Question block created by wizard

1. How is the specific arrangement of primary flight instruments called?

- o (a) Primary Flight Display (PFD).
- o (b) Navigation Display (ND).
- • (c) Classic "T".

If choice c is selected set score to 1.

2. All cockpit annunciators are extinguished during normal flight.

How do you call this concept?

- • (a) Dark cockpit.
- o (b) Glass cockpit.
- o (c) Clean cockpit.

If choice a is selected set score to 1.

3. What is the annunciator colour for a temporary normal system action?

- o (a) White.
- • (b) Blue.
- o (c) Red.

If choice b is selected set score to 1.

4. What is the annunciator colour for a critical system malfunction?

- o (a) Blue
- • (b) Red
- o (c) Amber

If choice b is selected set score to 1.

5. What is the annunciator colour for an active navigation mode?

- o (a) Green
- • (b) Purple

- o (c) Red

If choice b is selected set score to 1.

6. What is a warning for an urgent system malfunction?

- o (a) Status message.
- • (b) Level 3.
- o (c) Level 1.

If choice b is selected set score to 1.

7. Airspeed, altitude, attitude are...

- o (a) system instrument parameters.
- o (b) secondary flight instrument parameters.
- • (c) primary flight instrument parameters.

If choice c is selected set score to 1.

8. Oil Pressure indicator, engine vibration indicator and fuel flow indicator are...

- o (a) primary engine instruments.
- • (b) secondary engine instruments.
- o (c) system instruments.

If choice b is selected set score to 1.

9. Engine pressure ratio indicator, rotation speed indicator and exhaust gas temperature indicator are...

- o (a) system instruments.
- • (b) primary engine instruments.
- o (c) secondary engine instruments.

If choice b is selected set score to 1.

10. How is aircraft system information as a simple schematic diagram called?

- (a) Synoptic display.

o (b) Eicas display.
o (c) Primary flight display.

If choice a is selected set score to 1.

11. The airbus ecam system provides indication of...

o (a) airspeed and altitude.

- (b) engine and systems.

o (c) flight attitude and heading.

If choice b is selected set score to 1.

12. How is a moving pointer against a fixed round background called?

o (a) Tape indication.
o (b) Numerical indication.

- (c) Dial indication.

If choice c is selected set score to 1.

13. How do you call an indication uses digits without a dial?

o (a) Tape indication.
o (b) Dial indication.

- (c) Numerical indication.

If choice c is selected set score to 1.

14. How do you call an indication uses a sliding pointer against a fixed tape shape dial?

o (a) Dial indication.

- (b) Tape indication.

o (c) Numerical indication.

If choice b is selected set score to 1.

15. Engine parameters are displayed on...

- o (a) EFIS
- • (b) ECAM
- o (c) FMS

If choice b is selected set score to 1.

16. What do aircraft with an electronic flight bag system installed have?

- o (a) Glass cockpit concept.
- • (b) Paperless cockpit concept.
- o (c) Clean cockpit concept.

If choice b is selected set score to 1.

17. By what is the conversion of engine parameters from analogue to digital performed?

- o (a) ECAM
- • (b) Engine data converter.
- o (c) EICAS

If choice b is selected set score to 1.

18. Which warning level is for the pilot the least important warning?

- o (a) Level 1 warning.
- o (b) Level 2 warning.
- • (c) Level 3 warning.

If choice c is selected set score to 1.

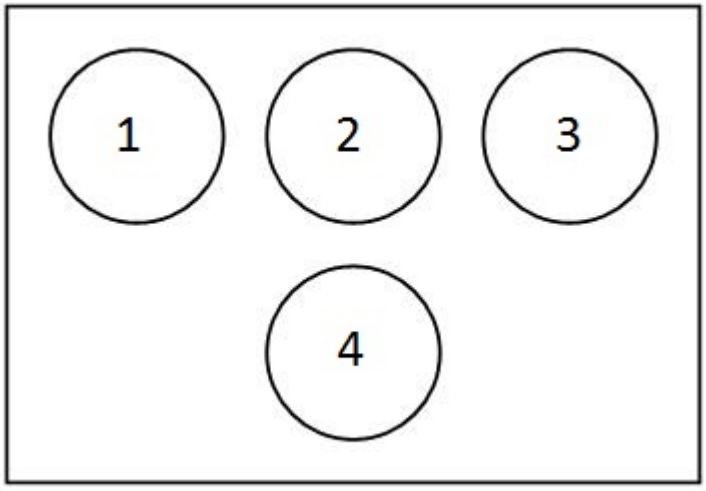
19. Which instruments form the "Basic T" ?

- o (a) Altimeter, Turn Coordinator, Artificial Horizon, Vertical Speed Indicator.
- o (b) Altimeter, Vertical Speed Indicator, Directional Gyro, Airspeed Indicator.

- (c) Altimeter, Airspeed Indicator, Directional Gyro, Artificial Horizon.

If choice c is selected set score to 1.

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

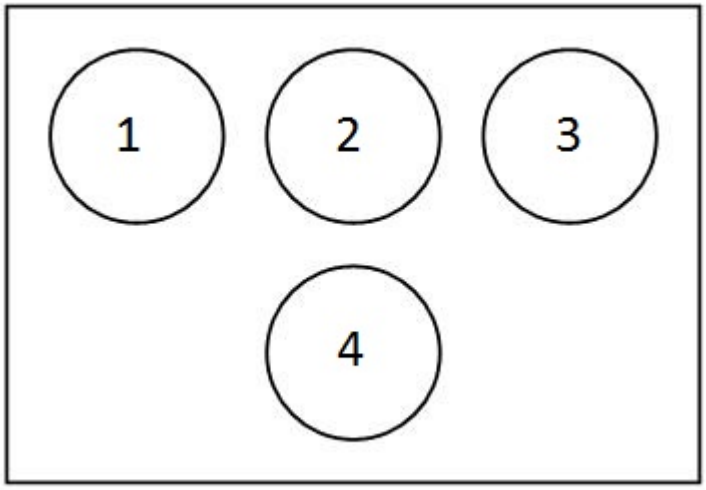


o (a) The altitude indicator.
o (b) The artificial horizon.

- (c) The airspeed indicator.

If choice c is selected set score to 1.

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



- o (a) The altitude indicator.
- o (b) The airspeed indicator.

- • (c) The artificial horizon.

If choice c is selected set score to 1.

22. What does EFIS mean ?

- • (a) Electronic Flight Instrument System

- o (b) Electronic Flight Information System
- o (c) Enhanced Flight Information System

If choice a is selected set score to 1.

23. What does the abbreviation EICAS mean?

- • (a) Engine Indicating and Crew Alerting System.

- o (b) Electronic Indicating and Crew Alerting System.
- o (c) Enhanced Indication and Controlled Aircraft System.

If choice a is selected set score to 1.

24. What is the name of the system used in collision avoidance?

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

If choice b is selected set score to 1.

25. What instrument is shown in this PFD?

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

If choice c is selected set score to 1.

26. What is the name of the display unit that show all basic flight instruments?

- o (a) The Basic Display Unit.
- • (b) The Primary Flight Display.
- o (c) The Flight Director Display.

If choice b is selected set score to 1.

27. 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.

28. EICAS provides the....

o (a) engine parameters and engine warnings only.
o (b) engine parameters only.

- (c) engine parameters and system warnings only.

If choice c is selected set score to 1.

29. Engine parameters are displayed on....

o (a) EHSI
o (b) FMS CDU

- (c) ECAM

If choice c is selected set score to 1.

30. During flight (no-fault conditions) the EICAS system displays on the lower CRT....

o (a) synoptic display.

- (b) secondary engine parameters.

o (c) flight phase page.

If choice b is selected set score to 1.

31. Modern aircraft with electronic displays would display information on airframe and engine on which system?

o (a) FMS
o (b) EADI

- (c) ECAM

If choice c is selected set score to 1.

32. What instrument includes a display of a rising runway?

- o (a) ECAM
- • (b) PFD
- o (c) EHSI

If choice b is selected set score to 1.

33. What would you expect to see displayed on an EADI display?

- o (a) Course information, weather radar, way point alert and bearing pointers.
- • (b) Flight director command bars, slip indicator, rate to altitude & auto-land.
- o (c) Compass heading, selected heading and VOR.

If choice b is selected set score to 1.

34. Radio altitude is displayed on a EFIS system on the....

- o (a) RMI.
- o (b) EHSI.
- • (c) EADI.

If choice c is selected set score to 1.

35. On an EFIS system the weather radar is displayed on the....

- o (a) EADI.
- • (b) EHSI.
- o (c) FMC CDU.

If choice b is selected set score to 1.

36. A CRT display has the advantage over an LCD display by....

- o (a) more energy efficient.
- o (b) brighter clearer output.
- • (c) large viewing angle.

If choice c is selected set score to 1.

37. Which of the following numbers is in a wrong format?

- (a) $1543_{(5)}$

o (b) $1221_{(3)}$
o (c) $1237_{(8)}$

If choice a is selected set score to 1.

38. How many elements uses the hexadecimal system?

It uses...

o (a) 4 elements.
o (b) 8 elements.

- (c) 16 elements.

If choice c is selected set score to 1.

39.
The base or radix of the binary number system is...

o (a) one
o (b) four

- (c) two

If choice c is selected set score to 1.

40. A hexadecimal number is a number to base....

o (a) 2
o (b) 8

- (c) 16

If choice c is selected set score to 1.

41. A computer message 3B4 is

o (a) octal
o (b) binary

- (c) hexadecimal

If choice c is selected set score to 1.

42. What is the value of $342_{(8)}$ in the decimal system?

- (a) $226_{(10)}$

o (b) $30_{(10)}$
o (c) $22_{(10)}$

If choice a is selected set score to 1.

43. What is the value of $342_{(8)}$ in the hexadecimal system?

o (a) $CE_{(16)}$

- (b) $E2_{(16)}$

o (c) $FE_{(16)}$

If choice b is selected set score to 1.

44. Convert $7_{(8)}$ to the binary number system.

o (a) $100_{(2)}$

- (b) $111_{(2)}$

o (c) $101_{(2)}$

If choice b is selected set score to 1.

45. Convert $011101_{(2)}$ to Octal.

o (a) 25
o (b) 33

- (c) 35

If choice c is selected set score to 1.

46. The octal number 1001 expressed as a decimal number is....

o (a) 9

- (b) 513

o (c) 65

If choice b is selected set score to 1.

47. Convert 2C hex to octal.

o (a) 35
o (b) 44

- (c) 54

If choice c is selected set score to 1.

48. What is 54 octal in hexadecimal?

o (a) 2F
o (b) 4F

- (c) 2C

If choice c is selected set score to 1.

49. Convert the binary word 1110 to decimal.

o (a) 15

- (b) 14

o (c) 12

If choice b is selected set score to 1.

50. Convert the binary number 110010 to decimal.

o (a) 34

- (b) 50

o (c) 80

If choice b is selected set score to 1.

51. $101_{(2)}$ converted to decimal is?

- (a) $5_{(10)}$

o (b) $5_{(2)}$
o (c) $2_{(10)}$

If choice a is selected set score to 1.

52. The binary number 11010111 expressed as a decimal is....

- (a) 215

o (b) 53
o (c) 107

If choice a is selected set score to 1.

53. Convert the binary word 1100 to decimal.

o (a) 11
o (b) 16

- (c) 12

If choice c is selected set score to 1.

54. Convert decimal 15 into binary.

o (a) 1110
o (b) 1101

- (c) 1111

If choice c is selected set score to 1.

55. Convert decimal 345 in binary.

o (a) 100111001
o (b) 110011001

- (c) 101011001

If choice c is selected set score to 1.

56. The decimal number 7 expressed as a binary number is....

- (a) $111_{(2)}$

o (b) $7_{(2)}$
o (c) $101_{(2)}$

If choice a is selected set score to 1.

57. Convert the hexadecimal number D into decimal.

o (a) 15

- (b) 13

o (c) 14

If choice b is selected set score to 1.

58. Convert decimal 15 into hexadecimal

o (a) E

- (b) F

o (c) G

If choice b is selected set score to 1.

59. Convert hexadecimal 1D to binary.

o (a) 101001

- (b) 11101

o (c) 29

If choice b is selected set score to 1.

60. What is hexadecimal 110 in decimal?

o (a) 32

- (b) 272

o (c) 282

If choice b is selected set score to 1.

61. Calculate: $1101_{(2)} + 101101_{(2)} = \ldots\ldots\ldots_{(10)}$

- o (a) 61
- • (b) 58
- o (c) 70

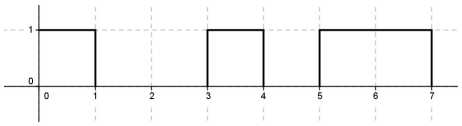
If choice b is selected set score to 1.

62. Calculate: $1100001_{(2)} - 101100_{(2)} = \ldots\ldots\ldots\ldots_{(2)}$

- o (a) $110111_{(2)}$
- • (b) $110101_{(2)}$
- o (c) $10001101_{(2)}$

If choice b is selected set score to 1.

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



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

If choice b is selected set score to 1.

64. How much comparators are needed in a 4-bit FLASH ADC?

This would need....

- o (a) 2^4=16 comparators.
- • (b) 2^4-1=15 comparators.
- o (c) 2^4+1=17 comparators.

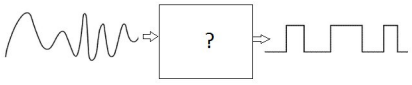
If choice b is selected set score to 1.

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

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

If choice c is selected set score to 1.

66. What is the function of the block marked "?" in this figure?

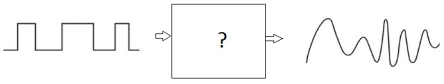


This is a....

- o (a) SAR.
- o (b) DAC.
- • (c) ADC.

If choice c is selected set score to 1.

67. What is the function of the block marked with "?" in this figure?



This is....

- o (a) a SAR.
- • (b) a DAC.
- o (c) an ADC.

If choice b is selected set score to 1.

68. 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.

69. Physical variables, such as voltage or angular rotation of a shaft are....

- (a) analogue.

o (b) logic.
o (c) digital.

If choice a is selected set score to 1.

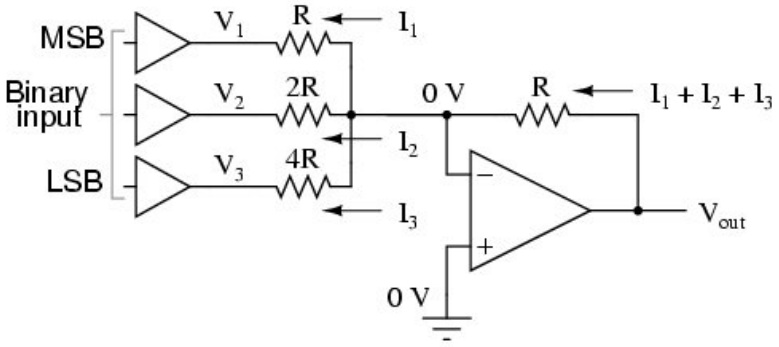
70. What does 1 represent in an analogue system?

- (a) switches closed, magnetised.

o (b) high frequency.
o (c) switches open, un-magnetised.

If choice a is selected set score to 1.

71. What kind of DAC is show in this picture?



o (a) An R-2R DAC.
o (b) A Dual Slope DAC.

- (c) A Binary Weighted Ladder DAC.

If choice c is selected set score to 1.

72. A given transducer provides a voltage which corresponds to true heading. This voltage can be converted to 'bits' by using....

o (a) a commutator.

- o (b) a digital to analogue converter.

- • (c) an analogue to digital converter.

If choice c is selected set score to 1.

73. Audio sounds recorded digitally are....

- o (a) narrow bandwidth.
- o (b) not as accurate due to clipping and input errors.

- • (c) superior quality and "data preservation".

If choice c is selected set score to 1.

74. Within a computer controlled flight system, position feedback is converted from....

- • (a) analogue to digital.

- o (b) position feedback to rate feedback.
- o (c) digital to analogue.

If choice a is selected set score to 1.

75. An encoder changes....

- • (a) data from one format to another.

- o (b) digital to analogue.
- o (c) analogue to digital.

If choice a is selected set score to 1.

76. In an analogue to digital converter, the input voltage....

- • (a) stays on constantly.

- o (b) is switched by the digital input.
- o (c) is intermittent.

If choice a is selected set score to 1.

77. When the voltage that represents a logic 1 state is less than the voltage that represents a logic 0 state, the logic being used is....

- o (a) either positive or negative.

- (b) negative.

o (c) positive.

If choice b is selected set score to 1.

78. A digital to analogue converter that requires the output to range between 0 V and -10 V would have....

- (a) an inverting amplifier in series with the output line.

o (b) a non-inverting amplifier in parallel with the output line.
o (c) a non-inverting amplifier in line with the output with a resistor to ground.

If choice a is selected set score to 1.

79. An analogue to digital converter is as accurate as the....

o (a) frequency.
o (b) amplitude.

- (c) sampling rate.

If choice c is selected set score to 1.

80. A DAC uses a precision amplifier to....

o (a) ensure the input remains accurate.

- (b) ensure the output voltages remain accurate.

o (c) compensates for the variation of the feedback resistor due to temperature.

If choice b is selected set score to 1.

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

- (a) 2 bits.

o (b) 8 bits.
o (c) 4 bits.

If choice a is selected set score to 1.

82. What is the transmission rate frequency of an ARINC429 data-bus?

o (a) 560 kHz
o (b) 75 kHz

• (c) 100 kHz

If choice c is selected set score to 1.

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

• (a) 8 bit label and 24 bit of data word.

o (b) 8 bit label and 8 bit of data word.
o (c) 8 bit label and 16 bit of data word.

If choice a is selected set score to 1.

84. What is a parity check?

• (a) Sending an additional bit in a data-word transmission for error checking.

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

If choice a is selected set score to 1.

85. What is the purpose of the ARINC429 8 bit label?

• (a) To define the type of data in the rest of the data-word.

o (b) To indicate the numbers of receivers on the data-bus.
o (c) To indicate the distance from transmitter to receiver.

If choice a is selected set score to 1.

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

• (a) bus coupler and connected line replaceable unit.

o (b) bus coupler and terminal resistor.
o (c) different bus couplers.

If choice a is selected set score to 1.

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

- (a) Simplex.

o (b) Half duplex.
o (c) Duplex.

If choice a is selected set score to 1.

88. Give the name of a data bus which can transmit data in one direction only.

o (a) Half duplex bus

- (b) Simplex bus

o (c) Duplex bus

If choice b is selected set score to 1.

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

o (a) Cabin interphone system only.

- (b) Flight critical systems.

o (c) Flight non-critical systems.

If choice b is selected set score to 1.

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

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

o (a) ethernet devices such as computers.

- (b) messages being relayed over the Ethernet.

o (c) central Ethernet computer in a LAN.

If choice b is selected set score to 1.

91. To what does an ethernet network protocol refer?

o (a) The maximum distance between computers in the same network.
o (b) The maximum number of computers in the same network.

- (c) Rules that controls and regulate the communication.

If choice c is selected set score to 1.

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

o (a) prevent for interference from adjacent devices.

- (b) prevent the access of multiple devices to the ethernet at the same time.

o (c) prevent signal weakening over a long distance.

If choice b is selected set score to 1.

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

This is a message intended for....

- (a) all nodes in the network.

o (b) a group of nodes in the network.
o (c) only one node in the network.

If choice a is selected set score to 1.

94. What is the purpose of the destination address in the ethernet medium?

To reach....

- (a) a specific node connected to the ethernet.

o (b) all nodes connected to the ethernet.
o (c) two nodes connected to the ethernet at the same time.

If choice a is selected set score to 1.

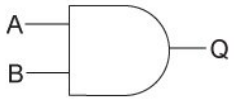
95. Where are the repeaters in an ethernet medium used to?

- (a) To increase the network diameter.

o (b) To construct a destination address.
o (c) To transmit a broadcast address.

If choice a is selected set score to 1.

96. What type of logic gate is shown here?



o (a) EXNOR gate.
o (b) OR gate.

• (c) AND gate.

If choice c is selected set score to 1.

97. Which gate belongs to the truth table shown here?

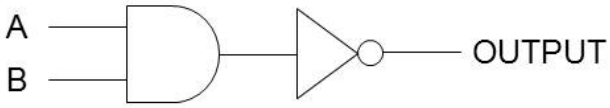
A	B	Output
0	0	1
0	1	0
1	0	0
1	1	1

• (a) EXNOR

o (b) NAND
o (c) NOR

If choice a is selected set score to 1.

98. What is the function of this logic circuit?



o (a) Nor

• (b) Nand

o (c) And

If choice b is selected set score to 1.

99. What is meant by "positive logic"?

- (a) The "1"state = +5 V, the "0"state = -5 V

o (b) The "1"state and the "0"state are equal.
o (c) The "1"state = -5 V, the "0"state = +5 V

If choice a is selected set score to 1.

100. What is the meaning of "Fan out"?

o (a) The maximum output voltage of a particular logic circuit.
o (b) The maximum number of inputs that a single logic circuit can accept.

- (c) The maximum number of inputs that the output of a single logic circuit can feed.

If choice c is selected set score to 1.

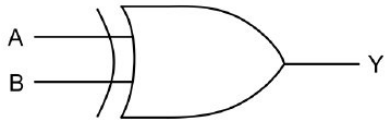
101. What is the Boolean expression for an "and gate"?

- (a) A·B·C

o (b) A-B-C
o (c) A+B+C

If choice a is selected set score to 1.

102. 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

o (b)

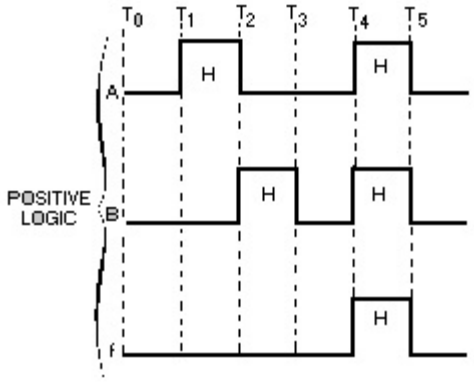
A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

o (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.

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

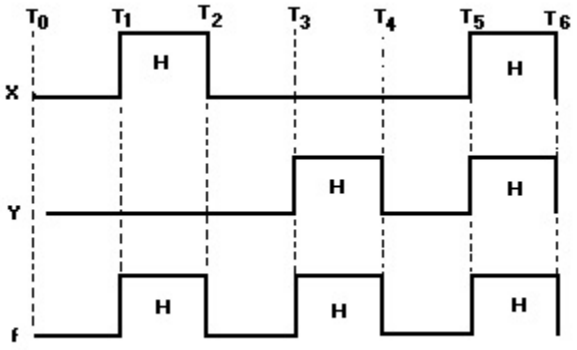


- (a) AND gate.

o (b) OR gate.
o (c) NAND gate.

If choice a is selected set score to 1.

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



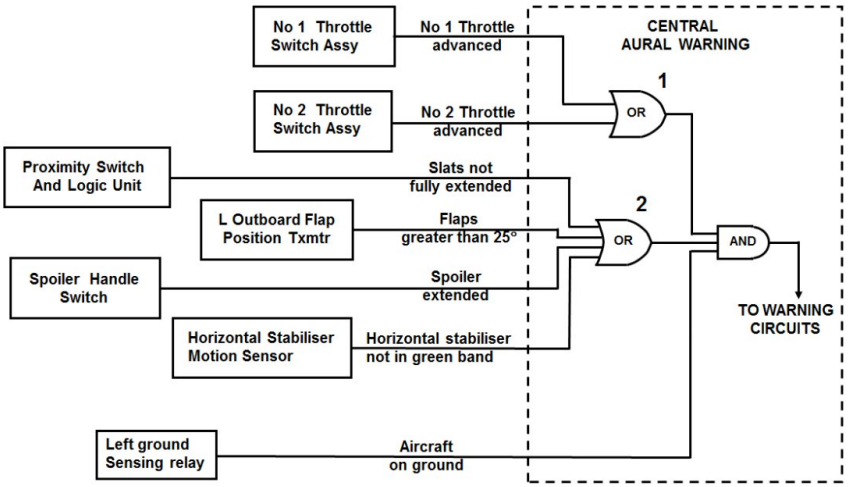
o (a) EXOR gate.

• (b) OR gate.

o (c) EXNOR gate.

If choice b is selected set score to 1.

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

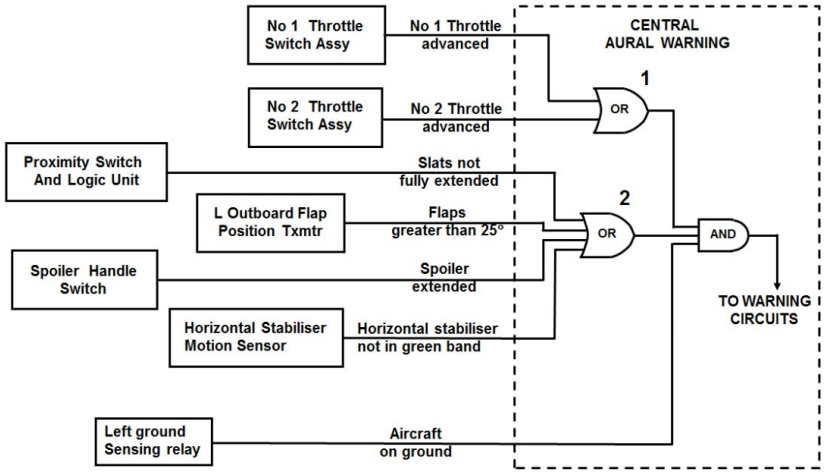


o (a) The spoilers are extended in flight.
o (b) If the flap position is greater than 25° in flight.

• (c) Only on the ground.

If choice c is selected set score to 1.

106. In witch situation is it <u>not possible</u> to generate a take-off warning?



- o (a) Whet the engine throttles are in advanced position.
- o (b) If the flap position is greater than 25°.

- • (c) Only during flight.

If choice c is selected set score to 1.

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

- • (a) From left to right.

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

If choice a is selected set score to 1.

108. What is meant by the expression "negative logic"?

- o (a) This means that the output voltages are negative with respect to ground.
- o (b) This means that all outputs are inverted.

- • (c) The logic "1" state is at a more negative voltage than the logic "0" state.

If choice c is selected set score to 1.

109. What is a tristate device?

This is....

- o (a) a logic device that has three different voltage values on its output.
- o (b) a device that has the following three states: ON, OFF and UNKNOWN.

- (c) a logic device that has the logic levels "0" and "1", and a level called Hi-Z

If choice c is selected set score to 1.

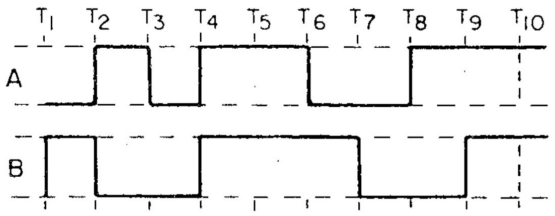
110. A schematic or functional diagram is usually drawn with the inputs.....

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

- (c) left and the outputs right.

If choice c is selected set score to 1.

111. At which of the following times will the output of a two input AND gate go to HIGH? See the figure below.

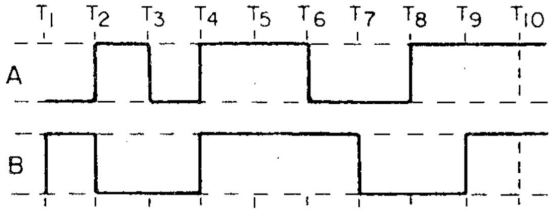


- (a) T4 and T9

o (b) T2, T5 and T8
o (c) T2, T6 and T10

If choice a is selected set score to 1.

112. At which of the following times will the output of the AND gate be LOW? See the figure below.



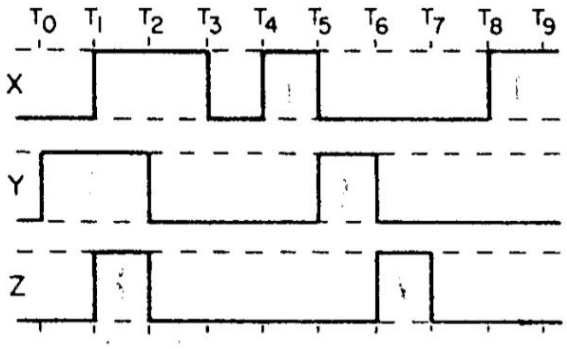
o (a) T1 to T3 and T6 to T10

- (b) T1 to T4 and T6 to T9

o (c) T1 to T4 and T5 to T8

If choice b is selected set score to 1.

113. The OR gate will have a HIGH output at which of the following times? See the figure below



- o (a) T1 to T2 and T4 to T9
- o (b) T3 to T4 and T7 to T8
- • (c) T0 to T3, T4 to T7, and T8 to T9

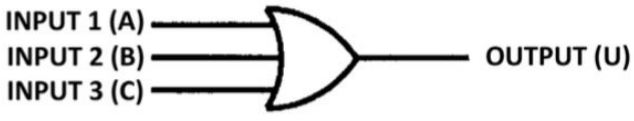
If choice c is selected set score to 1.

114. The function of a NOT logic gate within a circuit is to....

- o (a) ensure the input signal is DC only.
- o (b) ensure the output signal is of the same state as the input signal.
- • (c) invert the input signal such that the output is always of the opposite state.

If choice c is selected set score to 1.

115. Which of the following gates is represented by the symbol in the figure?



- • (a) OR
- o (b) NOR
- o (c) AND

If choice a is selected set score to 1.

116. The output of a NOT gate is logic 1. The input is....

- (a) logic 0.

o (b) both logic 1
o (c) logic 1.

If choice a is selected set score to 1.

117. Which of the following logic gates requires all inputs to be 1 (true) at the same time to produce a 1 (true) output?

o (a) NOT

- (b) AND

o (c) OR

If choice b is selected set score to 1.

118. What sort of logic gate requires two positive voltages to operate?

o (a) NOT gate.

- (b) AND gate.

o (c) OR gate.

If choice b is selected set score to 1.

119. The output of an AND gate, with two inputs A and B, is logic 1. The two inputs will have the logic states of....

- (a) A = 1, B = 1

o (b) A = 0, B = 0
o (c) A = 1, B = 0

If choice a is selected set score to 1.

120. An AND gate with 2 inputs, gives an output 1 when the inputs are....

- (a) both 1

o (b) both 0
o (c) 1 and 0

If choice a is selected set score to 1.

121. Which of the following gates produces a HIGH (1) output when any or all of the inputs are LOW (0)?

- o (a) OR
- • (b) NAND
- o (c) NOR

If choice b is selected set score to 1.

122. A NOR gate with both inputs inverted becomes....

- • (a) an AND gate
- o (b) a NAND gate
- o (c) an OR gate

If choice a is selected set score to 1.

123. Adding invertors to the two inputs of an AND gate makes....

- • (a) a NOR gate
- o (b) a NAND gate
- o (c) an OR gate

If choice a is selected set score to 1.

124. When will a NAND gate (2 inputs) give logic 0 at the output?

- o (a) When the inputs are different.
- o (b) When both inputs are at 0.
- • (c) When both inputs are at 1.

If choice c is selected set score to 1.

125. An AND gate with inverted inputs and an inverted output is equivalent to....

- o (a) an AND gate.
- o (b) a NOR gate.
- • (c) an OR gate.

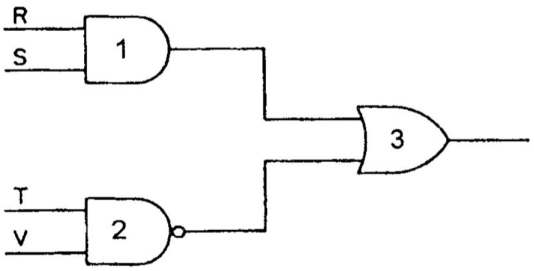
If choice c is selected set score to 1.

126. Which of the following output expression is correct for an AND gate.

- o (a) A = B
- • (b) f = A•B
- o (c) f = A+B

If choice b is selected set score to 1.

127. Which of the following output expressions represents the output of gate 3?



- o (a) $(R \cdot S) \cdot (T \cdot V)$
- o (b) $(R \cdot S) + (T \cdot V)$
- • (c) $(R.S) + \overline{(T.V)}$

If choice c is selected set score to 1.

128. Which logic can be represented as a parallel circuit?

- o (a) Exclusive OR gate
- • (b) OR gate
- o (c) NAND gate

If choice b is selected set score to 1.

129. The computer input unit and memory are called....

- o (a) Software.

- (b) Hardware.

o (c) Central Processing Unit (CPU).

If choice b is selected set score to 1.

130. One logic digit is called a....

o (a) Byte.
o (b) Nibble.

- (c) Bit.

If choice c is selected set score to 1.

131. A central processing unit (CPU) consist of....

- (a) an Arithmetic Logic Unit (ALU) and a control unit.

o (b) an input unit and an output unit.
o (c) a control unit and an output unit.

If choice a is selected set score to 1.

132. A computer-bus is....

o (a) the computer cooling unit.

- (b) a set of connections for data transport.

o (c) the computer casing.

If choice b is selected set score to 1.

133. An analogue input means an input with....

o (a) a high and a low value (0 - 28V).
o (b) two values (on-off).

- (c) many possible values.

If choice c is selected set score to 1.

134. A discrete input means an input with....

o (a) many possible inputs.

- (b) a steady value.

- (c) two values (on-off).

If choice c is selected set score to 1.

135. A logic word of 8 bits long is called a....

- (a) Nibble.

- (b) Byte.

- (c) Bit.

If choice b is selected set score to 1.

136. A memory that loses its data when power is removed is called a....

- (a) non-volatile memory.

- (b) volatile memory.

- (c) solid state memory.

If choice b is selected set score to 1.

137. The recording time of a digital flight data recorder with a 450 feet tape is....

- (a) 25 hours.

- (b) 50 hours.
- (c) 10 hours.

If choice a is selected set score to 1.

138. A non-volatile memory means the memory....

- (a) losses data when power is removed.
- (b) uses a magnetic type storage.

- (c) holds data when power is removed.

If choice c is selected set score to 1.

139. A 3,5 inch floppy disc is usually formatted for storing....

- (a) 1,44 megabytes of information.

o (b) 1440 megabytes of information.
o (c) 512 bytes of information.

If choice a is selected set score to 1.

140. The smallest physical storage unit on a hard disc is called a sector and contains....

o (a) 1 megabyte.

- (b) 512 bytes.

o (c) 1 bit.

If choice b is selected set score to 1.

141. The bootstrap program is stored....

o (a) on a Magnetic Hard Disc Drive (HDD).

- (b) in a Read Only Memory (ROM).

o (c) in a Random Access Memory (RAM).

If choice b is selected set score to 1.

142. The contents of an Erasable Programmable Read Only Memory (EPROM) can be erased by....

o (a) exposure to an electric charge.
o (b) data overwriting.

- (c) ultra violet light.

If choice c is selected set score to 1.

143. Line Replaceable Units (LRU's) are....

- (a) aircraft on-board computers.

o (b) internal computer circuit boards.
o (c) avionic racks placed in the avionics compartment.

If choice a is selected set score to 1.

144. Lug-type latches on an aircraft computer means....

- o (a) the installed type of memory.
- • (b) the devices for securing the computer in the avionics rack.
- o (c) the way of data storage.

If choice b is selected set score to 1.

145. Arinc 600 is a standardisation for....

- • (a) computer casing dimensions.
- o (b) computer casing colour.
- o (c) computer software.

If choice a is selected set score to 1.

146. The devices for securing the computer into avionics are called....

- • (a) handle-type lugs.
- o (b) circuit board slots.
- o (c) rear connectors.

If choice a is selected set score to 1.

147. Aircraft computer hardware and software must comply with....

- • (a) special aviation requirements and rules.
- o (b) the decimal system.
- o (c) an international colour code system.

If choice a is selected set score to 1.

148. Many aircraft on-board computers are linked together by mean of....

- • (a) an aircraft internal data bus.
- o (b) an avionics rack.
- o (c) a high tension wire.

If choice a is selected set score to 1.

149. A computer operating system means....

- o (a) the Central Processing Unit (CPU).
- • (b) the group of programs which control the execution of user programs.
- o (c) the computer power supply.

If choice b is selected set score to 1.

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

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

If choice a is selected set score to 1.

151. What is the purpose of the micro-computer control bus?

- o (a) To transmit an address to the memory.
- o (b) To carry data and instructions.
- • (c) To maintain timing and status information.

If choice c is selected set score to 1.

152. What is the purpose of the demultiplexer?

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

If choice c is selected set score to 1.

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

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

If choice b is selected set score to 1.

154. Speed of computer process information depends upon....

- o (a) the size of the programme.
- o (b) the external inputs to the system.
- • (c) the time period to access the memory.

If choice c is selected set score to 1.

155. How many bytes can be carried in a 32-bit word?

- • (a) 4
- o (b) 2
- o (c) 8

If choice a is selected set score to 1.

156. In computer technology, a storage peripheral is a....

- o (a) printer
- • (b) hard disk drive
- o (c) screen unit

If choice b is selected set score to 1.

157. Information flows into the CPU from....

- o (a) the Address Bus.
- • (b) the Data Bus.
- o (c) the Control Bus.

If choice b is selected set score to 1.

158. The first generation of computers available was based on the …. bit microprocessors.

- • (a) 8
- o (b) 4
- o (c) 16

If choice a is selected set score to 1.

159. The device that can both feed data into and accept data from a computer is

- o (a) ALU
- • (b) input-output device.
- o (c) CPU

If choice b is selected set score to 1.

160. A path by which communication is achieved between a central processor and other devices is called

- o (a) channel.
- • (b) bus.
- o (c) network.

If choice b is selected set score to 1.

161. The function of CPU is

- • (a) To read, interpret and process the information and instruction.
- o (b) To communicate with the operator.
- o (c) To provide external storage of text.

If choice a is selected set score to 1.

162. What is the purpose of the ALU?

- o (a) To store data being used by the CPU.
- • (b) The part of the CPU unit where arithmetic & logic operations are carried out.
- o (c) To convert serial into parallel data.

If choice b is selected set score to 1.

163. A typical example of an IC is....

- o (a) ALU
- o (b) dip switch

- (c) CPU

If choice c is selected set score to 1.

164. For a computer to start up the basic instruction is from the....

- o (a) ALU
- (b) ROM
- o (c) RAM

If choice b is selected set score to 1.

165. A basic computer would consist of....

- o (a) register section, ALU and timing and control section.
- (b) memory, input/output ports and CPU.
- o (c) RAM/ROM and input/output ports.

If choice b is selected set score to 1.

166. A computer consist of at least the CPU and …

- (a) memory and input & output ports.
- o (b) memory, ALU, input & output ports.
- o (c) register section, ALU, timing and control section.

If choice a is selected set score to 1.

167. A group of bits transmitted at the same time is....

- o (a) a clock signal.
- (b) parallel data.
- o (c) serial data.

If choice b is selected set score to 1.

168. How many address instruction words do we need to display the result of the logic instruction 5 + 3 ?

- o (a) 1
- o (b) 2
- • (c) 3

If choice c is selected set score to 1.

169. A single address instruction word consists of....

- o (a) an operand code and an address.
- • (b) an Op Code and an operand address.
- o (c) an OP Code, an operand code and an address.

If choice b is selected set score to 1.

170. A multi address instruction word consists of....

- o (a) an OP Code, more than 1 operand codes and an address.
- • (b) an Op Code and more than 1 operand address.
- o (c) more than 1 operand code and more than 1 address.

If choice b is selected set score to 1.

171. A byte is....

- o (a) a 16 bit word.
- o (b) a 12 bit word.
- • (c) a 8 bit word.

If choice c is selected set score to 1.

172. Registers are used in digital computers to....

- o (a) store bits of information in a permanent memory.
- • (b) store a limited amount of information on a temporary basis.
- o (c) keep a count of operations completed.

If choice b is selected set score to 1.

173. A typical example of a mass storage memory device which "write once" and "read many" is…

- o (a) a magnetic tape.
- • (b) a CD Rom.
- o (c) an IC.

If choice b is selected set score to 1.

174. The two kinds of main memory are....

- • (a) ROM and RAM.
- o (b) primary and secondary.
- o (c) random and sequential.

If choice a is selected set score to 1.

175. A memory that does not change its content without external causes is known as....

- o (a) dynamic memory.
- o (b) EEPROM.
- • (c) static memory.

If choice c is selected set score to 1.

176. Which of the following is a programmed semiconductor memory?

- o (a) SRAM.
- o (b) DRAM.
- • (c) EPROM.

If choice c is selected set score to 1.

177. Which of the following chips can be reprogrammed with special electric pulses?

- o (a) EPROM
- o (b) PROM
- • (c) EEPROM

If choice c is selected set score to 1.

178. Which is a secondary memory device?

- (a) disk

o (b) CPU
o (c) ALU

If choice a is selected set score to 1.

179. What is the advantage of EPROM over fusible link in a PROM?

o (a) does not need refreshing.

- (b) can be re-programmed.

o (c) cheaper to produce.

If choice b is selected set score to 1.

180. Which chip is easily identified as it has a glass window on top to allow entry of the ultra-violet light to alter the programme?

- (a) EPROM

o (b) PROM
o (c) RAM

If choice a is selected set score to 1.

181. RAM is used as a short term memory because it is....

- (a) volatile.

o (b) has small capacity.
o (c) programmable.

If choice a is selected set score to 1.

182. All the instructions and procedures needed to start up a computer, to the point it can load an operating system, are stored in …….

o (a) RAM BIOS

- (b) ROM BIOS

o (c) EPROM

If choice b is selected set score to 1.

183. The memory which is ultraviolet light erasable and electrically programmable is....

o (a) PROM

• (b) EPROM

o (c) RAM

If choice b is selected set score to 1.

184. The brain of any computer system is....

o (a) Memory
o (b) ALU

• (c) CPU

If choice c is selected set score to 1.

185. Which part interprets program instructions and initiate control operations?

• (a) Control unit.

o (b) Storage unit.
o (c) Logic unit.

If choice a is selected set score to 1.

186. The first microprocessors produced by Intel Corporation and Texas Instruments were used primarily to control....

• (a) calculators.

o (b) personal computers.
o (c) washing machines.

If choice a is selected set score to 1.

187. Which type piece of equipment does not receive information from a CPU?

• (a) Hard disk.

o (b) I/O module.
o (c) Memory.

If choice a is selected set score to 1.

188. The ALU of a computer normally contains a number of high speed storage elements called....

o (a) semiconductor memory.
o (b) hard disk.

• (c) registers.

If choice c is selected set score to 1.

189. The storage locations in the internal storage of a CPU are called....

o (a) locations.
o (b) contents.

• (c) addresses.

If choice c is selected set score to 1.

190. How do you call the section of the CPU that selects, interprets and send to the execution of program instructions?

• (a) Control unit.

o (b) Register unit.
o (c) ALU

If choice a is selected set score to 1.

191. A common boundary between two systems is called....

• (a) interface.

o (b) surface.
o (c) interdiction.

If choice a is selected set score to 1.

192. Where is the program and data located before the ALU and control unit of a computer can operate on it?

• (a) Internal memory.

- o (b) microprocessor.
- o (c) secondary memory.

If choice a is selected set score to 1.

193. Which of the following answers is a part of the CPU?

- o (a) program unit.
- o (b) ALU.
- o (c) storage unit.

194. The ALU of a central processing unit does the essential maths work for the computer. What does the control unit do?

- • (a) monitors the flow of information.
- o (b) communicates its results.
- o (c) activates the output devices.

If choice a is selected set score to 1.

195. A high speed device used in CPU for temporary storage during processing is called

- o (a) a data bus.
- o (b) a bus.
- • (c) a register.

If choice c is selected set score to 1.

196. Which of the following registers is loaded with the contents that is currently being executed by the PC?

- o (a) Memory Data Register.
- • (b) Instruction Register.
- o (c) Memory Address Register.

If choice b is selected set score to 1.

197. Which of the following devices are used to quickly accept, store, and transfer data and instructions that are being used immediately by the CPU?

- • (a) registers.

o (b) data buses.
o (c) microprocessors.

If choice a is selected set score to 1.

198. A program that converts computer data into some code system other than the normal one is known as....

- (a) encoder.

o (b) emulator.
o (c) coding.

If choice a is selected set score to 1.

199. A circuit that converts n inputs to 2^n outputs is called....

o (a) comparator.

- (b) decoder.

o (c) encoder.

If choice b is selected set score to 1.

200. A circuit which converts some binary code into a singular active output, representing its numerical value is a....

o (a) comparator.
o (b) demultiplexer.

- (c) decoder.

If choice c is selected set score to 1.

201. The process of converting data into a form that can be easily understood by people is called....

o (a) encoding.

- (b) decoding.

o (c) translating.

If choice b is selected set score to 1.

202. What is the device used to convert Binary Coded Decimal into separate supplies for a seven segment digital display?

- o (a) demultiplexer.
- o (b) multiplexer.
- • (c) decoder.

If choice c is selected set score to 1.

203. Encoders are made by three....

- o (a) NAND gates.
- • (b) OR gates.
- o (c) AND gates.

If choice b is selected set score to 1.

204. A "decoder" is a....

- • (a) combinational circuit.
- o (b) sequential circuit.
- o (c) complex circuit.

If choice a is selected set score to 1.

205. BCD to seven segment is a....

- o (a) encoder
- • (b) decoder
- o (c) comparator

If choice b is selected set score to 1.

206. An encoder changes....

- o (a) analogue to digital.
- o (b) digital to analogue.
- • (c) data from one format to another.

If choice c is selected set score to 1.

207. A priority encoder....

- o (a) outputs the selected input.
- • (b) outputs the highest input.
- o (c) outputs the lowest input.

If choice b is selected set score to 1.

208. A priority encoder means that....

- • (a) the highest input has priority.
- o (b) the lowest input has priority.
- o (c) the lowest priority goes first.

If choice a is selected set score to 1.

209. Very Large Scale Integrated (VLSI) means the number of gates in a single IC is....

- o (a) Approximately 1000
- o (b) up to 10,000
- • (c) over 100,000

If choice c is selected set score to 1.

210. What is the number of transistors in a LSI (Large Scale Integration)?

- o (a) Approximately 10
- o (b) Approximately 100
- • (c) More than 1000

If choice c is selected set score to 1.

211. What is the number of transistors in a VLSI (Very Large Scale Integration)?

- o (a) Approximately 1000
- • (b) More than 100.000
- o (c) Approximately 100

If choice b is selected set score to 1.

212. What is the number of transistors in a SSI (Small Scale Integration)?

- (a) Approximately 10

o (b) Approximately 100
o (c) More than 1000

If choice a is selected set score to 1.

213. The sharing of a medium and its link by two or more devices, sharing data, is called ….

o (a) modulation.
o (b) encoding.

- (c) multiplexing.

If choice c is selected set score to 1.

214. How do you call the set of techniques that allows the simultaneous transmission of multiple signals across a single data link?

- (a) Multiplexing.

o (b) Demodulating.
o (c) Compressing.

If choice a is selected set score to 1.

215. The sharing of a medium and its link by two or more devices is called....

- (a) Multiplexing.

o (b) Duplexing.
o (c) Mixing.

If choice a is selected set score to 1.

216. At which type of multiplexing are the multiplexer and de-multiplexer synchronized with each other?

o (a) FDM

- (b) TDM

o (c) WDM

If choice b is selected set score to 1.

217. How is serial to parallel and vice-versa called?

- (a) multiplex / demultiplex

o (b) encoder / decoder.
o (c) switching

If choice a is selected set score to 1.

218. A multiplexer....

o (a) takes one signal in and converts it to a parallel transmission output.

- (b) takes many signals in and converts it to a serial transmission output.

o (c) takes many signals in and puts these in a parallel transmission on the output.

If choice b is selected set score to 1.

219. The purpose of a multiplexer is....

o (a) Connecting different users to one output.
o (b) Execute calculations for the microprocessor.

- (c) Selection of one signal from different inputs.

If choice c is selected set score to 1.

220. The purpose of a demultiplexer is:

o (a) Conversion from digital data to analogue data.
o (b) Selection of one signal from different inputs.

- (c) Connecting different users to one output.

If choice c is selected set score to 1.

221. How many address lines would be needed for an 8 line MUX?

- (a) 3

o (b) 4

o (c) 2

If choice a is selected set score to 1.

222. How many Data select lines does an 8 data input multiplexer have?

- (a) 3

o (b) 2
o (c) 8

If choice a is selected set score to 1.

223. The TX/RX of ARINC 429 is....

o (a) encoder/decoder
o (b) switching

- (c) multiplex/de-multiplex

If choice c is selected set score to 1.

224. What is an advantage of fibre optics over an electrical connection?

o (a) It is easier to install than a copper connection.
o (b) It is very cheap compared to copper.

- (c) It is immune to EMI and RFI.

If choice c is selected set score to 1.

225. What is transmitted through a fibre optic cable?

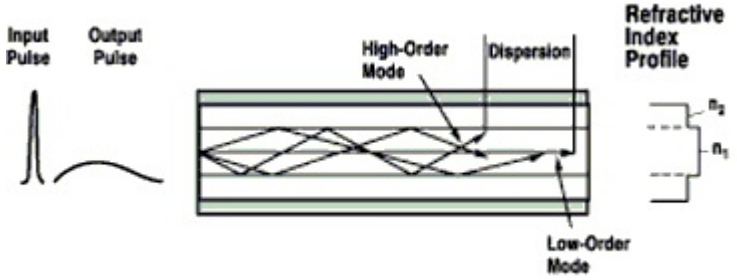
o (a) Electrical signals

- (b) Radiant power

o (c) Magnetic Energy

If choice b is selected set score to 1.

226. What type of fibre optic is shown here?

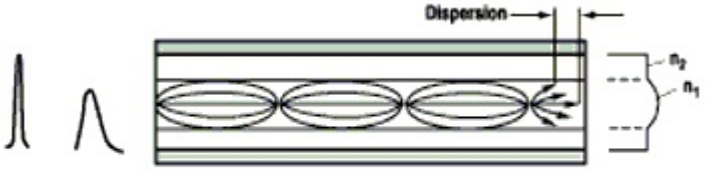


- (a) Multi-Mode Step Index.

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

If choice a is selected set score to 1.

227. What type of fibre optic is shown here?



o (a) Multi-Mode Step Index.

- (b) Multi-Mode Grade Index.

o (c) Single-Mode Step Index.

If choice b is selected set score to 1.

228. Is it possible to combine the optical signal from two fibres into a single fibre?

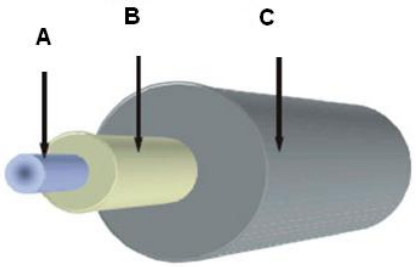
o (a) No

- (b) Yes

o (c) This is only possible in case of single-mode signals.

If choice b is selected set score to 1.

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



- (a) Cladding

o (b) Core
o (c) Coating

If choice a is selected set score to 1.

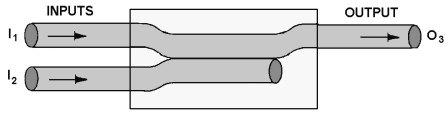
230. What is the function of a fibre optic cable jacket?

- (a) The jacket provides extra environmental protection and strength.

o (b) The jacket shields the cable from external light sources.
o (c) The jacket supports the open end of the fibre optic cable and the connector.

If choice a is selected set score to 1.

231. What kind of optic function is shown here?



o (a) An optical splitter.
o (b) An optical crossing.

- (c) An optical combiner.

If choice c is selected set score to 1.

232. Why are standard copper twisted-pair cables used for ARINC-429 signals replaced by Fibre Optics in modern aircraft?

o (a) Cheaper to manufacture
o (b) Fibre optics is standardized in the aviation industry.

- (c) Less weight

If choice c is selected set score to 1.

233. What is the colour of the buffering material for optical fibres in aircraft?

o (a) Red

- (b) Purple

o (c) Green / Yellow

If choice b is selected set score to 1.

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

- (a) They are not affected by magnetic fields.

o (b) There are low losses for high frequency signals.
o (c) You can transmit over long distances.

If choice a is selected set score to 1.

235. A disadvantage of a fibre optic cable, compared to a copper cable is?

- (a) end terminals are susceptible to environmental contamination.

o (b) weight.
o (c) uses more power.

If choice a is selected set score to 1.

236. What is the main disadvantage of a fibre optic cable compared to a copper cable?

o (a) Fibre optic cables are more expensive.

- (b) Bend radius.

o (c) Less strong and durable when compared to twisted pair and coaxial cable.

If choice b is selected set score to 1.

237. What is the advantage of a single fibre optic cable over a copper wire?

- (a) Large bandwidth.

- o (b) No insulation or coating required.
- o (c) Small bend radius.

If choice a is selected set score to 1.

238. A fibre optic data bus used on an aircraft....

- • (a) can transmit on several channels at the same time.
- o (b) can send only one message at a time.
- o (c) connects non-essential systems only.

If choice a is selected set score to 1.

239. A fibre optic data bus....

- o (a) can only transmit 1 message at a time.
- • (b) can transmit several messages simultaneously.
- o (c) is only used for non-essential messages.

If choice b is selected set score to 1.

240. Fibre optic data bus links are....

- • (a) bi-directional.
- o (b) one way data buses.
- o (c) simplex.

If choice a is selected set score to 1.

241. Fibre optic cables use....

- o (a) reflective outer shell.
- o (b) reflective inner shell.
- • (c) refractive outer shell.

If choice c is selected set score to 1.

242. Light travels along a fibre optic by....

- o (a) refraction.
- o (b) dispersion.

- (c) reflection.

If choice c is selected set score to 1.

243. What fibre mechanisms weaken and distort the optical signal launched into the fibre?

- o (a) Dispersion, radiation, and absorption.
- • (b) Scattering, absorption, and dispersion.
- o (c) Scattering, radiation, and absorption.

If choice b is selected set score to 1.

244. What is the definition of a bound ray?

- o (a) A ray that cannot move.
- • (b) A ray that propagates through the fibre by total internal reflection.
- o (c) A ray that is refracted out of the fibre.

If choice b is selected set score to 1.

245. Which of the following types of rays is a "skew ray"?

- o (a) A meridional ray.
- o (b) An unbalanced ray.
- • (c) A ray that propagates without passing through the centre axis of the fibre.

If choice c is selected set score to 1.

246. Fibre optic data is sent by....

- • (a) modulating the frequency of a laser beam.
- o (b) a strobe light.
- o (c) modulating the frequency of a filament beam.

If choice a is selected set score to 1.

247. What kind of light is used in a fibre optic systems?

- o (a) Ultraviolet.

- (b) Infrared.

o (c) Visible.

If choice b is selected set score to 1.

248. A fibre optic light source is normally....

o (a) a filament lamp.
o (b) a strobe light.

- (c) a laser or LED.

If choice c is selected set score to 1.

249. Common fibre optic use is....

- (a) modulating frequency on direct read.

o (b) HIRF.
o (c) modulating intensity on direct read.

If choice a is selected set score to 1.

250. In a single mode fibre optic cable....

- (a) the diameter of the cable is dependent on the wavelength of the light used.

o (b) the distortion of the signal occurs is dependent on the length of cable.
o (c) several waves travel down the cable.

If choice a is selected set score to 1.

251. In fibre optic cable, signals are separated by....

- (a) active optic filter.

o (b) low pass filter.
o (c) passive optic filter.

If choice a is selected set score to 1.

252. The light source of a Single Mode fibre has....

- (a) higher bandwidth than visible light.

o (b) a bandwidth in the visible light area.
o (c) lower bandwidth than visible light.

If choice a is selected set score to 1.

253. What medium do fibre optics use to send information?

o (a) protons.
o (b) electrons.

• (c) photons.

If choice c is selected set score to 1.

254. Light exhibits what kind of wave motion?

• (a) Transverse.

o (b) Aperiodic.
o (c) longitudinal.

If choice a is selected set score to 1.

255. How does the speed of light in the fibre compare to the speed of light in the air?

o (a) it is the same in both the fibre and the air.

• (b) it is slower in the fibre.

o (c) it is faster in the fibre.

If choice b is selected set score to 1.

256. For a fibre optic cable connector that is not regularly disconnected you would use the....

• (a) butt type.

o (b) ceramic lens type.
o (c) ball lens type.

If choice a is selected set score to 1.

257. Two connected fibre optic cable ends are parallel but not quite touching. This is called....

• (a) end-to-end coupling.

o (b) end fire coupling.
o (c) lens connector.

If choice a is selected set score to 1.

258. A fibre optic cable to LRU connector should be connected....

- (a) very carefully to ensure alignment and reduce light loss.

o (b) using torque-loaded pliers.
o (c) hand tight only.

If choice a is selected set score to 1.

259. A fibre optic cable is connected to a unit that will not be frequently disconnected. The preferred type of connector to be used is a....

- (a) Butt type.

o (b) Quick disconnect type.
o (c) Ball lens type.

If choice a is selected set score to 1.

260. Continuity of a fibre optic cable is checked by

o (a) oscilloscope.

- (b) a calibrated light source and an optimeter.

o (c) a calibrated light source.

If choice b is selected set score to 1.

261. Most fibre optic connectors are designed so

o (a) the receptacle has to torque to a designated torque to ensure correct alignment.

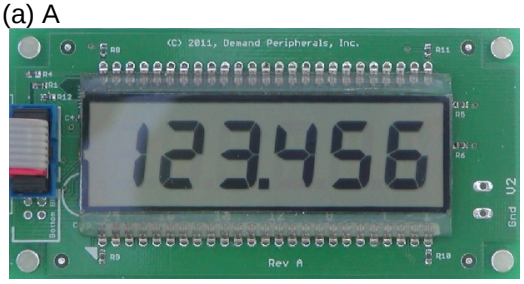
- (b) the connectors cannot be over tightened.

o (c) the connector cannot be replaced on the aircraft.

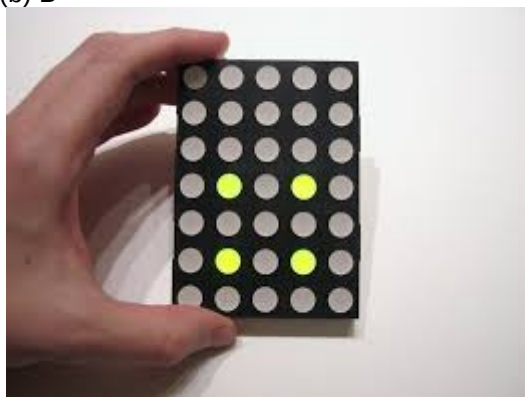
If choice b is selected set score to 1.

262. What is a 7 segment LCD?

- (a) A



o (b) B



o (c) C

If choice a is selected set score to 1.

263. What type of display is shown?

o (a) LED Display

- (b) LCD Display

o (c) CRT Display

If choice b is selected set score to 1.

264. What type of display is shown?

- (a) LED Display

o (b) LCD Display
o (c) CRT Display

If choice a is selected set score to 1.

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

- (a) A passive display, using reflected light.

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

If choice a is selected set score to 1.

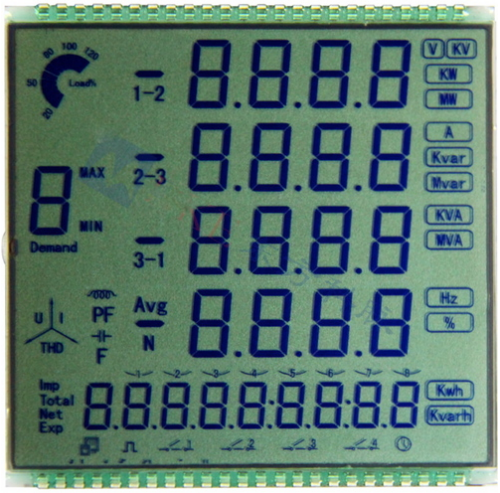
266. What type of display is shown here?

o (a) This is a 12-segment display.
o (b) This is a matrix display.

- (c) This is a starburst display.

If choice c is selected set score to 1.

267. What type of display is shown here?



- (a) An alpha-numeric display.

o (b) A CRT display.
o (c) A video display.

If choice a is selected set score to 1.

268. What type of display is shown here?

o (a) LCD Display
o (b) CRT Display

- (c) LED Display

If choice c is selected set score to 1.

269. What type of display is shown here?

- (a) LCD Display

o (b) CRT Display
o (c) LED Display

If choice a is selected set score to 1.

270. What type of display is shown here?

o (a) LCD Display
o (b) LED Display

- (c) CRT Display

If choice c is selected set score to 1.

271. What driving method prevents a lot of connections when using many displays?

o (a) Connection striping.

- (b) Multiplexing.

o (c) Demultiplexing.

If choice b is selected set score to 1.

272. How are different colours created in a CRT?

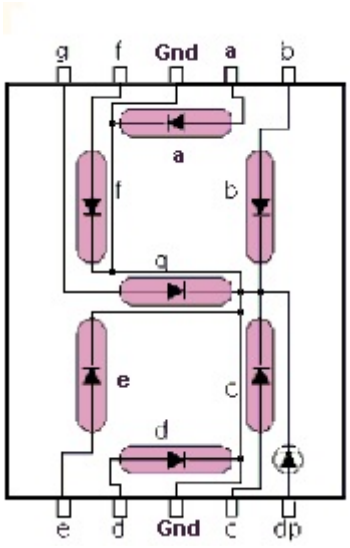
By using a combination of....

o (a) Green, Blue and Yellow.
o (b) Red, Yellow and Green.

- (c) Red, Green and Blue.

If choice c is selected set score to 1.

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



- (a) Common Cathode.

o (b) Common Anode.
o (c) Multiplexed.

If choice a is selected set score to 1.

274. An ESD protective measure for transport of sensitive (cockpit) indicators is....

o (a) placing horizontally inside the transport case.

- (b) shorting of connecting leads by means of metal wire.

- o (c) placing in a sunlight-free transport case.

If choice b is selected set score to 1.

275. Recognition of electrostatic Sensitive Devices (ESD) is done by....

- o (a) the outside colour of the computer cover.
- • (b) special warning decals near and/or on the device.
- o (c) the location of the computer in the avionics rack.

If choice b is selected set score to 1.

276. ESD equipment must....

- o (a) only protected during warm and dry weather.
- • (b) always protected during transport and storage.
- o (c) only protected when it is touched by bare hands.

If choice b is selected set score to 1.

277. The tribo-electric table gives an indication about....

- o (a) the density of different materials.
- o (b) thermal isolation of different materials.
- • (c) properties for positive and negative charges of different materials.

If choice c is selected set score to 1.

278. Static electricity is....

- • (a) electric charge at rest.
- o (b) electrical voltage not connected to an user.
- o (c) electrical energy, stored in an battery.

If choice a is selected set score to 1.

279. Damage can occur on a field effect transistor when discharge voltage reaches....

- o (a) 2500 V

- (b) 100 V

o (c) 1000 V

If choice b is selected set score to 1.

280. How are ESD sensitive devices marked?

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

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

If choice c is selected set score to 1.

281. What is the minimum resistance of a slow-discharge resistor of an ESD wrist strap?

- (a) 1 MΩ

o (b) 100 Ω
o (c) 1 Ω

If choice a is selected set score to 1.

282. At which circumstance is it not necessary to wear a wrist strap?

o (a) No ESD decal is affixed..
o (b) The electrical power source is switched off.

- (c) The metallic mass of the component can serve as a ground for discharging.

If choice c is selected set score to 1.

283. How do you seal a special ESD conductive bag?

o (a) With an integral plastic zip.

- (b) By a thermal sealing device.

o (c) With plastic adhesive tape.

If choice b is selected set score to 1.

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

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

- (b) To un-charge yourself by touching a metal part of the casing you are working on.

- (c) To use a grounded wrist-wrap protection.

If choice c is selected set score to 1.

285. What is the description for: "a static electrical charge"?

- (a) The current in an external power cable.
- (b) The output voltage of an aircraft battery.

- (c) An electrical charge in rest.

If choice c is selected set score to 1.

286. 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.

If choice a is selected set score to 1.

287. What is the first action to do before removing a printed circuit board (PCB)?

- (a) Placing a grounded wrist strap.
- (b) Look for a non-conductive clean work-table.

- (c) Checking the AMM.

If choice c is selected set score to 1.

288. What is meant by static electricity?

- (a) Electric energy in a battery.

- (b) Electrical charge at rest.

- (c) An electric voltage without any user.

If choice b is selected set score to 1.

289. What is a danger of ESD induced damage?

- (a) This may cause physical problems for the maintenance engineer.

- (b) This can degrade a unit or device, which can eventually fail.

o (c) This can cause electrical injuries to crew and passengers.

If choice b is selected set score to 1.

290. Which static charge voltage can be reached by walking across a carpet at a low humidity?

- (a) 35000 V

o (b) 100 V
o (c) 300 V

If choice a is selected set score to 1.

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

- (a) 0.05 Ohm

o (b) 1 mega ohm.
o (c) 100 Ohm

If choice a is selected set score to 1.

292. Some Line Replaceable Units (LRUs) contain software. Can you (during line maintenance) change this software?

o (a) Always.

- (b) Sometimes, it depends on the type of LRU.

o (c) Never, this software can only be changed during a shop-visit, using a CMM.

If choice b is selected set score to 1.

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- (a) Sometimes, it depends on the type of LRU.

o (b) Always.
o (c) Never, this software can only be changed during a shop-visit, using a CMM.

If choice a is selected set score to 1.

294. Is all airborne software flight safety critical?

- o (a) No, this is not allowed on aircraft. There must be a mechanical back-up system.
- • (b) No, it depends on the software safety classification.
- o (c) Yes

If choice b is selected set score to 1.

295. You are instructed to upload a new navigation database in the Flight Management System (FMS). Is a navigation database regarded as software?

- o (a) Only when the FMS is used as a primary flight system.
- • (b) Yes
- o (c) No

If choice b is selected set score to 1.

296. Must software installed on an aircraft comply with Certification Specifications?

- o (a) Only embedded software must be approved, but loadable software is not critical and does not require certification.
- o (b) Only on FAA registered aircraft.
- • (c) Yes

If choice c is selected set score to 1.

297. Which failure level has a catastrophic result caused by a software problem?

- • (a) Level A
- o (b) Level B
- o (c) Level C

If choice a is selected set score to 1.

298. When software is classified a level E, what may be the consequences for occupants of the aircraft?

- o (a) There will be slight inconvenience for the occupants.
- o (b) There may be discomfort, possibly including for the occupants.
- • (c) There will be no effect or consequences for the occupants.

If choice c is selected set score to 1.

299. 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 major failure condition.

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

If choice a is selected set score to 1.

300. Which airborne software safety classifications do effect the flight safety?

o (a) Level D + E

- (b) Level A + C

o (c) Level B + E

If choice b is selected set score to 1.

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

- (a) Document DO-178/ED-121

o (b) The aircraft Minimum Equipment List (MEL)
o (c) The Aircraft Maintenance Manual (AMM)

If choice a is selected set score to 1.

302. What is the content of the Aircraft Configuration list (ACL)?

o (a) It is a list of software which can be loaded.

- (b) It is a list of line replaceable units with loadable software.

o (c) It is a list of software in database-form for using with the flight management computer.

If choice b is selected set score to 1.

303. What does the abbreviation FLS mean?

- (a) Field Loadable Software.

o (b) Field Loading System

- (c) Flight Leading Software.

If choice a is selected set score to 1.

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

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

If choice b is selected set score to 1.

305. When may the User Modifiable Software (UMS) by the aircraft operator be modified?

- (a) Automatically during the flight.
- (b) Without review by the Civil Aviation Authority (CAA).
- (c) Only with review by the Civil Aviation Authority (CAA).

If choice b is selected set score to 1.

306. What type of EMC can interfere with a unbalanced circuit?

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

If choice a is selected set score to 1.

307. What means: Electro Magnetic Compatible (EMC)?

- (a) Immune to a specified electromagnetic environment.
- (b) Creating a magnetic field around a conductor.
- (c) Transmission of electrical energy into free space.

If choice a is selected set score to 1.

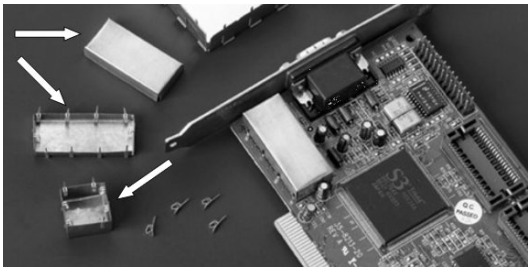
308. What is an example of an EMI external noise producing source?

- (a) A piston-engine magnetic ignition system.
- (b) An anti-collision light system.

- (c) Cosmic noise from objects in space.

If choice c is selected set score to 1.

309. 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.

310. In what range are frequencies considered to be part of the High Intensity radiated Fields (HIRF)?

o (a) 50 kHz to 100 kHz.
o (b) 1 GHz to 3 GHz.

- (c) 10kHz tot 18 GHz.

If choice c is selected set score to 1.

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

o (a) By aircraft structure bonding.
o (b) By static dischargers.

- (c) By full voltage and ground planes between the board layers.

If choice c is selected set score to 1.

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

o (a) By the use of static dischargers on preferred exit points, like the wingtips.
o (b) By use of special surge protection devices, that short-circuit the generated current.

- (c) By using bonding strips to conduct the high currents, preventing serious damage.

If choice c is selected set score to 1.

313. What can you do to prevent the radome and radar for a lightning strike?

- o (a) Metallic paint on the radome.
- o (b) Usage of static dischargers.
- • (c) Usage of lightning diverters.

If choice c is selected set score to 1.

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

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

If choice b is selected set score to 1.

315. In which direction is ACARS information transmitted?

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

If choice c is selected set score to 1.

316. At what frequency does the Aircraft Communication Addressing and Reporting System (ACARS) operate?

- o (a) 225 MHz.
- • (b) 131.55 MHz
- o (c) 121.50 Mhz

If choice b is selected set score to 1.

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

- o (a) When a message block is longer than 220 characters.
- o (b) When the flight crew initiates ACARS communication.

- (c) When the aircraft is interrogated by a ground facility.

If choice c is selected set score to 1.

318. 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.
o (b) take action and correct the aircraft heading by steering the aircraft.

- (c) take action and send a steering command to the autopilot.

If choice c is selected set score to 1.

319. How long is the update interval for the navigational data base of the Flight Management System (FMS)?

- (a) Four weekly.

o (b) Weekly.
o (c) Every day.

If choice a is selected set score to 1.

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

o (a) the satellite clock.

- (b) gravity forces.

o (c) the GPS receiver.

If choice b is selected set score to 1.

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

The transponder sends....

- (a) altitude information.

o (b) vertical speed information.
o (c) airspeed information.

If choice a is selected set score to 1.

322. How many aircraft can the Airborne Collision Avoidance System II (ACAS II) track?

- o (a) Up to 30.
- • (b) Up to 45.
- o (c) Up to 3.

If choice b is selected set score to 1.

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

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

If choice c is selected set score to 1.

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

To have a modular system....

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

If choice a is selected set score to 1.

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

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

If choice c is selected set score to 1.

326. What is the base for the bus structure of Integrated Modular Avionics (IMA)?

- • (a) ARINC 653 standard
- o (b) ARINC 700 standard
- o (c) ARINC 429 standard

If choice a is selected set score to 1.

327. What is a BITE ?

- (a) Build In Test Equipment

o (b) 8 Bits
o (c) Boeing Interface Test Equipment

If choice a is selected set score to 1.

328. When is information updating in the Electronic Library System (ELS) accomplished?

- (a) By a gate link (WIFI connection) on the ground.

o (b) Only during a line maintenance inspection.
o (c) Only during flight.

If choice a is selected set score to 1.

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

- (a) is carried out permanently during system operation.

o (b) interrupts the system operation.
o (c) is carried out only on the ground.

If choice a is selected set score to 1.

If assessment score is 0% to 100% Feedback