabinet (LRU).

- (c) When changing a power printed circuit board.

If choice c is selected set score to 1.

27. What is meant by static electricity?

- o (a) An electric voltage without any user.
- o (b) Electric energy in a battery.
- (c) Electrical charge at rest.

If choice c is selected set score to 1.

28. Some materials can be positively- or negatively charged.

Which material can hardly be charged at all?

- o (a) PVC pipes
- (b) Cotton wire
- o (c) Nylon wool

If choice b is selected set score to 1.

29. What is in equipment the maximum contact or bonding resistance?

- o (a) 1 mega ohm.
- o (b) 100 Ohm
- (c) 0.05 Ohm

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

If choice c is selected set score to 1.

31. What does the abbreviation FLS mean?

- o (a) Field Loading System
- o (b) Flight Leading Software.
- (c) Field Loadable Software.

If choice c is selected set score to 1.

32. Which department shall assign an airborne software critically category?

- (a) The computer designer.
- (b) The aircraft constructor.
- (c) The software developer.

If choice b is selected set score to 1.

33. What is an example of an EMI external noise producing source?

- (a) Cosmic noise from objects in space.
- (b) The energy pulses produced by the anti-collision light system.
- (c) The radiation of a display.

If choice b is selected set score to 1.

34. How can you achieve HIRF immunity for multilayer circuit boards?

- (a) By aircraft structure bonding.
- (b) By static dischargers.
- (c) By full voltage and ground planes between the board layers.

If choice c is selected set score to 1.

35. What is the most important step to do during an after-lightning strike inspection?

- (a) Movement of the flight control surfaces.
- (b) An operational avionics test.
- (c) Inspection for burn spots and pitted areas.

If choice c is selected set score to 1.

36. When does the Aircraft Communication Addressing and Reporting System (ACARS) operate in the polled mode?

- (a) When a message block is longer than 220 characters.
- (b) When the aircraft is interrogated by a ground facility.
- (c) When the flight crew initiates ACARS communication.

If choice b is selected set score to 1.

37. With the Global Positioning System (GPS) a satellite position error is affected by

- (a) the satellite clock.
- (b) the GPS receiver.
- (c) gravity forces.

If choice c is selected set score to 1.

38. What is the symbol for the highest collision threat that will be displayed by the Traffic Collision Avoidance System (TCAS)?

- (a) A red square.
- (b) A yellow roundel.
- (c) A white diamond.

If choice a is selected set score to 1.

39. What is the basic concept behind Integrated Modular Avionics?

To have a modular system....

- (a) that can easily be maintained.
- (b) with processing units for every function.
- (c) sharing hardware for multiple functions.

If choice c is selected set score to 1.

40. One of the build-in test functions is a cyclic test. This test.....

- (a) is carried out permanently during system operation.
- (b) is carried out only on the ground.
- (c) interrupts the system operation.

If choice a is selected set score to 1.

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